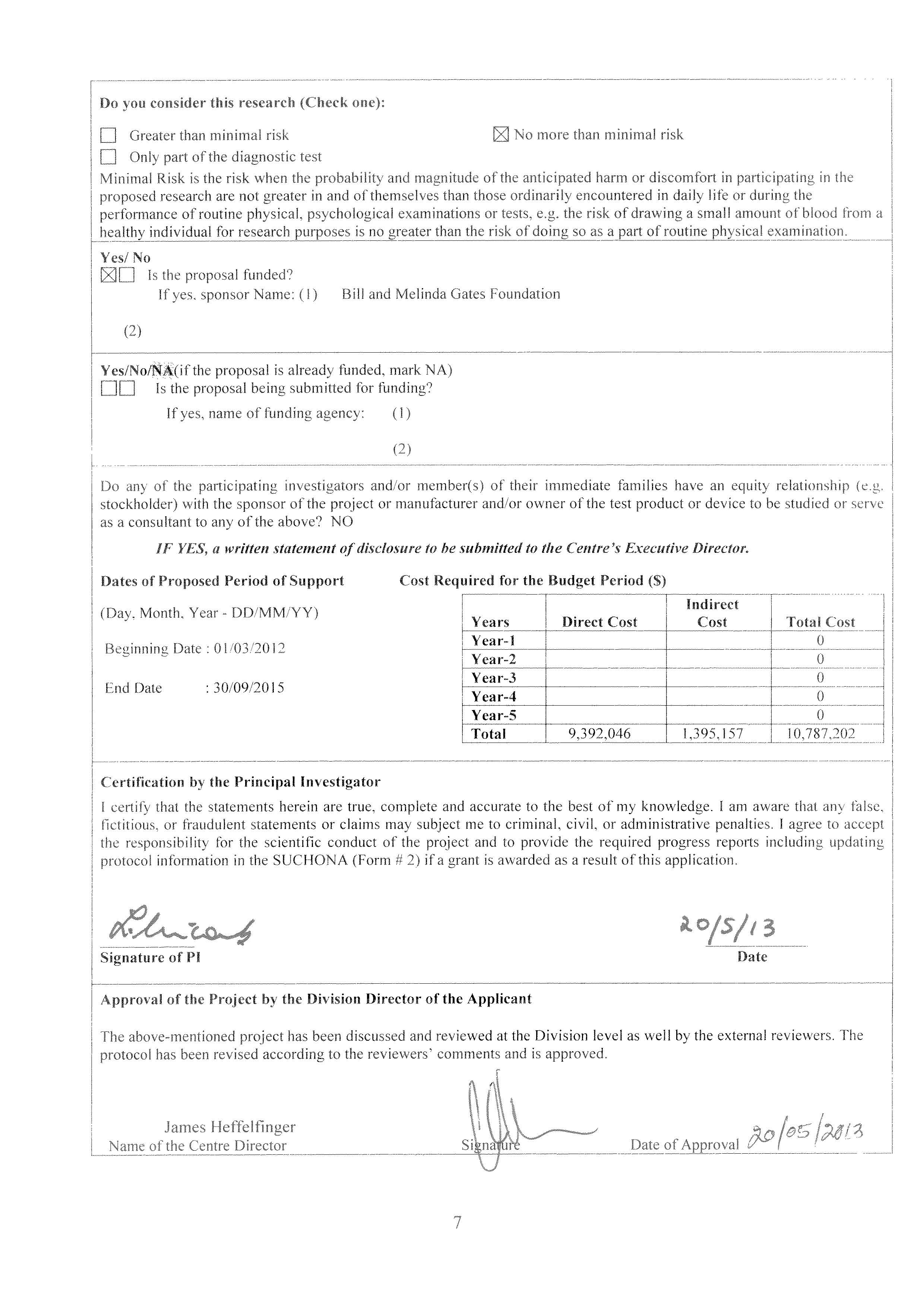
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| --- | --- | --- | --- | --- | --- | --- |
| Ochre with Tagline 1 line | | | | RRC APPLICATION FORM | | |
| RESEARCH PROTOCOL  **NUMBER: PR-11063** | **FOR OFFICE USE ONLY** | | | | | |
|  | RRC Approval: | | | Yes / | No | Date:19 Dec 2011 |
|  | ERC Approval: | | | Yes / | No | Date:9 Apr 2012 |
|  | AEEC Approval: | | | Yes / | No | Date: |
|  | External IRB Approval: Yes /  No Date:16 Jan 2012  Name of IRB: University of California, Berkeley | | | | | |
| **Protocol** **Title:** A randomized controlled trial of the benefits of water sanitation hygiene plus nutrition interventions on child growth. | | | | | | |
| **Short title (in 50 characters including space):**WASH Benefits Bangladesh Intervention Trial | | | | | | |
| **Theme: (Check all that apply)**  Nutrition  Emerging and Re-emerging Infectious Diseases  Population Dynamics  Reproductive Health  Vaccine Evaluation  HIV/AIDS  Environmental Health | | | Health Services  Child Health  Clinical Case Management  Social and Behavioral Sciences  Gender  Human Rights  Others (please specify\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) | | | |
| **Key words:** water, sanitation, hygiene, malnutrition, child growth | | | | | | |
| **Relevance of the Protocol:**  Child malnutrition and underdevelopment exacts high costs to the population of Bangladesh and globally. The WASH Benefits study will be one of the largest randomized trials to study water, sanitation and hand hygiene interventions to date, and evidence from the study will help to establish appropriate priority for the optimal combination of these interventions to improve child development. | | | | | | |
| **Centre’s Priority(as per Strategic Plan, to be imported from the attached Separate Word Sheet):**  This study addresses both the healthy life course and combating priority diseases from SP 2020 | | | | | | |
| **Programmes:**  Child Health Programme  Nutrition Programme  Programme on Infectious Diseases & Vaccine Science  Poverty and Health Programme  Health and Family Planning Systems Programme | | | Population Programme  Reproductive Health Programme  HIV/AIDS Programme  Gender, Hunman Rights and Health Programme  Others (please specify\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) | | | |
| **Principal Investigator (Should be a Centre’s staff)**  Leanne Unicomb  **Address (including e-mail address):**  ICDDRB, leanne@icddrb.org | | | **DIVISION:**  CSD  LSD  Centre for Communicable Disease | | | |
| **Co-Principal Investigator(s): Internal**  Tahmeed Ahmed, ICDDRB | | | | | | |
| **Co-Principal Investigator(s): External:**  (Please provide full official address including e-mail address and Gender)  Steve Luby, MD, Woods Institute of the Environment, Stanford University, Yang and Yamazaki Environment and Energy Building, 473 Via Ortega, Stanford, CA 94305[sluby@stanford.edu](mailto:sluby@stanford.edu), male | | | | | | |
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| **Student Investigator(s): Internal (Centre’s staff):** | | | | | | |
| **Student Investigator(s): External:**  (Please provide full address of educational institution and Gender)  Jade Benjamin-Chung, PhD student, Division of Epidemiology, School of Public Health, University of California Berkeley, CA 94720-7360, Email: [jadebc@gmail.com](mailto:jadebc@gmail.com), Female  Robert Dreibelbis, PhD Student, Social and Behavioral Interventions (SBI) Program, Johns Hopkins Bloomberg School of Public Health, 615 North Wolfe Street, Baltimore, Maryland USA 21205-2103, [rdreibe@gmail.com](mailto:rdreibe@gmail.com) male  Qifang (Yvonne) Bi (Master of Science student in Department of Epidemiology) Johns Hopkins Bloomberg School of Public Health, 615 North Wolfe Street, Baltimore, Maryland USA 21205-2103. [qbi@jhsph.edu](mailto:qbi@jhsph.edu), female | | | | | | |
| |  |  | | --- | --- | | Country | USA | | Contact person | John M. Colford | | Department  (including Division, Centre, Unit) | Division of Epidemiology | | Institution  (with official address) | School of Public Health, University of California, Berkeley, CA 94720-7358 |   **Collaborating Institute(s):** Please Provide full address  **Institution # 1** | | | | | | |
| **Institution # 2**   |  |  | | --- | --- | | Country | USA | | Contact person | Pavani K. Ram | | Department  (including Division, Centre, Unit) | Department of Social and Preventive Medicine | | Institution  (with official address) | School of Public Health and Health Professions  University at Buffalo  3435 Main Street, Rm. 273 Farber Hall  Buffalo, NY 14214 | | | | | | | |
| **Institution # 3**   |  |  | | --- | --- | | Country | USA | | Contact person | Peter Winch | | Department  (including Division, Centre, Unit) | Department of International Health | | Institution  (with official address) | Johns Hopkins Bloomberg School of Public Health, Room E5533  615 North Wolfe Street, Baltimore, Maryland USA 21205-2103 |   **Institution # 4**   |  |  | | --- | --- | | Country | USA | | Contact person | Kathryn Dewey | | Department  (including Division, Centre, Unit) | Program in International and Community Nutrition | | Institution  (with official address) | Nutrition Department, University of California, Davis ,3253 Meyer Hall, One Shields Avenue, Davis, CA USA 95616-5270 |   **Institution # 5**   |  |  | | --- | --- | | Country | USA | | Contact person | Clair Null | | Department  (including Division, Centre, Unit) | Hubert Department of Global Health Environmental Health | | Institution  (with official address) | Hubert Department of Global Health, Rollins School of Public Health  1518 Clifton Road, NE Room 6045, Atlanta, GA 30322 |   **Institution # 6**   |  |  | | --- | --- | | Country | UK | | Contact person | Thomas Clasen | | Department  (including Division, Centre, Unit) | Department of Disease Control | | Institution  (with official address) | North Courtyard, 3rd Floor, London School of Hygiene and Tropical Medicine, Keppel Street, London, WC1E 7HT |   **Institution # 7**   |  |  | | --- | --- | | Country | US | | Contact person | Stephen Luby | | Department  (including Division, Centre, Unit) | Woods Institute for the Environment | | Institution  (with official address) | Stanford University, Yang and Yamazaki Environment and Energy Building, 473 Via Ortega, Stanford, CA 94305 | | | | | | | |
| **Population: Inclusion of special groups (Check all that apply):**   |  |  | | --- | --- | | Sex  Male  Female  Age  0 – 4 years  5 – 10 years  11 – 17 years  18 – 64 years  65 + | Pregnant Women  Fetuses  Prisoners  Destitutes  Service Providers  Cognitively Impaired  CSW  Others (specify      )  Animal |   NOTE It is the policy of the Centre to include men, women, and children in all research projects involving human subjects unless a clear and compelling rationale and justification (e.g. gender specific or inappropriate with respect to the purpose of the research) is there. Justification should be provided in the `Sample Size’ section of the protocol in case inclusiveness of study participants is not proposed in the study. | | | | | | |
| **Project/study Site (Check all the apply):**  Dhaka Hospital  Matlab Hospital  Matlab DSS Area  Matlab non-DSS Area  Mirzapur  Dhaka Community  Chakaria  Abhoynagar | | Mirsarai  Patyia  Other areas in Bangladesh: Dhaka and Rajshahi Division  Outside Bangladesh  Name of Country:  Multi Centre Trial  (Name other countries involved): | | | | |
| **Type of Study (Check all that apply):**   |  |  | | --- | --- | | Case Control Study  Community-based Trial/Intervention  Program Project (Umbrella)  Secondary Data Analysis  Clinical Trial (Hospital/Clinic)  Family Follow-up Study | Cross Sectional Survey  Longitudinal Study (cohort or follow-up)  Record Review  Prophylactic Trial  Surveillance/Monitoring  Others: |   NOTE: Does the study meet the definition of clinical studies/trials given by the International Committee of Medical Journal Editors (ICMJE)? Yes  No  Please note that the ICMJE defined clinical trial as “*Any research project that prospectively assigns human subjects to intervention and comparison groups to study the cause-and-effect relationship between a medical intervention and a health outcome*”.  If YES, after approval of the ERC, the PI should complete and send the relevant form to provide required information about the research protocol to the Committee Coordination Secretariat for registration of the study into websites, preferably at the <https://register.clinicaltrials.gov/>. It may please be noted that the PI would require to provide subsequent updates of the research protocol for updating protocol information in the website. | | | | | | |
| **Targeted Population (Check all that apply):**  No ethnic selection (Bangladeshi)  Bangalee  Tribal group | | Expatriates  Immigrants  Refugee | | | | |
| **Consent Process (Check all that apply):**  Written  Oral  None | | Bengali Language  English Language | | | | |
| **Proposed Sample Size:**  Sub-group (Name of subgroup (e.g. Men, Women) and Number   |  |  |  |  | | --- | --- | --- | --- | | Name | Number | Name | Number | | (1) Children < 24 months of age | 5200 | (3) Mother of target children | 5200 | | (2) Siblings of target children | 5200 | (4) Promoters and qualitative interviewers | 1200 |   Total sample size: 16,600  a) Will the specimen be stored for future use? Yes No  b) If yes, how long the specimens be preserved? \_\_20\_\_\_ years.  c) Will consent be obtained from study participants Yes No  for the specimen be stored for future, for unrelated use  without further taking consent?  d) What types of tests will be carried out with the preserved samples? \_measures of environmental enteropathy as well as toxins and biological markers that over the course of the next 20 years are identified as potentially important determinants of child growth and development.  e) Will the samples be shipped to other country(ies)? Yes No  f) If yes, name of institution(s) and country(ies): Stanford University, USA ; Wagner College (USA) ; Hohenheim University (Germany)  g) Will the surplus/unused specimen be returned to the Centre? Yes No Not applicable  h) Who will be the custodian of the specimen at the Centre  and when shipped outside of the country(ies)?:\_\_No firm plans  i) Who will be the owner(s) of the samples? : ICDDRB\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  j) Has aMoU been made for the protocol covering the  specimen collection, storage, use and ownership? Yes No Not applicable  k) If yes, please attach a copy. | | | | | | |
| **Determination of Risk: Does the Research Involve (**Check all that apply**):**   |  |  | | --- | --- | | Human exposure to radioactive agents?  Fetal tissue or abortus?  Investigational new device?  (specify:      )  Existing data available from Co-investigator | Human exposure to infectious agents?  Investigational new drug  Existing data available via public archives/sources  Pathological or diagnostic clinical specimen only  Observation of public behaviour  New treatment regime | | | | | | | |
| |  |  |  | | --- | --- | --- | | Yes | No | Is the information recorded in such a manner that study participants can be identified from information provided directly or through identifiers linked to the study participants? | | Yes | No | Does the research deal with sensitive aspects of the study participants’ behaviour; sexual behaviour, alcohol use or illegal conduct such as drug use? |   **Could the information recorded about the individual if it became known outside of the research:**   |  |  |  | | --- | --- | --- | | Yes | No | Place the study participants at risk of criminal or civil liability? | | Yes | No | Damage the study participants’ financial standing, reputation or employability, social rejection, lead to stigma, divorce etc.? | | | | | | | |

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| --- |
| Project Summary  Briefly describe the hypothesis, objectives, and the relevant background of the project, and also the experimental design and research methods for achieving the objectives. This description will serve as a succinct and precise and accurate description of the proposed research is required. This summary should be stand alone, and be fully understandable and interpretable when removed from the main application. |
| Principal Investigator: Stephen Luby |
| Research Protocol Title: A randomized controlled trial of the benefits of water, sanitation, hygiene plus nutrition interventions on child growth |
| Total Budget US$: 10,787,202 Beginning Date : 1 Apr 2012 Ending Date: 30 Sep 2015 |
| The goal of the WASH Benefits study is to generate rigorous evidence about the impacts of sanitation, water quality and handwashing interventions on child health and development in the first years of life.  The core scientific objective of WASH Benefits is to *evaluate the spectrum of benefits obtained through improved sanitation, water quality, hygiene promotion, and nutrition interventions*. More specifically, there are three scientific goals that the study addresses:   * Rigorously measure health benefits arising from low-cost approaches including local promoters and simple technologies (e.g. latrine improvements or potties for children, chlorine based tablets, and handwashing stations). * Evaluate the degree to which, in resource-constrained settings, there is added health benefit to delivering multiple interventions concurrently (sanitation facilities, drinking water, and handwashing promotion). * Measure the impact of lipid-based nutrient supplementation alone and in combination with sanitation, water and hygiene interventions on child growth and development.   The current study is designed as two, highly comparable randomized trials in Bangladesh and Kenya. The study has two main phases. The first phase was a 2-year pilot that will continue through 2011. The pilot has allowed the study teams to refine the sanitation, handwashing and water quality interventions and identify hardware and behavior change packages that result in high levels of uptake. The planned intervention elementsin Bangladesh include:   |  |  | | --- | --- | | Intervention class | Bangladesh interventions | | Sanitation | Sanitation mobilization and promotion, child potties, sani-scoop hoes to remove feces from household environments, dual water sealed pit latrine upgrades | | Handwashing | Promotion of handwashing with soap or waterless hand sanitizer at critical times, handwashing stations, soapy water at handwashing locations | | Water quality  Nutrition | Chlorine tablets (Aquatabs) + safe storage vessels, water treatment promotion  Lipid based nutritional supplementation for child 6 – 24 months of age |   The second phase (main study, described in this protocol) will begin in early 2012. We will implement and then measure outcomes in children two years after implementation. The main study will include the four treatments (sanitation, handwashing, water quality and nutrition) in a seven-arm, cluster-randomized design that includes a comparison (current practices) arm, each treatment alone, a combined water / sanitation / handwashing arm and the full combination of interventions. We will randomize different interventions at the village level. In Bangladesh we plan to enroll 90 clusters per arm, a double-sized control arm, and 7 children per cluster (5,040 children).  The primary outcomes include length-for-age and caregiver-reported diarrhea. We will also assess parasitic infectionsand child developmental measures (motor milestones, language, behavior, working memory and executive function), either by caregiver-report or by direct test,and in a subset of study subjects,environmental enteropathy biomarkers which will allow us to explore whether these interventions affects these pathways, and whether changes in these measures are associated with differences in child development.We will measure outcomes at baseline and again at 1 year and 2 years post-intervention (3 total visits).The interventions will require 3 months from the baseline survey to deliver. The follow-up visits are planned for 12 and 24 months after intervention delivery.  The WASH Benefits study will be one of the largest randomized trials to study water, sanitation and hand hygiene interventions to date, and evidence from the study will be a touchstone for the sector. It is the first WASH study to be designed around child growth and development outcomes. The WASH Benefits study presents a unique opportunity to collect randomized evidence about whether growth and development impacts from nutritional supplementation in the first years of life can be enhanced if deployed concurrently with WASH interventions. |
| KEY PERSONNEL (List names of all investigators including PI and their respective specialties)   |  |  |  | | --- | --- | --- | | Name | Professional Discipline/ Specialty | Role in the Project  All key personnel will provide critical input on the protocol, instruments, reports, and manuscripts associated with the project. In addition: | | 1. Stephen P. Luby | Medical Epidemiology | Oversee conversion of protocol to Bangladesh, coordinate collaborators, assign project implementation, analytic, report and manuscript writing responsibilities. | | 1. Tahmeed Ahmed | Physician, Nutritionist | Co-principal investigator. Oversee the nutritional intervention and its interpretation. | | 1. Leanne Unicomb | Epidemiology | Supervise the Bangladesh based project implementation team, ensuring coordination and collaboration among research investigators, supporting project management, and framing of data analysis. | | 1. Sania Ashraf | Public Health | Research investigator who oversees study site selection, intervention assignments, coordinates the intervention and assessment teams, supervises the post-intervention data collection. | | 1. Rashidul Haque | Parasitology | Provides guidance on stool sample collection for parasitic evaluation. Oversee laboratory diagnosis of parasitic infection. Lead the interpretation of the parasitic results. | | 1. Rubhana Raqib | Nutritional Biochemistry | Oversee the analysis of the urinary lactuloseand mannitol samples | | 1. Faruqe Hussain | Anthropology | Research investigator who will lead the implementation of and qualitative assessment of the sanitation interventions. | | 1. Fosiul Nizame | Sociology | Research investigator who will lead the implementation of and qualitative assessment of the handwashing intervention. | | 1. Shaila Arman | Anthropology | Research investigator who will lead the implementation of and qualitative assessment of the water treatment intervention. | | 1. Kaniz Jannat | Public Health | Research investigator who will lead the implementation of and assessment of the nutrition interventions. | | 1. Jaynal Abedin | Statistician | Statistical officer who will work with the international team to coach the local investigators in the analysis and interpretation of the quantitative data | | 1. Iqbal Hossain | Nutritionist | Assist in implementation of nutrition intervention. | | 1. Nuzhat Chowdhury | Physician | Assist in implementation of nutrition intervention. | | 1. Jack Colford | Epidemiology, Medicine | Ensures communication with the Gates Foundation, oversees collaboration between the University of California Berkeley, University of California Davis and ICDDRB, oversees protocol approval process through the University of California Berkeley and assures that the project activities are aligned with the obligations to the Gates Foundation. | | 1. Fahmida Tofail | Child development | Supports child developmental assessment, assists in training field team for data collection, and analysis and interpretation of the data. | | 1. Benjamin Arnold | Biostatistics / Epidemiology | Review the study design and statistical approach, and provide support on statistical analysis and interpretation. | | 1. Alan Hubbard | Statistics | Provides final approval of statistical approach on quantitative analysis | | 1. Lia Fernald | Nutrition / Child development | Provides technical support for assessing child cognitive development to Bangladesh and assists in interpreting initial results | | 1. Patricia Kariger | Nutrition / Child development | Train local team in administering Ages and Stages Questionnaire for assessing child cognitive development | | 1. Peter Winch | Behavior Change/ process evaluation | Provide framework for behavior change interventions, suggest strategies for revision based on field experience and periodic process evaluation. Advise or oversee measurement of exposure to the interventions and measurement of behavior change | | 1. Elli Leontsini | Behavior Change/ process evaluation | Support development of behavior change interventions, coach local team in their implementation, suggest strategies for revision based on field experience and periodic process evaluation, contribute to behavior change measurements. | | 1. Md. Mahbubur Rahman | Physician & Public Health Specialist | Coordination and field Implementation. Manage field staff and resources, monitor quality and lead process documentation | | 1. Farzana Begum | Physician & Public Health Specialist | Lead BCC and Training. Coordinate TNA and capacity building of implementation staff. | | 1. Pavani Ram | Medical Epidemiology | Oversee assessment of handwashing behavior, lead in developing and interpreting measures of handwashing behavior. | | 1. Jade Benjamin-Chung | Epidemiology | Support baseline assessments. Provide guidance and support to the Bangladeshi scientists in their data analysis to assess comparability of groups at baseline and tracking uptake of interventions. Work to identify indicators of low uptake early, and flag these to the intervention team and to the principal investigators to permit work with the team to focus on these areas. Oversee the fly density and sentinel object assessments and analysis. | | 1. Ayse Ercumen | Epidemiology | Train and coordinate sample collection and quality control of water microbiology testing. Co-lead measurement of environmental contamination and analysis. | | 1. Kathryn Dewey | Nutritionist | Frame the nutrition intervention. | | 1. Christine Stewart | Nutritionist | Support the nutrition intervention | | 1. Audrie Lin | Microbiologist | Provide technical assistance, training and field supervision as needed to the team supporting environmental enteropathy assessment. With support from Ben Arnold, conduct the analysis of the environmental enteropathy findings. | | 1. Tom Clasen | Epidemiologist | Assist in developing and interpreting the sanitation uptake assessment. | | 1. Robert Dreibelbis | Behavior change | Develop module, and guide data analysis for behavioral determinants of uptake of water, sanitation and hygiene interventions | | 1. Clair Null | Economics | Will provide input on measurment and alignment with the Kenya protocol. | | 1. Chistopher Heaney | Environmental Health Science | Oversee saliva diagnostic assessment | | 1. Nora Pisanic | Environmental Health Science | Oversee saliva diagnostic testing | | 1. Amy Pickering | Microbiologist/Epidemiologist | Co-lead measurement of environmental contamination and analysis. | | 1. Saiful Islam | Anthropologist | Oversee the qualitative assessment of lead exposure | | 1. Md Abu Naser | Physician & Public Health Specialist | Support post intervention assessment | | 1. Sarker Masud Parvez | Public Health Specialist | Support quantitative data collection including the lead case-control component | | 1. Solaiman Doza | Public Health Specialist | Co-lead measurement fly and food contamination as part of in-depth environmental assessment | |  |  |  | |

Description of the Research Project

Hypothesis to be Tested:

Please briefly list the Hypothesis to be tested and provide the scientific basis of the hypothesis, critically examining the observations leading to the formulation of the hypothesis.

The primary hypotheses of the study are:

H1: Water, sanitation, handwashing, nutrition and their combination improve child health and development.

H2: When delivered in combination, water, sanitation and handwashing interventions reduce child diarrhea more than when delivered individually.

H3: Combined Nutrient supplementation and WASH interventions improve child growth and development more than nutrient supplementation alone.

Specific Aims:

Describe the specific aims of the proposed study. State the specific parameters, biological functions, rates, processes etc. that will be assessed by specific methods.

1) Rigorously measure health benefits arising from low-cost WASH approaches including local promoters and simple technologies (e.g. latrine improvements or potties for children, chlorine dispensers, and handwashing stations) and evaluate the degree to which, in resource-constrained settings, there is added health benefit to delivering multiple interventions concurrently (sanitation facilities, drinking water, and handwashing promotion)

Most of the burden of diarrheal disease is thought to be preventable with improvements in sanitation, water quality, and hygiene. However, in rural areas of low-income countries it is often prohibitively expensive to provide residents with networked sanitation and water treatment that provide microbiologically and chemically safe water and consistently separate feces from the environment. We have almost no evidence that allows direct comparison of the health benefits or cost-effectiveness of improvements in sanitation, water quality, and hygiene, nor on how the benefits of these interventions aggregate when provided in combination. Such evidence is critical for guiding the allocation of public and donor funds to achieve the maximum health impact given limited resources. In the absence of credible evidence, little change from the status quo can be expected, even if the impact of current practices is unknown. A rigorous evaluation of these interventions that documents changes in outcomes associated with long-run economic success, such as early childhood growth, could have at least two important influences on policy. First, such evidence could help to maximize the value of existing resources by shifting expenditures to the most cost-effective interventions. In addition, such evidence could help generate more resources for these sectors by resolving uncertainty regarding the efficacy of water, sanitation, and hygiene interventions and identifying simple technologies and approaches to behavior change that cost-effectively improve health and could be replicated at scale.

2) Measure the impact of lipid-based nutrient supplementation (LNS) alone and in combination with sanitation, water and hygiene interventions on child growth and development.

For children whose food intake is insufficient, LNS helps reduce gross energy shortfalls and provide essential micronutrients. The energy and micronutrients that LNS provides are likely to improve nutritional indicators, length-for-age and child development, particularly among children that are at highest risk for severe stunting. It is possible that improved nutrition alone can reduce the negative effects of infection on growth and development due to the improved ability of better-nourished children to fight off enteric infections and exhibit catch-up growth during the convalescent period.

A combined LNS+WASH intervention could have greater impacts on growth and development than LNS alone. The reasons for this are two-fold. First, the likely reciprocal relationship between enteric infection and malnutrition in young children suggests that the provision of joint interventions that interrupt both components of the “vicious cycle” may have effects that exceed interventions that interrupt just one component. Indeed, if there is a reciprocal relationship between enteric infection and malnutrition, the feedback loop toward decline could, in principal, be reversed and leveraged to enhance growth and development. There is a second plausible scenario that could result in larger combined effects: if the interventions are deployed together, the available energy for growth and development could be enhanced by improved utilization of the additional nutrition provided by LNS that would have not been available to the child without complementary infection control. Such improved utilization could be achieved by reductions in acute diarrheal disease and the chronic symptoms that characterize environmental enteropathy.

3) Measure the impact of nutritional supplements and WASH interventions on environmental enteropathy biomarkers, and more clearly elucidate this potential pathway between environmental interventions and child growth and development.

If improvements in sanitation, water quality, and hand hygiene could reduce the severity of intestinal malabsorption from environmental enteropathy (EE) either by preventing its acquisition or by reversing the pathology, this would represent an important contribution to global public health. EE is an inflammatory disorder of the small intestine that results in reduced nutrient absorption and increased gut permeability (and thus increased immune system stimulation). The scientific literature to date suggests that EE is most likely caused by poor sanitation, water quality and hygiene in low income countries, but there are no studies that demonstrate a specific association between EE and environmental conditions separated from other exposures in a low income environment. The WASH Benefits study is uniquely positioned to gather randomized evidence about the impact of household environmental interventions on EE in young children. Furthermore, the study will also be positioned to gather rigorous evidence about the independent and combined impact of supplemental nutrition and WASH interventions on EE biomarkers.

4) Measure the impact of WASH and nutrition interventions on intestinal parasitic infection prevalence and intensity.

Observational studies suggest that environmental interventions can reduce parasite infection if sanitation and hygiene conditions improve in a large share of the population. Pre-school aged children spend much of their time in the immediate home environment. It is with this in mind that the WASH Benefits study focuses on household environmental interventions. There is a large body of evidence that documents household level clustering and within-household transmission of Cryptosporidium, Giardia, and E. histolytica, as well as soil-transmitted helminthes (Ascaris, Trichuris,and hookworm). The observed patterns suggest that intestinal parasites may be a useful marker of enteric pathogen transmission more broadly. The simultaneous measurement of parasitic infections, caregiver-reported diarrhea, and environmental enteropathy biomarkers will allow us to explore if intestinal parasites are a useful marker for enteric pathogen transmission and if affordable environmental interventions can reduce their prevalence.

5) Measure the impact of interactions between the water, sanitation, hygiene and nutritional interventions and the mother and child’s intestinal microbiome, immune function, internal biochemical environment and genetic disposition.

We expect that the interventions will have different effects in different children and that some of these differences will be mediated by differences in the mother and child’s intestinal microbiome, immune function, internal biochemical environment and genetic disposition.We will collect maternal and child samples to permit future assessment of mother and child’s intestinal microbiome, immune function, internal biochemical environment and genetic disposition, and so explore the importance of interactions between these characteristics and study outcomes. As part of the assessment of lead, a particularly potent neurotoxin that can affect child intellectual development, we plan to leverage the study to assess the prevalence of lead exposure, identify the environmental source and pathway, and strive to understand the primary incentives that encourage environmental contamination with lead.

Background of the Project including Preliminary Observations

Provide relevant background of the proposed study, and discuss the previous works on the research topic by citing specific references. Describe in a logical way how the present hypothesis is supported by the relevant background observations including any preliminary results that may be available. Provide scientific validity of the hypothesis on the basis of background information Critically analyze available knowledge in the field of the proposed study and discuss the questions and gaps in the knowledge that need to be fulfilled to achieve the proposed goals.. If there is no sufficient information on the subject, indicate the need to develop new knowledge. Also include the significance and rationale of the proposed work by specifically discussing how these accomplishments will bring benefit to human health in relation to biomedical, social, and environmental perspectives.

An estimated 2.2 million children under the age of 5 years die from diarrheal disease each year (WHO 2008). Children who survive multiple episodes of diarrhea and enteric infections commonly develop environmental enteropathy, an inflammatory disorder of the intestines that compromises nutrient absorption (Haghighi 1997). Repeated episodes of diarrhea and chronic environmental enteropathy in early childhood reduce growth and cognitive function, and impair school performance (Alderman 2006, Checkley 2008, Lorntz 2006, Niehaus 2002, Petri 2008). This in turn can reduce income later in life (Boissiere 1985). Thus, repeated episodes of childhood diarrhea and enteric infection may exact a long-run toll, perpetuating a cycle of poverty and ill health.

Water, Sanitation, and Handwashing Interventions

Most of the burden of diarrheal disease is thought to be preventable with improvements in sanitation, water quality, and hygiene (Ezzati 2003). However, in rural areas of low-income countries it is often prohibitively expensive to provide residents with networked sanitation and water treatment that provide microbiologically and chemically safe water and consistently separate feces from the environment.

This has led to a movement towards alternative non-networked solutions including improved sanitation efforts, efforts to increase water treatment by households, and programs to increase handwashing with soap. Observational studies suggest that reducing open defecation is potentially important in reducing the transmission of both diarrhea and trachoma (Esrey 1996, Esrey 1991). There is evidence that water treatment, in particular with dilute chlorine solution, can reduce self-reported diarrhea (Arnold 2007, Clasen 2007). There is also strong evidence that handwashing with soap can dramatically reduce self-reported diarrhea as well as other diseases (Ejemot 2008, Rabie 2006). Some researchers however have called for evidence on more objective measures such as physical growth and cognition, rather than reports by family members (Schmidt 2009). We have almost no evidence that allows direct comparison of the health benefits or cost-effectiveness of improvements in sanitation, water quality, and hygiene, nor on how the benefits of these interventions aggregate when provided in combination.

Improved Sanitation

Improved sanitation effectively separates human excreta from human contact and the environment. The most common sanitation technologies in developing countries, particularly in rural areas, are various forms of private latrines. Observational studies suggest that households that receive improved sanitation experience 24% less diarrhea than households without sanitary facilities (Daniels 1990, Barreto 2007). However, there has never been a randomized controlled trial (RCT) to confirm these observational findings.

Full subsidies for appropriately designed latrines have resulted in high levels of coverage and regular use. For example, in the Gambia improved pit latrines were provided free of charge to 666 households in 32 villages. After 25 to 47 months each household was revisited; 77% of the provided latrines were still in use and 97% of latrines owners said they would make a new latrine when their current one was full (Simms 2005). In an evaluation of one of the Carter Center’s subsidized latrine provision programs that included a random sample of 200 households across 50 villages in Niger, 86% of latrines were in regular use and 70% were clean after one year during unannounced visits (Diallo 2007). In southern India, a recent observational study found that despite high levels of latrine coverage (57%) following a community mobilization campaign, 40% of households with toilets continued to defecate in the open and there was no improvement in child diarrhea or growth – suggesting that sustained use of sanitation facilities and, thus, health impactsare not guaranteed by high coverage and are likely context dependent (Arnold 2010).

The vast majority of gastrointestinal illness is caused by fecal-oral pathogen transmission through complex, environmentally mediated pathways including drinking water, ambient waters, hands, food, soil and vectors. Sanitation coverage is a primary barrier measure that aims to prevent fecal contamination from entering the environment and could plausibly break all of these pathways. However, it is uncertain whether increasing sanitation coverage effectively reduces environmental contamination and there are conflicting findings on the impact of sanitation improvements on child health.

Handwashing Promotion

There is significant evidence from randomized controlled trials that households receiving intense encouragement to regularly wash their hands with soap have less self-reported diarrhea and respiratory disease than households who continue their normal hand hygiene practices (Ejemot 2008, Rabie 2006). However, the existing evidence comes from trials which used very intensive interventions to encourage handwashing interventions that would not be practical to implement at scale. A key issue is the difficulty in knowing how to encourage greater take up of handwashing at reasonable cost.

One key barrier to handwashing is the difficulty and high use of water required in filling a basin, washing hands in the basin, and emptying the basin. In an observational evaluation in rural Bangladesh, households that had soap or water at their most convenient place to wash hands were twice as likely to wash their hands with soap after fecal contact than households that lacked these essential supplies (Luby 2009). Of course causality is not clear in the absence of a randomized controlled trial. A variety of simple low-cost handwashing stations have been developed which provide a place to wash hands and a source of flowing water. These can be as simple as plastic containers which one can tilt to create a stream of water by pulling rope with one’s feet, or plastic containers plugged with sticks, which release a trickle of water when the stick is removed. A well-placed handwashing station provides a visual cue to spur handwashing and greatly increases the convenience of handwashing. There is considerable evidence across the social sciences that convenience is a key factor in promoting behavior change. In fact, one important lesson from the literature on behavioral change is that making something easy can be more effective at inducing change than education or promotional messaging (Kaplan 1986, Sallis 2008, Kremer 2009). Additionally, if they are placed outside of the latrines they are at least partially in public view, and there is evidence that people are much more likely to wash hands after using a toilet if they believe they may be observed (Pederson 1986, Ram et al 2010).

Water Treatment

There is little evidence that providing water supplies that meet the engineering definition of “improved” lead to health or social benefits for the population. In contrast, evidence from settings where diarrhea is a leading cause of death shows that improving the microbiological quality of drinking water markedly reduces reported diarrhea (Clasen 2006, Fewtrell 2005, Arnold 2007). Randomized controlled trials conducted using various household-based point-of-use water treatment technologies have demonstrated that households that consume regularly treated water report substantially less diarrhea than households using untreated water. However, caregiver-reported diarrhea, which is the outcome measure for the majority of these studies, may be subject to measurement error potentially correlated with treatment. For this reason objective outcomes such as those planned for the proposed study (i.e. anthropometric measurements, cognition, parasitic infection and environmental enteropathy) may prove more convincing from a policy perspective and may be more likely to motivate action from policy makers (WHO & UNICEF Progress on drinking water & sanitation 2008)

Chlorination is the household water treatment solution of choice in many contexts given its safety and cost-effectiveness. It has been used in piped water systems around the world for almost a century. In many places where such infrastructure is absent or imperfectly maintained, dilute chlorine solution is marketed as a consumer good used in the home. In Bangladesh the study will use Aquatabs for chlorination. Aquatabs are effervescent water purification tablets that utilize sodium dichloroisocyanurate (NaDCC) as the chlorine donor. NaDCC was judged to be a safe and appropriate treatment for water by the World Health Organization [[1](#ENREF_1)]. In a previous field study in Geneva slum in Dhaka, use of Aquatabs consistently yielded an appropriate chlorine dose and dramatically improved drinking water quality (Clasen 2007).In pilot testing in rural Bangladesh Aquatabs provided with a safe water storage container were acceptable to the community with 78% of households having chlorine residual in store drinking water on unannounced follow-up visits.

Pilot Work

The WASH Benefits pilot project (PR-09053) work has allowed the study teams to refine the sanitation, handwashing and water quality interventions and identify hardware and behavior change packages that result in high levels of uptake.

Based on the results of the pilot work, the following water, sanitation, and hygiene interventions which were found acceptable and resulted in good uptake will be implemented:

|  |  |
| --- | --- |
| Intervention class |  |
| Sanitation | Latrine upgrades to a dual pit latrine with sanitation promotion, child potties, sani-scoop hoes to remove feces from household environments, |
| Handwashing | Promotion of handwashing with soap or waterless hand sanitizers at critical times, handwashing stations, soapy water at handwashing locations |
| Water quality | Chlorine tablets (Aquatabs) + safe storage vessels, water treatment promotion |

Nutrition Intervention

There is abundant evidence that the prenatal period and the first two years of life are a critical window for intervention in growth and development: infection and poor nutrition during this window can negatively impact an individual’s long-term cognitive development and lifetime physiologic trajectory (Checkley 2003, Berkman 2002, Black 2008, Guerrant 1999, Niehaus 2002, Tarleton 2006, Bhutta 2008, Crimmins 2006, Grantham-McGregor 2007, Victora 2010). Nutritional interventions during the first years of life improve schooling and income in adolescents and adults up to 35 years later (Victora 2008, Hoddinott 2008). Yet, a systematic review of the impacts of complementary feeding and supplementation interventions reports that even the most successful of these interventions increase length-for-age Z-scores by 0.69 SDs, which is approximately 1/3 of the mean growth deficit for African and Southeast Asian populations (the mean intervention effect is 0.28 SDs) (Dewey 2008).

One hypothesis for why nutritional supplementation appears to be necessary but not sufficient to eliminate growth shortfalls is that chronic infection and colonization of the small intestine by fecal bacteria impedes nutrient absorption and creates low-level immune system stimulation, a condition called environmental enteropathy (Lunn 2000). Environmental enteropathy is characterized by damage to mucosa in the wall of small intestine that decreases its surface area for nutrient absorption and increases its permeability to antigenic molecules that stimulate immune system defenses (Lunn 2000, Campbell 2003). Biomarkers for intestinal permeability and immune system stimulation have been more strongly associated than acute diarrhea with growth shortfalls (Campbell 2003). The mucosal damage that characterizes environmental enteropathy is caused by the body’s inflammatory response to the ingestion of fecal bacteria, and when people move to lower-bacteria environments the condition resolves (Haghighi 1997). Recently, nutritionists have hypothesized that reducing a child’s fecal bacteria exposure during the first years of life through improved sanitation, handwashing or water treatment may improve gut function and subsequent growth (Humphrey 2009).

For children whose food intake is insufficient, lipid-based nutritional supplementation (LNS) helps reduce gross energy shortfalls and provide essential micronutrients. The energy and micronutrients that LNS provides are likely to improve nutritional indicators, length-for-age and child development (Adu-Afarwuah 2008, Adu-Afarwuah 2007, Dewey 2008, Walker 2007, Rosales 2009, Bryan 2004), particularly among children that are at highest risk for severe stunting (Phuka 2008, Phuka 2009). It is possible that improved nutrition alone can reduce the negative effects of infection on growth and development due to the improved ability of better-nourished children to fight off enteric infections and exhibit catch-up growth during the convalescence period (Guerrant 1992, Guerrant 2008).

The specific LNS we propose to use is a next generation supplement to Nutributter; members of our team (Drs. Dewey and Stewart at UC Davis) have been involved in the development of the supplement and are currently deploying it in ongoing randomized, controlled trials in Bangladesh, Burkina Faso, Ghana and Malawi as part of the iLiNS project and related studies (iLiNS.org). Nutributter and related LNS interventions have demonstrated efficacy for improving child growth and development when provided daily after age six months (Adu-Afarwuah 2008, Adu-Afarwuah 2007). We propose a combined energy / micronutrient supplement because micronutrient supplementation alone is unlikely to have a large impact on linear growth (Ramakrishnan 1989). LNS is administered daily using 10 gram sachets that can be mixed into existing meals (e.g., porridge); a child eats two sachets per day. LNS is intended to supplement – and not replace – breastfeeding and locally available complementary foods, by providing 108 kcal/day and including a broad suite of essential fatty acids and micronutrients at dosages appropriate for children in this age group. It has an 18-month shelf life, does not spoil at high temperatures and costs as little as $0.10 per day. Its compliance has been over 88% in controlled trials (Adu- Afarwuah 2008), in part due to the ease of incorporating it into existing feeding routines. Breastfeeding is highly prevalent in both populations, and so we have focused on supplements that would not replace this essential source of nutrition (Black 2008).

Our collaborators at UC Davis have a series of ongoing randomized trials evaluating the impact of LNS supplementation provided to pregnant and lactating women and/or their infants in Ghana, Malawi, and Burkina Faso through the International Lipid Based Nutrient Supplementation Project (www.ilins.org). The objectives of the project include the development of low-cost, acceptable LNS formulations using locally available ingredients and evaluation of the efficacy of reduced cost formulations of LNS for infants, young children and pregnant women. Acceptability trials have been conducted in all the three of the countries with positive results. Importantly, the iLiNS project has already demonstrated that LNS is acceptable among young children in similar cultures to the rural Bangladesh population.

Biomarkers for Environmental Enteropathy

Environmental enteropathy, an inflammatory disorder of the intestines that compromises nutrient absorption, is associated with child malnutrition and poor development (Haghighi 1997, Humphrey 2009, McKay 2010). Environmental enteropathy is one of the main hypothesized pathways for the impact of our interventions on growth and development. Measurement of environmental enteropathy markers will provide important information about the mechanism for intervention impacts (or lack of impact) in this study. Altered intestinal permeability is an indicator of environmental enteropathy, measured using a dual-sugar permeability test in which the lactulose: mannitol urinary excretion ratio is measured (Lunn 2000, Campbell 2003). The child is given a combination of the two sugars, lactulose and mannitol. Mannitol diffuses through a transcellular pathway and is used to assess the absorptive capacity and mucosal surface area of the enterocytes. Lactulose is typically minimally absorbed via the paracellular tight junctions and thus, it is used to assess epithelial integrity. A normal intestinal epithelium absorbs nearly all mannitol, but almost no lactulose. A damaged epithelium absorbs mannitol less efficiently and more lactulose. By measuring the lactulose: mannitol ratio in the urine passed over the subsequent 3-5 hours, the intestinal absorptive efficiency can be calculated and the severity of environmental enteropathy inferred.

Earlier studies demonstrated that environmental enteropathy as assessed by intestinal absorption is widespread in low income tropical countries where fecal contamination of water, food, and the environment are common in contrast to rarely being seen among normal residents of high income temperate countries (Haghighi 2003). Environmental enteropathy is acquired early in childhood. Stillborn children in tropical countries have normal intestinal small intestinal cellular structure (Haghighi 1979). During the first three months of life mannitol/lactulose absorption is normal in children in The Gambia compared to children in the UK, however after three months intestinal absorption among Gambian children progressively decreases during the first year of life (Lunn 1991). Recent studies in Bangladesh confirm intestinal malabsorption consistent with environmental enteropathy is present in children 3 – 24 months of age in the rural Dhamrai subdistrict; the degree of impairment in absorption increased in children between 3 and 12 months of age (Goto 2009a, Goto 2009b). The intestinal absorption and pathology of migrants who move from highly contaminated low income tropical countries to developed temperate countries normalizes within 3 to 5 years (Gerson 1971).

If improvements in sanitation, water quality, hand hygiene and nutrition could reduce the severity of intestinal malabsorption from environmental enteropathy either by preventing its acquisition or by reversing the pathology, this would represent an important contribution to global public health, and would be a useful outcome assessment for the larger planned intervention study. Nutritionists have recently argued that environmental enteropathy is most likely caused by poor sanitation and hygiene in low income countries (Humphrey 2009, McKay 2010). Yet, there are no studies that demonstrate a specific association between environmental enteropathy and poor sanitation separated from other exposures in a low income country environment, although one study from Rhodesia 30 years ago noted an association between intestinal absorption and socioeconomic status (Thomas 1976).

Pilot Environmental Enteropathy Work in Bangladesh

In the WASH Benefits pilot study (PR-09053), we selected 119 children from an existing cohort (SHEWA-B intervention assessment study) who lived in different levels of household environmental cleanliness based on sanitation, water quality and handwashing indicators. The children were between age 8 and 48 mo in May 2010 and lived in 83 different rural villages across Bangladesh.

The 66 children from households with improved household hygiene lived in homes with good sanitation (flush/septic/piped sewerage or a pit latrine with slab and water seal), good water quality (median E. coli < 10 CFU/100 ml in up to 8 samples collected over 24 mo), and favorable handwashing conditions (a dedicated location to wash hands stocked with soap and water). In contrast, the 53 children who lived in homes with poor household hygiene lacked adequate sanitation (open defecation, open pit latrines, slabs with broken water seals, toilets that flush to “somewhere else” or hanging toilets), had poor water quality (median E. coli ≥ 10 CFU/100 ml), and had unfavorable handwashing conditions (no dedicated location to wash hands, or a dedicated location that lacked either water or soap). The definitions of improved hygienic conditions were chosen to reflect indicators that we hope to improve through intervention in the WASH Benefits study.

Children in the two environments differed greatly in their growth: after statistical adjustment for potentially confounding differences, children in households with improved hygienic conditions had 0.54 SDs (95%CI 0.06, 1.01) higher HAZ than children in households with poor hygienic conditions (unadjusted difference = 0.91 SDs). Importantly, the children also differed in biomarkers for environmental enteropathy. After statistical adjustment for measures of socioeconomic status, children living in improved hygienic households had lactulose : mannitol (L:M) ratios that were –0.32 SDs lower than children living in poor hygienic conditions (95% CI –0.72, 0.08). Children in improved hygienic households also had lower Immunoglobulin G endotoxin core antibody (IgG EndoCAb) titers (–0.23 SDs, 95% CI: –0.63, 0.17) than children living in poor hygienic conditions. After adjusting for age and sex, the L:M ratio was also strongly associated with HAZ in the population: a 1-unit increase in the log L:M was associated with a –0.36 SDs reduction in HAZ (95% CI –0.64, –0.07).

These pilot results support our original rationale to conduct the main WASH Benefits study. However, because household environmental conditions in the pilot were not randomized, it remains possible that differences observed between the children in growth and EE biomarkers result from unmeasured or unquantifiable differences between groups that we cannot control for without an experiment. A randomized trial that delivers high impact household environmental interventions (i.e., interventions with good uptake and high efficacy at reducing pathogen transmission to young children) in large populations as we have in our Kenya and Bangladesh cohorts would provide more conclusive evidence.

Assessment of interactions

Since intervention assignment will be randomized the study groups will have similar population characteristics that will permit inferring that observed differences in outcome are attributable to the intervention. However, we expect that the interventions will have different effects in different children and that some of these differences will be mediated by differences in the mother and child’s intestinal microbiome, immune function, internal biochemical environment and genetic disposition. For example a child who acquires a specific pattern of microbiological organisms from her mother’s intestinal microbiome may be more resistant to infection with intestinal pathogens and so less likely to benefit from sanitation interventions. Immune function, internal biochemical environment including nutrition and genetic characteristics are especially dynamic areas of scientific research where important new insights are emerging each month. The capacity to explore these issues will provide the opportunity to understand the mechanism and generalizability of any impacts on child health and development that are observed within the study.

One exposure that has the potential to interact with child development is lead. Humans exposed to lead experience irreversible impairment of intellectual function (Bellinger et al., 1992). Two studies of residents living in rural Bangladesh remote from roads and industry report unexpectedly high blood lead levels including 14% of children in a rural area of Dinajpur District having blood lead levels >10 µg/dL (Mitra et al., 2009) (twice the current 5 µg/dL level used to identify US residents at high risk (Advisory Committee on Childhood Lead Poisoning Prevention, 2012)) and postpartum women in rural Matlab, where the median equivalent blood lead concentration of 6.0 µg/dL exceeded the high risk threshold (Bergkvist et al., 2010). A few studies have explored potential sources of lead in rural Bangladesh. Lead concentrations in soil used for agriculture in Mymensingh District, Bangladesh was twice as high as soil collected from adjacent plots used for non-agricultural domestic purposes (40.6 ppm versus 20.7 ppm) (Muhibbullah et al., 2005). Rice, the primary dietary staple in Bangladesh, collected from households in the Matlab study contained a median of 25 µg/kg of lead (Bergkvist et al., 2010).

Environmental Microbial Assessment

Fecal-oral pathogen transmission is a complex process. The complexity arises from a multitude of transmission pathways, a broad diversity of pathogens, the importance of environmental conditions, and interactions between the environment and human behavior. Water, sanitation and hygiene interventions present primary and secondary barriers that separate feces from the environment and should block enteric pathogen transmission. Measuring fecal contamination along environmentally mediated pathogen transmission pathways, including water, hands, soil, food and flies, will enable us to understand which of these pathways are successfully broken by our interventions and elucidate the factors behind their success or failure in improving child development outcomes. Detailed assessment of contamination along these pathways (including measurement of fecal indicator bacteria, microbial source tracking to differentiate between human and animal sources of contamination, and detection of common diarrheagenic pathogens such as pathogenic E. coli, Shigella and rotavirus using culture-based and molecular techniques) will allow a nuanced understanding of the impact of the interventions on disease transmission in young children in the rural Bangladeshi setting. In-depth information on environmental contamination will also allow us to explore the relationship between environmental enteropathy in children and fecal contamination in their living environment.

*Spillovers of WASH Interventions*

While there is a rich literature on the health effects of WASH interventions for children receiving such interventions, to our knowledge, no studies have measured the health effects of such interventions on children that are geographically proximate to WASH intervention recipients who did not receive the intervention themselves. Effects of interventions on those not receiving interventions are termed “spillovers,” and failing to account for spillovers in the same direction as the effect on the treated (“positive spillover”) will lead to underestimates of the efficacy and cost effectiveness of an intervention. As such, measurement of spillovers is important for the prioritization of interventions and allocation of public funds. Although many studies have applied mathematical models to spillovers of infectious diseases, very few studies have empirically measured spillovers for infectious diseases (Anderson & May 1992; Anderson & Medley 1985; Medley et al. 1993; Basáñez et al., 2012; Chan et al, 1994; Magalhães et al., 2011; Halloran et al., 2002; Bansal et al., 2006; O'Brien et al., 2007). Our proposed study will be one of the first to do so, and it will be the first to generate empirical spillover estimates for WASH interventions. This study will generate unique evidence to inform the estimation of the cost effectiveness of interventions and optimal resource allocation to maximize health benefits for rural populations in developing countries. It will concurrently advance the general methodology for spillover measurement in multiple disciplines.

*Effect of the interventions on anemia*

Anemia in preschool children results in poor physical growth, impaired cognitive development, reduced school achievement and, when severe, may result in increased mortality risk. The prevalence of preschool child anemia (hemoglobin concentration<110 g/L) has been estimated at 64% in Bangladesh. While it is recognized that anemia is a multifactoral disorder, the relative contribution to anemia from micronutrient deficiency, infection, and hemoglobinopathies among low-income populations has not been well characterized. It has been assumed that more than half of the burden of anemia can be attributed to iron deficiency, yet the interplay between undernutrition and infection may reveal a more complicated story. Although iron supplementation interventions have had modest success at reducing anemia risk, high rates remain even after supplementation. This may be due to a failure to address the clinical and sub-clinical infectious causes of anemia. Certain parasitic or other enteric infections such as diarrheal disease may also contribute to anemia due to blood loss or inflammation. It has been hypothesized that environmental enteropathy (EE) is one such condition in which repeated often subclinical enteric infection, thought to be due to poor water, sanitation, and hygiene, results in a chronic state of gut inflammation and nutrient malabsorption that may contribute to anemia (Prendergast et al, 2012). No interventions designed to both improve nutrition and reduce infection simultaneously have rigorously evaluated the impact on anemia. The trial’s randomized, factorial design will enable us to experimentally measure the independent and combined effects of interventions to reduce infection and undernutrition in young children. The study’s findings will contribute to the critical evidence gap regarding the causes of anemia and interventions to prevent it. The results of this study are likely to be broadly applicable to other rural, low income populations where food insecurity, poor access to safe water, and inadequate sanitation coexist and could identify new strategies to address this important and intractable problem.

Research Design and Methods

Describe in detail the methods and procedures to be used in accomplishing the objectives and specific aims of the project. Discuss the alternative methods that are available and justify the use of the method proposed in the study. Justify the scientific validity of the methodological approach (biomedical, social, or environmental) as an investigation tool to achieve the specific aims. Discuss the limitations and difficulties of the proposed procedures and sufficiently justify the use of them. Discuss the ethical issues related to biomedical and social research for employing special procedures, such as invasive procedures in sick children, use of isotopes or any other hazardous materials, or social questionnaires relating to individual privacy. Point out safety procedures to be observed for protection of individuals during any situations or materials that may be injurious to human health. The methodology section should be sufficiently descriptive to allow the reviewers to make valid and unambiguous assessment of the project.

Although the studies in Bangladesh and Kenya are parallel studies the interventions are somewhat different because the contexts are different. They are separately powered studies that will be analyzed separately. No combined analysis is planned. We are only asking the ICDDRB Research Review Committee and the Ethical Review Committee to consider the Bangladesh protocol.

Study Population

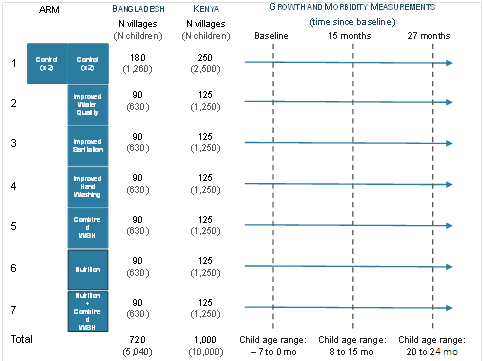
The subject population will be young children and their mothers/guardians living in 5districts including villages in Gazipur, Kishorgonj, Mymensingh, Tangail, Netrokona, districts of Bangladesh where communities meet the following study criteria:

* Rural communities
* Drinking water
  + low levels of iron and arsenic as documented in the collaborative assessments by the Government of Bangladesh and the British Geological Survey and internal testing using Hach iron kits.
  + Sources known to be frequently contaminated with fecal indicator bacteria (including shallow tubewells)
* Low levels of fully hygienic latrines coverageas indicated by the Multiple Indicator Cluster Survey
* Levels of childhood stunting >30%
* That the Government of Bangladesh, international non-government organizations working in Bangladesh and local government authorities report that no major water, sanitation, or focused nutrition program are currently operating or planned in the area in the next 2 years.
  + (All participating communities will remain free to engage in intervention opportunities which they see as in their best interest. If water, sanitation, hygiene or nutrition promotion activities are initiated in the study community during the course of the trial, this will complicate the inferences we can draw from these areas, but we will not drop any such communities from the analysis, but, as noted in the analytic plan, we will retain the intention to treat analysis.)
* Specifically avoiding hoar areas, hill tracts and the coastal belts

Target children will be unborn children of pregnant women identified by report of their last menstrual period at enrollment. Target children will age to between 17 and 24 months over the course of the study. Older, school aged siblings or neighbors of the target children will also be included in the study. The subject population will include both males and females, and no one will be excluded based on their race, ethnicity, language or literacy.

Figure 1 provides an overview of the WASH Benefits study design. The interventions will require about 3 months from the baseline survey to deliver. The follow-up rounds are planned for 12 and 24 months after intervention delivery.

Figure 1. WASH Benefits study design overview.



In Bangladesh, we plan to enroll 90 clusters per intervention arm, a double-sized control arm, and 7 children per cluster. Because of the risk of pregnancy loss, we will enroll 8 pregnant women per cluster. The control arm will include 1,260 children and the 6 intervention arms will include a total of 3,780 children. The total number of children planned for the study is 5,040, but because of the uncertainty of pregnancy outcome we may end up with somewhat more or less than this precise target. We will enroll 2,500 children neighboring children enrolled in the study as part of the spillover substudy.

Screening

The study will be conducted in communities in 5 districts in rural Bangladesh (Figure 2). Study communities must meet all of the following criteria:

* Have no on-going, externally-funded projects implementing or promoting water, sanitation and hygiene technologies or behaviors
* Have no on-going, externally-funded projects implementing or promoting nutritional supplementation or promotion of specific foods based on their micronutrient content
* Have water with an iron concentration of <3milligrams/L on average
* Have water with an arsenic concentration of <50 micrograms/L on average

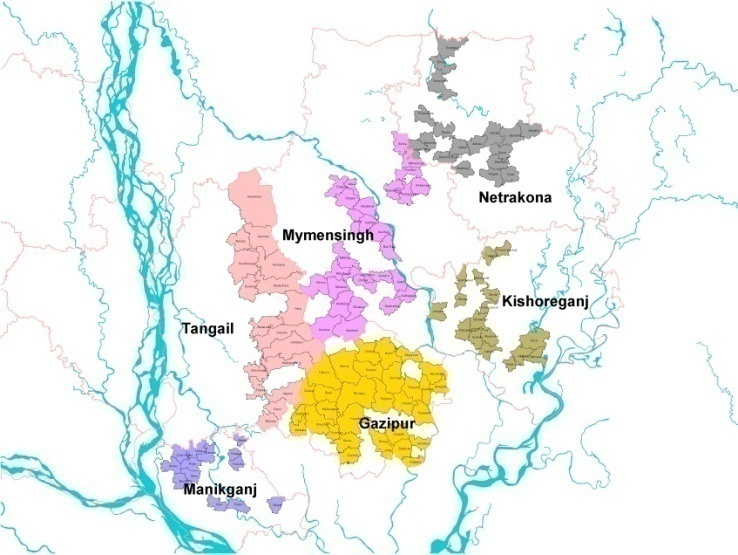
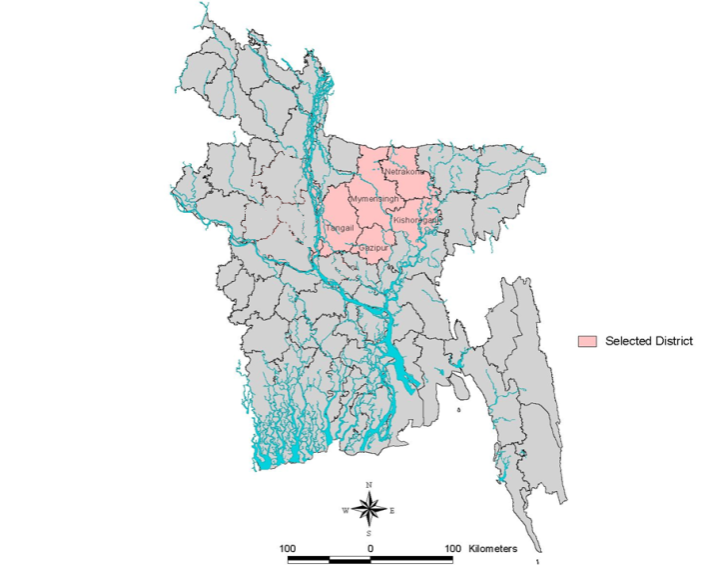


Figure 2. Districts and unions targeted for study enrollment.

Compounds (within eligible communities) will be eligible to participate if they include at least one pregnant womenin the first two trimesters of her pregnancy who is currently living in the compound. Within each enrolled compound, we will collect information from three types of children:

(1) Infants (target child) will be eligible to participate in the study if they are:

1. They were in utero at the baseline survey

2. Their parents/guardians are planning to stay in the study village for the next 24months (if a mother is planning to give birth at her natal home and then return, she will still be a candidate for enrollment)

(2) Children < 36 months at baseline that are living in the compound of a target child will be eligible to participate in diarrhea measurement if:

1. They are 3 – 36 months old at the baseline survey

2. Their parents/guardians are planning to stay in the study village for the next 12 months

(3) In addition to the target child, up to two older siblings or older children from each enrolled compound that includes a target child will be eligible to participate in the intestinal parasite specimen measurement if they are 3.5 to 12 years old. Specifically, these children will include the following:

1. Children between the ages of 3.5 and 5: These children were enrolled for specimen at baseline and at that time they were are between the ages of 18-27 months. Parasite assessment in these children will be done at both baseline and endline.

2. Children between the ages of 5-12 years: Parasite assessment in these children will only be done at endline.

3. Their parents/guardians are planning to stay in the study village for the next 12 months

after baseline enrollment.

There will be no exclusion criteria based on gender, race, or ethnicity.

Compounds will be eligible to participate in the spillover substudy if they are located in close proximity (within 2 minutes walking distance) to enrolled compounds in the combined intervention and control arms and if a child 0-59 months resides there at endline.

Recruitment

The intervention trial will be implemented in 5 districts of rural Bangladesh (Figure 2). Eligible communities will be identified through area surveys conducted by ICDDRB research assistants. The trained fieldworkers will travel to the eligible communities and will ask community leaders for permission to conduct research within their community. If the community leaders agree, then the team will proceed with recruitment. Fieldworkers will approach eligible compounds (a group of usually 3-20 households that share a common courtyard and are usually blood relatives) within a community. Only compounds that include a pregnant woman in the first or second trimester of her pregnancy with self reported low levels or no iron problems in their drinking water, who will stay in this household for the next 24 yearsare identified as eligible by the team for participation.Occasionally compounds may have multiple pregnant mothers and both eligible households are listed in this case. The prospect of participation in the study will be discussed with adults in the compound, including the pregnant mother/caregiver of the target infants. After providing time for discussion among the compound residents and verbal interest to participate, a member of the field team records the GPS coordinates at the front door of the mother’s household. These coordinates will be compiled and analyzed using ArcGIS mapping software, to identify 8 closest mothers for a cluster. A buffer region of 1 km is then excluded around this cluster, before identifying the next cluster of 8 mothers. Field teams return and seek formal informed consent from the head of the selected compounds and from the pregnant mother/guardian of target infants within each cluster during enrollment.

The intervention is a cluster randomized controlled trial. Each cluster will be a group of compounds that includes at least seven eligible children. The compounds within a single cluster will be located closely enough together so that a single hygiene promoter can reach each of the participating compounds by walking. If the compounds are too dispersed for a hygiene promoter to reach all of them on foot, then they will not be enrolled in the study. More than one cluster may be enrolled in a single village but clusters will need to be separated from each other by a minimum of 1 km distance between the two closest households.Each of our water sanitation and hygiene interventions have both a hardware component (and our nutritional intervention requires ongoing provision of nutrient supplements) as well as a software, communication component. Neighboring clusters will not receive the hardware or supplies. Moreover, water sanitation, and hygiene interventions are generally plagued with low levels of uptake and regular use. Thus we do not anticipate that spillover of the intervention into neighboring clusters. Since there will be atleast 1 km distance, equivalent to 15-20 minutes walking that separates the closest point of intersection between intervention areas we do not expect direct effects of the intervention to spill over into the closest cluster. In addition, each cluster will have its own community hygiene promoter, and so we will not be asking the same hygiene promoter to deliver different messages to different households. We will have GPS location information from each participating household and as part of the analysis evaluate whether effects of uptake for impact is affected by proximity to other interventions. Although we do not expect to see spillover effects, if we do will adjust for them in the analysis.

After 8 clusters have been enrolled in particular geographical area, these 8compound identifications will be sent to Dr. Ben Arnold at UC Berkeley, who will block randomize and assign each cluster to receive one of the 6 intervention or to the double sized control arm.

Field staff will enroll and randomize compounds into the intervention trial over a 10-month period. The enrollment will be stopped for two months after the first 80 clusters. The implementation team will follow and roll out the interventions. This time will allow the team to improve and learn from the experience so that the next rounds are more efficient.

Children born into existing study compounds,other than those born to pregnant mothers enrolled at baseline will also receive the same intervention as the child in the compound who was originally enrolled. This will be essential to maintain a coherent and consistent intervention within each compound. Since LNS is a more targeted (and expensive) intervention, we plan to limit LNS provision to additional children born to the same mother as target children. For children who are born into existing study compounds, we will attempt to enroll them at midline and endline and if enrolled we will measure diarrhea, anthropometry (length, weight, head circumference) and child development outcomes (when possible: children would need to be > 4 months old to administer most tests). Due to cost and logistics, we do not plan to measure environmental enteropathy biomarkers or parasitic infections in the additional enrollees. We do not plan to include the additional newborn children in our primary analysis because the exposure to intervention for this subset will be shorter than for our index children, and their inclusion would increase the variability of intervention exposure length in our population (and would make defining what constitutes the “intervention” more difficult). However, children born into existing compounds may provide additional information about the impact of our interventions on very young children who are born into cleaner environments. For the spillover substudy, we will enroll children aged 0-5 years in neighboring compounds in the combined intervention and control arms at endline.

1) Promoter Selection and Training

The fieldwork will be implemented by local field workers recruited and supervised by the Bangladesh-based scientific team. For all study arms, local promoters will be nominated by community members participating in the study. Followingthe baseline survey icddr,b field staff will search for potential candidates by interviewing community members within each cluster. During interviews, they will describe promoter eligibility criteria and explain the role of the promoter in the community. Field staff will seek nominations from at least one member of each target household and at least two community leaders (includes school teachers, religious leaders, village doctors, NGO workers, and others) for a few candidates to work as a promoter in their community. Based on the nominations from the community, field staff will tally marks against each candidate on a checklist. Staff will identify the 3 nominated candidates with the highest scores and then they will visit them to inform the eligibility criteria, promoter roles and responsibilities, and benefits of being a promoter. Based on the discussion, if the candidate shows interest in being a promoter then field staff will proceed in collecting detailed socio-demographicinformation otherwise they will stop the interview and proceed to the next candidate. Following this, field staff with the support of the other team members will analyze the data to identify eligible candidates for interviews. After randomization, the team will invite at least 3 preliminary eligible candidate from each intervention cluster for interview (both written and viva).Based on the performance of the interview one will be chosen as the promoter while other will be in the waiting list as a back-up promoter in case the selected promoter is unable to satisfactiorly carry out his/her responsibilities or drop out due to any reasons.

All seclected promoters will be invited for 2-day basic training conducted by icddr,b staff which includes research and training team on interpersonal communication, introduction to behavior change communication strategies, basic adult learning theory, ethical conduct, time management/planning and reporting procedures. Upon successful completion of the initial training, and based on the trainer’s assessments of the two nominees from each village, one will be chosen as the promoter. The selected promoter of individual arm will subsequently attend a two-day training specific to the intervention they will be promoting and, if the cluster is randomized to the combined arm,an additional 4 days of training. For example, promoters in nutrition arms will address the importance of good nutrition for child development, the basics of a healthy diet for children in the target age range, the LNS product and nutrition specific health education modules that have been specifically developed for this project. Field staff along with the training team will assess the performance (knowledge, skill and attitude) of promoter in each quarter by using performance assessment tools and will do the grading according to their performance. Based on the assessment there will be refresher trainings at every quarter that will last for one to two days and present a review of general themes as well as any new behavior change communication strategies that have been developed. The refresher training will serve as a venue to share ideas, lessons learned and best practices among the promoters and their supervisors.

Shortly after the training workshops, community meetings will be conducted to introduce the intervention and to present the promoter and describe their role to the community and mothers participating in the study by a representative from icddr,b. The study representative will then accompany the promoter on his/her first 2-3 participant interactions (lasting ~1 hr each) and provide the promoter with feedback on his/her techniques. The promoter supervisors will each oversee ~12promoters for the duration of the study. They will stay in touch with promoters through monthly meeting, monthly phone calls and site visits in each month. In order to ensure that study households are adequately supported, promoters will be asked to make frequent contact with study households in the first days and weeks after the intervention is launched, with interactions then tapering off after the first 6 months of the study to a long-term pattern of monthly visits by promoters to deliver LNS, Aquatabs, hand sanitizers and technical support on repairs as required in addition to provision of ongoing behavior change support, and check on uptake. Promoters will be compensated for their efforts at a rate that is commensurate with the government’s pay to community health workers, with a strong emphasis on the prestige of being selected as a promoter (actualized in the form of a diploma from the training, a household visit kit, and study identification badge and potentially monthly top-up for promoters cell phone to facilitate communication between research staff and promoters).

2) Baseline Assessment

After a mother has been enrolled in the study, trained icddr,b staff will conduct a baseline assessment. Mothers will be asked standard questions about their (and spousal) education, activities, occupation, household assets, and current sanitation & hygiene practices.The baseline assessment in all participating households will include bar soap and detergent powder consumption measurements, latrine use (visual inspection), and numerous spot-check hygiene indicators (e.g., presence of animal or human feces in the household environment). The field team will collect these measurements at the three measurement rounds of the study (baseline, 1-year follow-up, 2-year follow-up). We will ask mothers to provide a 10 ml sample of blood for future genetic testing and testing of nutrition and other biochemical parameters, a urine sample for chemistry and a stool sample to permit future testing of the intestinal microbiome (Appendix 1m). For the blood sample we will separately freeze aliquots of sera for eventual biochemical analysis, and retain a clot for genetic testing. Although we are not currently funded to analyze these samples, we envision future interest in assessing the impact and controlling in the analysis for maternal nutritional deficiencies or other biochemical factors on child development, and so we will collect and archive this prenatal sample.We are requesting consent to hold these samples for up to 20 years because we want to take advantage of expected future advances in characterizing immunological and other parameters relevant to the pathophysiology of environmental enteropathy. We have not specified the tests, because we do not know which relevant tests will become available, though the field is making substantial advances each year, and so we expect that highly relevant tests will become available.

Fly Density

In the random subset of 720 households within each group we will assess environmental contamination at baseline by measuring fly density. Field workers will start by locating the nearest latrine, food preparation area (usually rural outdoor kitchens) and the garbage disposal site for the target household. To capture flies, they will use Revenge fly tapes from Roxide Inc. We chose these passive sticky tapes because of their adhesion ability. They will cut out three 1.5 ft of these tapes and hang them parallel to each other near the sites. The field staff will set these traps between 9-10 am, ask the household not to disturb the tapes, collect them after 24 hours. Trained field workers will count the number of flies in each trap and speciate them using a simple visual identification chart made from The Fauna of British India series (Aubertin and Smart 1940; Van Emden 1965; Nandi 2002).

Parasite Assessment (compound residents aged 18 to 27months)

Since at enrollment many of the target children will not yet be born, and even those who are born are at low risk of parasitic infection, we will enroll older children age 18 – 27 months who live in the same compound as the target child as a proxy to assess the risk for parasitic infection in our target communities. These children will be the same age at baseline as the target children of the study will be at endline. The field team will first seek consent from the parent of the 18 – 27 month old child. Stool and blood spot samples will be collected from Stool collection will require two visits to each household. On day 1, the field team conducting the survey will deliver to each caregiver a stool collection kit and instruct them how to collect stool from their children. Caregivers will be instructed to have their child defecate on a sheet of provided plastic, to use a provided plastic scoop (integrated into a storage container) to collect ~10 mL of fresh stool from the top of the pile. On day 2, field staff will return to the household to collect the stool sample. Field staff will aliquot fresh stool specimens for parasite microscopy at endline(see endline assessment section for details). We willmaintain a cold chain of 4°C until the samples are transported to the fieldlab (<6 hours) where they will be stored at –20°C until shipment on dry ice to ICDDRB where they will be stored at final temperature of –80°C.

Paired with each stool sample we collect we will also collect a finger prick blood sample. One of the child's fingers will be cleaned using the disinfectant liquid and after drying completely prick to adapt to 0.25 mm using a spring-loaded disposable handset (BD Microtainer®). Sixdrops of blood (about 60 µl) will be collected using a filter disk. We will store the filter disksamples at 4°C. The filter diskwill then be frozen and transported to the ICDDR,Blab, where they will be stored at –80°C. The eventual goal of the filter disk bloodspecimen collection will be to analyze them for intestinal helminthes, protozoans,and other pathogenic organisms using antigen-based assays (Luminex), but we are still working out detailed plans for this laboratory testing and so this protocol does not include the filter diskanalysis activities. At endline, we will measure the study child’s hemoglobin concentration using Hemocue analyzers (Hemocue 301). Results will be provided to the household in the field.

Subsample Environmental Enteropathy (EE) Assessment (6 months after baseline, midline at 15 months and endline at 27 months after baseline)

We will randomly select 80clusters from the control group, 80 clusters from the combined water, sanitation hygiene group, 80 clusters from the nutrition group and 80 clusters from the nutrition plus water, sanitation, and hygiene group for markers of environmental enteropathy. Within each selected cluster all of the enrolled children will be approached for inclusion. This sample collection will be implemented over the course of 2 days per village at the household level. We plan to collect samples from1500infants at the first survey round, which will take place approximately 6 months after baseline (however, 1500 infants is an optimistic number as a significant fraction of mothers may be living in their parents’ village during the first few months of their child’s life or a fractionof infants will still be in utero and will thus be unavailable for sample collection). However, the entire sample of 1,500 will likely notbe present for the 1 year(midline) and 2 year (endline) assessmentsdue to the high number of refusals and absences between rounds of measurement. Thus, at the midline and endline assessments, we will need to increase the sample size to 2,000 children. Each round of assessment will include the urine, serum and stool collection described below.Furthermore, at the endline assessment, we will collect blood, urine, saliva, hair, and stool specimens from a subsample of 2,000 children in the study to measure newly discovered biomarkers for environmental enteropathy including interleukin 6, interleukin 1-beta, F2-isoprostanes, and other biomarkers. Additionally, we will collect blood, saliva, hair, and urine from the 2,000 mothers of the children in the EE subsampleto validate these newly discovered candidate environmental enteropathy markers and correlate them with the child results.

On the first day, consent, anthropometric measurements, blood pressure, heart rate, autonomic function, and skin conductance measurements, provision of stool collection materials, and saliva, hair, and blood collection take place. On the second day we will collect urine and additional saliva samples from the study children and their mothers, pick up the stool from the study children, interview the mothers about theirdiets as well as their infant’s diet during the past week and the previous 24 hours. On a non-consecutive day, a subsample of mothers (n=60) will be revisited to be interviewed about their diet as a quality control measure.

Salivaand hair sampling:

On day 1, the field team will collect a total of 3 saliva specimens each from mothers and their children (before the blood draw, immediately following the blood draw, and at a later time point after the blood draw) using the previously approved Salimetrics swab. They will place the Salimetrics swab under the child’s tongue for 2-3 minutes and store the swab in a tube. These Salimetrics samples will be used to measure environmental enteropathy biomarkers such as cytokine response before, during, and after an acute minor stressor (the blood draw). A hair sample consisting of 3-4 strands of hair from each mother and child will also be taken with stainless steel scissors. Three to four strands of hair will be cut from three or four locations on the head. These hair samples will be used to measure new candidate environmental enteropathy biomarkers. Blood pressure measurements will be taken using a standard sphygmomanometer, heart rate and autonomic function will be measured using a portable electrocardiogram (Biopac ECG), and skin conductance (a test ofthe autonomic nervous system) will be measured using a galvanic skin response meter (MindWare GSR).The ECG and GSR will be attached before, during and after the acute minor stressor (the blood draw), to correlate autonomic function with EE cytokine response. The mother will receive the blood pressure and heart rate results for herself and her child. The saliva and hair samples collected from day 1 will be used to measure environmental enteropathy biomarkers.To measure temporal variability of the EE biomarkers, on day 2 in the morning, the staff will collect an additional saliva sample from the child andthe mother using the Oragene kit which consists of a soft sponge and tube. On day 2 in the afternoon, field workers will collect samples using the Oracal sampling tube. Specifically they willl 1) Remove the sampler being careful to touch only the handle. 2) Holding the handle as a tooth brush. Insert it in child’s mouth and the rub sponge against the gums for one to two minutes, ensuring that the sponge is completely wet/saturated. 3) Without touching the sponge, insert the sampler into the original Oracol tube, sponge down 4) Close the lid tightly 5) Put the Oracol sampler tube into a storage bag for transfer to a cooler.The Oracol device is used to collect crevicular fluid to study pathogen-specific antibodies. These Oracol samples will be assessed using new assays to measure pathogen specific IgA and IgG antibodies and compared to serologicalmarkers.

Urine specimen collection and analysis:

From a subset of every fifth cluster (n=144), urine will be collected from the pregnant mother for micronutrient and iodine testing. These will be maintained at 4 degreesC at the field level and stored at -20 degree C at the field office.

Our field teams will collect urine samples from all eligible children and their mothersin a study cluster (up to 7 children) in one day per cluster. The field team will request the mother to collect a sample from her first urine of the day. Additionally, the field team will request that mothers not feed their children for at least one hour before they receive the lactulose-mannitol solution. The children will be weighed and measured using the same anthropometric procedures as described above. The lactulose-mannitol solution will be prepared atthe ICDDR,B nutritional biochemistry lab using lactulose syrup and mannitol powder secured from international pharmaceutical suppliers. The lactulose-mannitol solution will be mixed with sterile water to produce a solution with a concentration of 250 mg of lactulose and 50 mg of mannitol per milliliter. The lactulose-mannitol assay requires the collection of an additional pre-LM urine sample to serve as a "control or baseline" urine for comparison with the post-LM urine.A pre-LM urine sample is a sample of urine (12 ml) that is collected during the 1-hour fasting period preceding the administration of lactulose-mannitol solution to the child. This additional pre-LM urine sample does not change the amount of time we are present in the household. For assay standardization and QA/QC purposes, we also plan to spike these pre-LM urine samples with fixed concentrations of lactulose, mannitol, or a known interfering compound during analysis.

Field workers will administer 2ml of the solution per kilogram of body weight of the child. A urine collection bag equipped with a drainage tube will be attached to the infant immediately after dosing. Thirty minutes after the infant consumes the sugar solution, mothers will be encouraged to breastfeed infants <6 months or offer water to their children >= 6 monthsto help their urination. Children over 6 months will be given purified drinking water 30 minutes after taking the sugar to help urination. Whenever the child urinates, the urine will be removed from the bag and placed in a container with 0.1% thimerosal (1 drop per 5 ml), a preservative.The total volume of urine collected after 5 hours will be noted, a 24-ml well mixed sample will be stored at -80 degrees C, and the urine bag will be removed from the child.

Aliquots of urine will be analyzed for lactulose:mannitol ratios by Dr. Mohammad Alauddin and his lab team in Bangladeshusing high performance liquid chromatography and mass spectrometry (LC-MS/MS). Dr. Alauddin has a mass spec machine at his lab in Wagner College that will need to be calibrated and standardized with the Pre-LM urine samples before he ships the mass spec machine to his lab in Dhaka, where the remaining urine samples will be analyzed. Additional environmental enteropathy markers will be measured in the urine samples from the mother and child: e.g., F2-isoprostanes.

Venous bloodspecimen collection and analysis:On Day 1, trained phlebotomists will collect up to 7.7-ml of venous blood from each child (< 2.5% of total blood volume for infants > 2 kg)and 10 ml of venous blood from each mother to measure EE and micronutrient biomarkers. We plan to increase the volume collected from the child by 2.7 mL of blood (original volume was 5 ml), for serum miconutrient and anemia biomarker analysis during endline and we believe that this additional blood volume isnot physiologically significant since the children are around two years old during endline. Retinol binding protein, transferrin receptor, ferritin, hepcidin, folate and B12, c-reactive protein, and alpha-1 acid glycoprotein will be measured in these serum samples.  The additional sample collection tube is required due to the fact that a number of these assays do not perform well in samples collected in trace element-free plasma collection tubes and to ensure that there is sufficient sample volume to meet the assay requirements. With this added tube, the total blood volume to be collected from children at endline will be 7.7 mL. Bloodsamples will be centrifuged within threehours of collection to separate the plasmaand serum from the red blood cells. The plasma and serumwill then be stored at –80°C. Commercially available ELISA kits will be used to measure total IgG, IgG endotoxin core antibodies (Coaset EndoCAb), C-reactive protein (CRP), alpha-1 acid glycoprotein (AGP), interleukin 6 (IL-6), interleukin 1 (IL-1), tumor necrosis factor (TNF), insulin-like growth factor 1 (IGF-1), and other environmental enteropathy biomarkers. Maternal blood samples will be assayed forenvironmental enteropathy and inflammation biomarkers. Blood spots will be collected for luminex testing of antibodies to intestinal parasites. At least 50 microliters of each sample will be reserved for nutritional markers (iron, vitamin A, B12, folate) and the rest of the sample will be frozen to allow for the analysis of infection with enteric pathogens and environmental enteropathy biomarkers.Aliquots of the blood samples will be shipped to Mark Davis’s lab at Stanford University (USA) for future immunological analyses. Aliquots of the blood will be shipped toHohenheim University (Germany) for micronutrient and acute phase protein panel analyses in Juergen Erhardt’s lab.

Stool specimen collection:The field teams will collect stool samples from all eligible children in the study cluster.Stool collection will require two visits to each household. On day 1, the field team will deliver to each caregiver a stool collection kit and instruct them how to collect stool from their children. Caregivers will be instructed to collect stool from their children on the following morning. Caregivers will be instructed to have their child defecate in a plastic, non-absorbent diaper and to use a provided plastic scoop (integrated into a storage container) to collect ~10 mL of fresh stool from the top of the pile. On day 2, field staff will visit the households for the urine sample collections in each cluster (details above). Field staff will aliquot stool specimens (either collected by the caregiver in the early morning, or collected by field staff on Day 2) into 5cryovials and maintain a cold chain of -20°C until the samples are transported to ICDDR,B(<6 hrs) where they will be stored at –80°C until they are analyzed using qPCR to identify Entamoeba histolytica, Giardia and Cryptosporidium.The remaining 4 aliquots will be retained for testing stool markers of environmental enteropathy and to assess the fecal microbiota and microbiome.

Quality Assurance / Quality Control: We will include biological and technical replicates to ensure data validity. Aliquots from the same biological or environmental sample will be analyzed separately and compared. We will include negative controls daily for water testing. For example, the ELISA test can be performed twice on two separate days for the same sample. We will set aside an aliquot of each batch of L/M solution for further testing in case there are any batch inconsistencies. Multiple field research assistants can record anthropometric measurements, blood pressure, and heart rate for the same child to measure human error. Two percent of questionnaire assessments will be repeated by the supervisor within 7 days of data collection.

Modules/instruments for baseline assessment

Module 2. Diarrhea and illness symptoms

Module 7. Handwashing assessment

Module 8. Sanitation assessment

Module 9. Child defecation and feces disposal assessment

Module 10. Water treatment, storage, and quality assessment

Module 14. Environmental enteropathy assessment (subset of study population)

Module 15. Intestinal parasites assessment (for older siblings of target children)

Module 18. Quantitative fly assessment (subset of households)

Module 20. Behavioral determinants

Module 22. Household food insecurity

3) Intervention Implementation

Upon completion of the baseline data collection in 8 clusters, the research investigator overseeing site selection (Sania Ashraf) will compile the list of 8 clusters with their cluster IDs drawn from the database and listed in the order that the baseline data collection was completed. An external research investigator (Swapon Biswas) will email the cluster IDs to a second offsite co-investigator (Ben Arnold). The offsite co-investigator will use prespecified statistical code to generate blocks of 8 assignments in random order specifying each of the 6 potential interventions (improved water quality; improved sanitation; improved handwashing; combined water, handwashing and sanitation; nutrition; nutrition plus improved handwashing; combined water, handwashing and sanitation) plus two assignments to the control group. He will return a password protected WASH B Bangladesh Treatment Assignment spreadsheet to Mahbub ur Rahman, senior program manager for this study at icddr,b. It will be stored on a secure server that is backed up regularly. He and the four investigators in charge of delivering the interventions will be the only people who have access to the file to prevent unblinding the primary investigators and primary data analysts for the trial.

We will hold separate training sessions for community promoters who are delivering different interventions. Thus, when we convene a training session for community promoters who will be implementing the water quality intervention, there will be no training on handwashing promotion. This will reduce the risk of spillover of intervention from one intervention group to another. However, it also requires that enough clusters be enrolled and community promoters identified to be able to convene an intervention specific training.

In order to accumulate sufficient intervention specific promoters for training there will be a period of up to 3 months between the baseline assessment and the initiation of intervention implementation. Field staff will return to the intervention compounds after the baseline assessment and randomization into intervention arms. Icddr,b staff and the community hygiene promoters will distribute handwashing stations, potties, sani scoops, provide Aquatabs and safe water storage containers, and/or LNS packets, depending on the study arm. The intervention and sanitation team will work in collaboration with the Village Education Resource Center (VERC), who has considerable experience installing dual pit latrines in rural communities in Bangladesh, to install dual pit latrines in eligible compounds as determined from baseline data. Field staff will discuss the process of intervention implementation and messaging with study participants in each community as the interventions are being rolled out.

At the commencement of intervention roll out, community meetings will be held including community leaders to explain the study and the interventions. A trained, local female hygienepromoter will deliver the behavior change messaging and will promote intervention use. The hygiene promoter will work with authority figures in the community to communicate messages depending on the assigned intervention, for example that child feces should be disposed in a latrine, that it is the occasional unseen contaminant in both water and on hands that needs to be protected against, and that key times to wash hands with soap include after defecation, after cleaning a child who has defecated, before preparing food and before eating or feeding their infants. Promoters will engage in a conversation with participants. They will observe household and compound conditions and personalize placement and use of enabling technologies, listen to people’s concerns work with them to solve problems, respond to questions, encourage household members to use the enabling hardware and products in their presence to ensure understanding of use, and encourage and congratulate the adopters.Intervention promoters will also collect a subset of the indicators (LNS sachet consumption, hardware use indicators) on a monthly basis.

The nutrition intervention will be implemented in two study arms. During the first 6 months of life, promoters will encourage mother to exclusively breast feed their children. When children turn 6 months of age and are starting to eat solid foods, community hygiene promoters will instruct mothers/guardians to continue breastfeeding along with offering solid food. Promoters will instruct mothers/guardians to mix 1 sachet (10 mg) of the supplied nutrition supplement (LNS) and either feed it directly to the child or mix it with rice or other food fed to the child 2 times per day. The mother/guardian will be given a 1-month supply of the supplement at a time. In the event that the specified LNS is not immediately available at study start-up, we will initiate the trial with Nutributter, an off-the-shelf product that is very similar in nutrient content to our research formulation of LNS(Appendix 8), and is available through a second factory in the United States (Edesia). The local health promoter will deliver the monthly supplies; will be responsible for delivering behavior change communication messages encouraging continued breastfeeding, feeding of nutrient rich complementary foods, feeding frequency, and proper use of the supplement. The behavior change communication messages will follow the best practices for complementary feeding interventions specified by WHO and Unicef and utilize the recommendations and practices from the Alive and Thrive program in Bangladesh (Dewey 2003, Unicef 2011).

For all intervention arms, the hygiene promoter will visit the participating household frequently (i.e. 1 visit per week) early in the study; later in the study, the promoter visits will taper off to one visit per month.

If at any visit to an intervention household a community hygiene promoter identifies a serious illness or injury that she believes is related to the intervention (e.g. an injury associated with construction of a new pit latrine) then the hygiene promoter will inform her supervising field research assistant who will record the details and notify Dr. Md. Mahbubur Rahman.

4. In-Depth Environmental Assessment in Sanitation, Combined WASH and Control Arms

In order to assess the impact of sanitation improvements alone and in combination with water and hand hygiene interventions on fecal bacterial commination in the household environment, we will collect environmental samples from all households enrolled in the sanitation arm and the combined water, sanitation, and hygiene arm, and half of the households in the double-sized control arm. This environmental assessment will occur between 2 -10 months post intervention delivery, preceding the 1-year midline assessment.We will measure the level of fecal contamination along five transmission pathways, including water, hand, soil, food, and flies among 2160 households (720 households per arm). Each enrolled household will be visited twice, as discussed below (consent form in Appendix 1q).

On the first visit, we will collect the following samples for microbial analysis: hand rinse from target child, soil from the child’s play area, stored drinking water, source drinking water, pond water, food to be served to the target child, and flies captured near the food preparation area. Field microbiologists will collect 250 mL of water samples in sterile Whirlpak bags from the household’s tubewell as well as from drinking water storage containers, by asking participants to provide a glass of water that they would give to their child to drink. Index child hand samples will be collected by rinsing the hands of the index child, one at a time, in 200 mL of sterile water in a sterile Whirlpak bag(Pickering et al., 2010). In each study compound, ~100 grams of soil will be excavated using a disposable sterile scoop from approximately 20cm by 20cm area where the index child is currently playing or reported to most recently have played(Pickering et al., 2012). In Bangladesh food is usually prepared in the morning, then fed to children throughout the day. Any previously prepared food being stored in the household for consumption by the index child will be sampled by collecting ~25-50g directly from the storage pot using a sterile spoon, then placed into a sterile plastic bag. Flies will be captured using sticky tape or baited traps placed near the food preparation area at the beginning of the household visit.

All water, hand rinse, food, fly, and soil samples will be placed on ice and transported to the WASH Benefits field laboratory for quantitative analysis for E. coli and fecal coliforms within 8 hours by the Colilert most probable number method (IDEXX) (Eckner, 1998). Lab technicians will analyze water and hand rinse samples directly. They will analyze soil samples by first homogenizing the sample, then suspending and agitating a specified amount (5-20g) of the soil in sterile water for subsequent processing by the IDEXX method. Food samples will be processed by mixing an aliquot of ~25g with 100ml 0.1% peptone water (Islam et al., 2012). Flies (up to 5) will be removed from the traps with a sterile tweezer, placed in a sterile tube with 1ml sterile saline solution, crushed with a sterile pestle, then further diluted with saline solution for processing by IDEXX. Serial dilutions will be prepared as needed for pond, food, fly, and soil samples. One duplicate and one blank of sterile water will be analyzed for every 10th sample.

In addition to IDEXX analysis for E. coli and fecal coliforms, aliquots from all food and fly homogenized samples (mixed with sterile water) will be processed by membrane filtration and subsequently cultered for the presence of shigella and enterobacteriaceae in the field lab. For these same food and fly samples, IDEXX wells that are positive for E. coli post-incubation will be lanced and the contents removed and centrifuged to isolate E. coli cells. These cells will be frozen and transported to the icddr,b laboratory for DNA extraction and molecular analysis by multiplex PCR of the following pathogenic E.coli genes: eae, ial, bfp, ipaH, st, lt, aat, aaiC, stx1, stx2.

An aliquot of each soil sample will also be processed by Kato Katz microscopy for detection of Ascaris, hookworm, and Trichuris ova (Albonico et al., 2012)- the most common soil transmitted helminth infections in Bangladesh affecting children. In addition, aliquots from a subset of hand rinse, soil rinse, diluted food, and water samples (total of ~2000 samples) will be vacuum filtered and archived for subsequent DNA/RNA extraction, molecular fecal source tracking analysis (to differentiate fecal contamination of animal vs. human origin), and detection of two of the most common child diarrheal pathogens in Bangladesh: rotavirus and pathogenic E. coli.The archived filters (n~2000) will be transported to Stanford University for molecular analysis.

During thefirst household visit for in-depth environmental assessment, we will also administer a brief interview to the primary caregiver of the index child to assess caregiver reported diarrhea for the index child and other children < 60 months living in the compound. This will be followed by a second visit where we will administer the same questionnaire about children’s health. The second visit is designed to fall within a plausible incubation period between child exposure to a diarrheal pathogen and illness.

During each of the two household visits, spot checks will be conducted to assess indicators of relevant behaviors (compliance with the interventions), including water treatment, latrine usage, child and animal feces management, hand hygiene, and food hygiene. These spot checks include: latrine features (slab, functional water seal), presence and quantity of human and animal feces in compound, presence and functionality of child feces management tools and potty, presence of soap and water at handwashing stations, presence of visible dirt on caregiver and child’s hands, presence of chlorine residual in stored drinking water, drinking water storage container and extraction method, presence of clean cover over stored food, presence of animals in household and animal feces in compound, and presence of flies in food preparation area and near the latrine.

5. Longitudinal Environmental Assessment in Sanitation and Control Arms

To assess the long term impact of the sanitation intervention on microbiological contamination in the household environment, we will longitudinally follow 720 householdsin thesanitation and control arms (360 households per arm) through quarterly visits over two years, for a total of eight visits per household over the study period.The visits will start approximately 12 months after intervention implementation.In addition, we will collect a one-time soil sample for the detection of soil-transmitted helminth eggs from all households in the sanitation and two control arms (720 households/arm, 2160 households total). This sample will only be collected once – the timing will be synchronized with the collection of the stool samples from these households as part of the endline parasitic assessment.

Data Collection:

At each quarterly sampling round, we will collect samples from households’ stored water, mother hands and children’s hands for analysis of fecal indicator organisms (E. coli and fecal coliforms). The rationale for the repeated sampling is two-fold. First, concentrations of fecal indicator organisms in environmental samples and on hands have substantial temporal and spatial variability [Levy 2009, Pickering 2011, Ram 2011], and repeated samples have been recommended to adequately characterize contamination [Boehm 2002, Jensen 2004]. Fecal indicator detection frequency over repeated measurements has also been shown to better predict pathogen presence in tubewells than single samples [Ferguson 2012]. Additionally, we also anticipate temporal trends in fecal contamination of waterand hands. Bangladesh has a dry season from November to April and a monsoon season from May to October, during which flooding is common. Seasons have a marked impact on environmental contamination in rural Bangladesh, with heavier contamination during the rainy season [Leber 2011, van Geen 2011]; wet conditions also lead to prolonged pathogen survival in the environment [Santamaria 2003]. Even within a given season we expect variation in the conditions that spread pathogens from feces into the environment; for example, the groundwater table is low during the early monsoon and equalizes with surface waters by the late monsoon [Knappett 2011]. Quarterly sampling will allow nuanced assessment of contamination during different seasons (i.e. early wet, late wet, early dry, late dry).

During two sampling rounds (quarterly visits 3 and 4), we will collect an additional aliquot of stored water, mothers’ and children’s hand rinse samples as well as a sample of soil from the household entrance and stored food served to young children from the same 720 households to measure selected pathogens and conduct microbial source tracking. We will analyze the water, hand and soil samples with molecular methods for three of the most common diarrheagenic pathogens in Bangladesh (rotavirus, enterotoxigenic E. coli, Shigella) [Black 1981, Albert 1999] and for the protozoa that WASH Benefits measures in child stool (Cryptosporidium sp., Giardia sp. and Entamoeba histolytica). We will also run molecular assays for general, human, ruminant, and avian unique fecal markers in these samples to identify the source of the fecal contamination as originating from humans, cattle or poultry. These source tracking assays detect bacteria that are specific to fecal hosts, such as Bacteroidales; and the identification of host-specific genes by molecular methods allows their use for microbial source tracking [Stoeckel 2007].Food samples will be analyzed forpathogenic *E.coli*, and toxins produced by *Bacillus cereus*, a bacteria common in rice and milk products that constitute the predominant complementary food [Haque 2005, Zhou 2008].We hypothesize that the water, sanitation and hygiene interventions we have delivered have the potential to reduce food contamination. The proposed food sampling will allow us to assess the impact of our interventions on pathogen transmission through food for young children.Finally, we will analyze the food and soil samples collected during these two rounds for *E. coli* and fecal coliforms as well to aid with interpreting the pathogen data. This sampling will be done during the first year of the study period to capture the impact of the interventions during ongoing behaviour change promotion, and the two rounds of sampling (which will fall during the late dry and early wet seasons) will allow us to assess seasonal impacts.

The additional soil sample collected from all sanitation and control arm households at the time of the stool collection for parasitic assessmentwill be analyzedby microscopy for the soil-transmitted helminths that WASH Benefits measures in stool (Ascaris lumbricoides, Trichuris trichuria, Ancylostoma duodenale and Necator americanus).

Sample Processing:

Measurement of Fecal Indicator Organisms: Field microbiologists will collect 250 mL of water from household storage containers by asking participants to provide a glass of water that they would give to their child to drink. A soil sample will be collected from the entrance to the household and50 g of soil will be excavated from a 30-cm by 30-cm area by scraping the soil surface until 50 g of sample has been obtained. Soil will be scraped into a sterile centrifuge tube with a sterile disposable plastic scoop. Target child and mother hand samples will be collected by rinsing the hands, one at a time, in 200 mL of sterile water in a sterile Whirlpak bag.The field microbiologists will use a sterile collection container with scoop to collect 25 g of food prepared specifically for the target child, if possible, otherwise they will collect a rice-based food that the child has consumed recently or will consume. Only food samples that have been stored for three hours or longer outside of a refrigerator will be collected.

All samples will be placed on ice and transported to the ICDDR,B field laboratory for analysis for E. coli and fecal coliforms within 8 hours. Lab technicians will process aliquots of 100 mL from water and hand rinse samples following the standard IDEXX Colilert most probable number (MPN) method. Soil samples will first be homogenizedby vigorous shaking; 20 g of soil will then be mixed with 200 mL of sterile water and homogenized by mechanical agitation. Serial dilutions will be prepared as needed for soil samples. Food samples will be processed by mechanically homogenizing 10 g with 100 mL of distilled water. After mixing, 10 mL of the solution will be diluted with 90 mL of distilled water and processed by IDEXX. A second aliquot of food will be dried overnight to determine the moisture content.Duplicates and sterile blanks will be run for every 10th sample.

Measurement of Selected Pathogens and Microbial Source Tracking: Aliquots of stored water, mother and child hand rinse samples, soil samples from the household entranceand stored food sampleswill be collected and pre-processed to concentrate organisms for molecular detection of enteric pathogens, and human and animal specific fecal markers during the two specified rounds of data collection. Aliquots from hand rinse samples (50-100 mL), stored water samples (100-500 mL) and homogenized soil samples (5g) will be designated for molecular work. Each water and hand rinse sample aliquot will be vacuum filtered through a 0.45 uM-pore sized filter (HA filter) in order to capture bacterial and viral DNA. Prior to filtration, 0.5 mL of 2.5 M MgCl2 will be added to every 50 mL of sample filtered to facilitate the capture of virus particles on the filter. Filters will then be treated with 500 uL of RNA/DNA stabilizing agent (RNAlater, Qiagen), vacuum aspirated, then stored at -80°C until transport to UC Berkeley. An aliquot of 2g of homogenized soil samples will be measured out and placed in DNA free centrifuge tubes with 1mL of RNAlater, vortexed for 20 seconds, then placed at -80°C until transport to UC Berkeley. A second aliquot of 3g will be measured to determine the soil moisture content. Archived filters and soil samples will be shipped to UC Berkeley at room temperature, then stored at -80°C until DNA extraction and molecular analysis. RNA and DNA will be extracted simultaneously from water and hand rinse filters using the MoBio PowerWater RNA isolation kit, and RNA and DNA will be extracted from soil samples using the MoBio RNA PowerSoil Total RNA isolation kit. Selected pathogens and fecal source markers will be detected using the PCR, multiplex PCR, and qPCR assays.

Food samples will be pre-processed by aliquoting the contents of the *E. coli* positive wells of IDEXX trays. The food microbiology lab at icddr,b will process these aliquots forthe presence of the pathogenic E.coli genes eae, ial, bfp, ipaH, st, lt, aat, aaiC, stx1, *and* stx2using PCR. The food microbiology lab will also analysefood samples directly for *Bacillus cereus* using culture-based methods.

Measurement of Soil-Transmitted Helminths: Soil samples will be cleaned and helminth eggs will be concentrated through settling, sieving, and floatation steps. Processed samples will be enumerated by direct microscopy in duplicate by two different lab technicians trained in parasitology. The number of Ascaris lumbricoides, Trichuris trichuria, Ancylostoma duodenale and Necator americanus eggs will be counted. Multiple microscopic slides will be prepared and read for each sample, if necessary. Egg counts will be multiplied by the total grams analyzed to determine the concentration of eggs per gram of soil. Samples will be processed and read within 6 hours of collection.

Monitoring Of Uptake:

At each quarterly visit, we will monitor the presence of functional latrine and feces disposal hardware, latrine use and feces disposal practices and presence and quantity of feces in the living environment using spot check observations. We propose collecting repeated measures because spot check observations are a noisy indicator of household behaviors because of temporal variation, and a longitudinal index based on repeated measurements can more finely distinguish meaningful behavioral patterns [Gorter 1998, Ruel 2002]. We also expect time trends in the uptake of the latrine intervention; uptake might initially be low due to unfamiliarity, increase with behavior change promotion and taper off as the novelty dissipates. Quarterly data will allow us to monitor these trends.

We will augment the spot checks with a novel, Passive Latrine Use Monitor (PLUM) that has been developed and validated by members of our team specifically for monitoring latrine usage. We will deploy 30 PLUM sensors in our study population of 720 households in rotating fashion (15 sensors per arm rotated in 24 waves per year in one-week periods) for the two-year study period.The PLUM sensors have been shown to be widely acceptable to households in rural India [Clasen 2012]. PLUM uses a passive infrared sensor and a door switch to discretely and anonymously measure latrine visits. The sensors will enable us to measure the number of latrine visits per household as well as a rich set of information about defecation practices (event frequency, timing, duration) impossible to collect without structured observation. The advantage of sensors over traditional structured observation is that they are less expensive and are less likely to cause measurement bias by reactivity, a demonstrated problem with structured observations of sanitation and hygiene practices [Ram 2010].

Monitoring of Child Health Outcomes:

At each visit, we will also administer a brief interview to the primary caregiver of the index child to assess caregiver reported diarrhea for the index child and other children < 60 months living in the compound.

6. Midline Assessment

Field teams will measure outcomes at 1 year following the initiation of intervention. Children will be between 8and 15months at the 1-year survey. This will be the first round in which the field team measures anthropometry. The team will collect information about how many weeks the children and their mothers stayedin another village to understand how many weeks they were out of interventions. The field teams will measure length, weight, and head circumference using standardized measurement techniques. Our anthropometric teams will have been trained and standardized in measurement techniques according to the FANTA and WHO guidelines (Cogill 2003, deOnis 2004). The child will be weighed using a calibrated scale and measure his/her length or height using a height board and head circumference using a tape measure. We will also measure maternal height and weight. The common modules that will be utilized at the midline assessment include:

Module 0. Tracking information

Module 1.Birth date, age &sex measurement

Module 2. Diarrhea and illness symptoms

Module 3. Deworming

Module 4. Anthropometry

Module 5. Vaccination history

Module 6. Childfood frequency questionnaire (24 hour and 7 day recall)

Module 7. Handwashing assessment

Module 8. Sanitation assessment

Module 9. Child defecation and feces disposal assessment

Module 10. Water treatment, storage, and quality assessment

Module 12. Home care environment

Module 13. Measures for spillover

Module 14. LNS measurement

Module 15. Environmental microbial assessment and quantitative fly assessment (subset of households)

Module 16. Children’s motor milestones using WHO validated tool andlanguage developmentvia Bangladesh adapted MacArthur Communicative Development Inventories at midline

Module 19: Maternal Depression

Module 20. Environmental enteropathy assessment (subset of study population)

We will measure diarrhea morbidity using caregiver report with a 48-hour recall period. We will collect information on index children's deworming medications. The assessment of the sanitation interventions will be the spot checks of latrine structures to assess type, cleanliness, stated use, and state of repair as well as the presence of child feces or other feces that appears to be human in or near the compound.

Assessments of secondary child outcomes

Child:

In assessing the effects of the WASH and nutrition interventions on child health and wellbeing, we will measure some aspects of children’s development that may be affected by the treatments. The links between nutrition and cognitive development are clear (Grantham-McGregor et al 2007, Walker et al 2007, Allen et al 2001, Sigman, 1995), but the pathways through which diarrhea and WASH interventions may affect child development are still speculative (Humphrey 2009, Walker et al 2011, Bowen et al 2012). A recent study demonstrated that intensive handwashing interventions for 7 months during the first 30 months of life predicted higher development scores across a range of domains (adaptive, personal-social, communication, cognitive, and motor) at 5-7 years of age (Bowen et al 2012). However, the precise mechanisms of how the treatments improved child development could not be determined. The present study provides the unique opportunity to rigorously examine the associations between WASH and nutrition interventions, child nutritional status, tropical enteropathy and child development outcomes. The findings have the potential of making novel contributions to the WASH, nutrition and child development fields.

We will measure children’s motor and language development in all children ~8-15 months of age (that is, born during or after the baseline). Motor skills (sitting, walking, standing) will be assessed directly, using a WHO validated protocol (Wijnhoven et al 2004) adapted for use in Bangladesh. The motor milestone scale has been widely used throughout the world to detect nutritional effects on motor acquisition in Africa (Adu-Afarwuah 2007, Kariger et al 2005), Nepal (Siegel et al 2005) and Bangladesh (Hamadani et al 2013; Tofail et al 2006). Language skills (understanding and speaking words) will be assessed via parent report using the MacArthur Communicative Development Inventory (CDI) (Fenson et al 1994). The CDI is a well-established measure that has been used in more than 40 dialects to describe language development in infants and young children as well as identify group differences in language development (Law &Roy, 2008). The measure provides a valid and reliable method for assessing language in large groups of very young children. Both measures were validated for use in Bangladesh, and have successfully discriminated development in populations with poorly nourished children (Hamadani et al 2010; Tofail 2006) .

Assessments for potential interactions

Child:

We will collect a sample of blood for future genetic testing and testing of nutrition and other biochemical parameters, a urine sample for chemistry and a stool sample to permit future testing of the intestinal microbiome from each enrolled child. For the blood sample we will separately freeze aliquots of sera for eventual biochemical analysis, and retain a clot for genetic testing.

We will measure indicators that describe the intake of food for the infants by interviews conducted at the household level using a household survey methodology. The indicators and the instruments of the household survey will be adapted from WHO and UNICEF guidelines on "Indicators for assessing infant and young child feeding practices: Part 2 Measurement" ([WHO, 2010](#ENREF_1)). We will measure 24 hours recall and 7 days recall for the indicators of food frequency.

Mother:

We will collect data on the mother’s height and weight, and maternal depressive symptoms (Module 19) to control for their influences on child growth and development. There is substantial evidence that maternal characteristics -- such as education, and depression -- are associated with infant undernutrition and poor developmental outcomes (Anoop et al 2004; Wachs et al 2009; Walker et al, 2007; 2011). The Centers for Epidemiological Studies-Depression Scale (CESD) (Radloff, 1977) is a brief, widely used measure of 20 statements that assess the likelihood of depressive symptomology. The ICCDR,B psychologists have adapted and used the CESD in various studies, and have noted relationships between higher scores (indicating depression risk), and stunting and lower developmental scores in young children (Black et al 2009; Nahar et al 2012). We will administer the adapted Bangladesh version of the CESD to all mothers of children 8-15 months of age.

Home Care Environment

It is well established that the home care environment has a large influence on child health and development (Bradley & Corwyn, 2005; Grantham-McGregor et al 2007; Walker et al 2007 and 2011). We will control for the influence of the home environment on child and health outcomes by collecting data using items adapted from the Home Measurement for Observation for the Environment (HOME) (Bradley et al 2001; Ertem et al 1997) and from the UNICEF Multi-Indicator Cluster Surveys (Kariger et al 2012). Items from these measures have been used to determine differences in child development in Bangladesh (Hamadani et al 2010).

Environmental microbial assessment

Measures of fly density, sentinel object (Child Toy) contamination, hand contamination and drinking water contamination will also be assessed within the subset of households that has been selected for environmental enteropathy measurements (80clusters (500households) from each of four arms-- the control group, the combined WASH interventions, the nutrition intervention and the combined WASH and nutrition interventions, for a total of 2000households). In addition, we will measure hand contamination and drinking water contamination among a subset of up to 360 households per arm in the single intervention (water and hygiene) arms. The sample collection and analysis procedures are detailed below.

Drinking Water

In the 2000households selected for environmental enteropathy measurements as well as in a subset of households in the water arm, we will ask the caregiver of the target child to give us a glass of water as if giving it to her child. We will collect 250 ml of this water in a sterile Whirlpak and record whether it came from a tubewell or a storage container. We will also ask the caregiver if the water has been treated in any way.All samples will be delivered on ice to the ICDDR,B Laboratory within 24 hours of retrieval for analysis. We will use standard membrane filtration methods to quantify the number of colony forming units (cfu) of E. coli. Sample aliquots of 100 ml will be filtered through 0.45 µm Millipore member filters and filtered samples will be plated on MI Agar and incubated at 35°C.

Target Child Hand Rinse

In the 2000households selected for environmental enteropathy measurements as well as in a subset of households in the hygiene arm, we will collect a hand rinse sample by rinsing the hands of the target child, one at a time, in 200 mL of sterile water in a sterile Whirlpak bag. All samples will be delivered on ice to the ICDDR,B Laboratory within 24 hours of retrieval for analysis. We will use standard membrane filtration methods to quantify the number of colony forming units (cfu) of E. coli. Sample aliquots of 10 ml and 100 mlwill be filtered through 0.45 µm Millipore member filters and filtered samples will be plated on MI Agar and incubated at 35°C.

Sentinel Toy

In the 2000households selected for environmental enteropathy measurements, we will assess environmental contamination using a sentinel non-porous toy ball. The toy ball will be initially sterilized and stored in a sterile bag or aluminum foil until it is given to the selected households. After one day, a field assistant will return and ask the mother to locate the toy ball without touching it to avoid hand contamination. The field research assistant will use sterile gloves to retrieve the toy and place it in a sterile Whirlpak bag containing 200-250ml of recovery media (water with salts) or sterile water. The toy will be immersed and bathed in the recovery media for 15 seconds. The field research assistant will remove the toy, place the sealed bag on ice packs, and then wash the toy with soap and water before returning it to the household. All samples will be delivered on ice to the ICDDR,B Laboratory within 24 hours of retrieval for analysis. We will use standard membrane filtration methods to quantify the number of colony forming units (cfu) of thermotolerant fecal coliforms. Sample aliquots of 10 ml and 100 ml will be filtered through 0.45 µm Millipore member filters and filtered samples will be plated on MI Agar and incubated at 44.5°C. If necessary, 10-fold dilutions will be made and plated following the same protocol.

Fly Density

In the 2000households selected for environmental enteropathy measurements, we will count and speciate flies caught in the latrine and food preparation areas of the compounds using the methods detailed under baseline assessment.

The assessment for the handwashing intervention will be the presence of soap/soapy water and water at the handwashing station, the per capita consumption of soap in the compound, and the assessment of visible dirt on mothers and children's hands. Assessment of hand contamination will be through the use of target child hand rinse samples to test for the presence of E. coli in the environmental enteropathy subset and in a subset of households in the single intervention arms, as discussed above.

The primary assessment of drinking water quality will be through the use of household drinking samples to test for the presence of E. coli in the environmental enteropathy subset and in a subset of households in the single intervention arms, as discussed above. We will also assess the presence of reportedly treated water through tests for residual chlorine, obvious evidence for unused Aquatabs, and the presence and accessibility of the provided storage container (e.g. not readily accessible where water is consumed).

The primary assessment of compliance with the LNS intervention will be through monitoring the remaining LNS sachets unused at the end of every month. In addition, caregiver knowledge, attitudes and practices related to LNS usage and complementary feeding practices will be assessed.

The assessments of each of the interventions will also include questions that address the major behavior change constructs for social cognitive theory, for new habit formation and for community mobilization.

Environmental Enteropathy biomarkers will also be measured, as described above (2. Baseline Assessment). We collected 5 ml of blood from each EE participant at midline.

7. Endline Assessment

The final assessment will take place 2 years after the initiation of intervention. Children will be between 21 and 30 months in age. The common modules to be included are:

Module 0. Tracking information

Module 1.Birth date, age&sex measurement

Module 2. Diarrhea and illness symptoms

Module 4. Anthropometry

Module 5. Vaccination history

Module 6. Child food frequency questionnaire (24 hour and 7 day recall)

Module 7. Handwashing assessment

Module 8. Sanitation assessment

Module 9. Child defecation and feces disposal assessment

Module 10. Water treatment, storage, and quality assessment

Module 12. Home care environment

Module 13. Measures of spillover

Module 14. LNS measurement

Module 15. Environmental microbial assessment and quantitative fly assessment (subset of households)plus food sampling

Module 16. Child development

Module 19. Maternal depression

Module 20. Environmental enteropathy subsample

Module 21. Maternal intelligence

Trained field staff will repeat the anthropometric, child development, and diarrhea morbidity assessments. Spot checks and behavior change assessments will be performed as described above (see Midline Assessment).

As the study children grew older the midline measurement methods were no longer relevant. We added three new modules (A-not-B, Tower test, and ASQ) during endline that are appropriate for 21 to 30 month children.These tests will allow tomeasuring working memory, inhibition and executive function of the children. The A-NOT-B tasks require children to search for objects hidden in specified locations after short delays and reversals. The procedures are based on protocols described in Epsy, K. A., Kaufmann, P. M., McDiarmid, M. D., & Glisky, M. L. (Espy et al 1999). The Tower Test consists of building a tower with the child, and assesses how well children can inhibit responses and impulses and follow directions. The A-NOT-B and Tower Tests are direct tests of the child. In addition, we will use two parent report measures to gather information on development in various domains. These are (1) the MacArthur Communicative Development Inventory (CDI) (Fenson et al 1994; 2007), also administered at midline, that documents words children speak and understand; and (2) the extended and adapted version of the Ages and Stages Questionnaires (Bricker et al 1999; Fernald et al 2012), which will gather information on children’s communication, gross motor and personal social skills. ( Boyce et al; Fernald et al 2012; Fenson et al 2007).

In addition, observations of child reactivity to a stressful event (the blood-draw, as described in the Environmental Enteropathy substudy above) will be madefor the children enrolled in that substudy. Chronic exposure to stressors, such as overcrowding, poor quality housing, pollution, and family turmoil, is associated with poorer health and developmental outcomesacross the lifespan (Shonkoff et al 2009). Earlyadversity may impact health and development by disrupting the child’s ability to regulatestress responseand recovery. Sustained physiological response to stress in animalshas been linked with damage to the hippocampus, a brain structure important for learning and memory (National Scientific Council on the Developing Child, 2005/2014). For this measure, trained observers will use a simple coding scheme to rate child behavior before, during and after the blood draw (Blair et al 2008). Videotapes of child behavior will also be made, and coded using software and procedures recommended by C. Blair (personal communication, P. Kariger). Caregivers will also be asked to complete a briefquestionnaire on child temperament (subscales on fear reactions and soothability), derived from a measure developed by Ted Wachs (personal communication, P. Kariger), also used in the Gates funded MAL-ED project and in rural Bangladesh (Baker-Henningham et al 2009).

Information on maternal education was collected at baseline, but to ensure we are adequately capturing the possible effects of maternal intelligence on child outcomes, we will measure cognitive functioning using the Backward Digit Span Task (Baddelly, 1992; Wechsler, 1994, 1997). This short-term memory and information manipulation test requires respondents to repeat back a string of digits (3-7 in length) in reverse order. The test has also been used in Bangladesh on primary school aged children (Wasserman et al 2011, Huda et al 2001). The test was piloted at field level on 80 rural mothers for the current study with good test-retest reliability, r value 0.72, and scores showed good correlation with socio-demographic variables.Additionally, we have revised the Child Development Index module to match with the age group. To control influences of maternal cognitive abilities on child growth and development we are measuring maternal intelligence using Backward Digit Span. Home care environment and maternal depression measurements remain unchanged

The assessment of the sanitation interventions will be the spot checks of latrine structures to assess type, cleanliness, stated use, and state of repair as well as the presence of child feces or other feces that appears to be human in or near the compound. We will also collect information about pit switching and pit emptying for the households who have received dual pit latrines.

Measures of fly density, sentinel object (Child Toy) contamination, hand contamination and drinking water contamination will also be assessed using the same procedures described in the midline asssessment section.In addition, we will measure food contamination in the same households using the following procedure.Field team will sample any previously prepared food being stored in the household for consumption by the index child by collecting ~25-50g directly from the storage pot using a sterile spoon, then placed into a sterile plastic bag. Samples will be transported on ice to the field laboratory. 25g of sample will be homogenized with distilled water for 10x dilution. 1 mL of the homogenized slurry will be analyzed for *E.coli* using TBX media with the ISO 16649: Microbiology of food and animal feeding staff-Horizontal method for the enumeration of beta-glucuronidase-positive E. coli. Further decimal dilutions will be prepared as required. We hypothesize that the water, sanitation and hygiene interventions we have delivered have the potential to reduce food contamination. This sampling intends to assess the role of food in diarrhea transmission and environmental enteropathy in young children, as well as assess the effectiveness of WASH interventions in reducing fecal contamination of food – an important pathogen exposure pathway for young children.

We will collect a sample of blood and urine from each child for future testing of nutrition and other biochemical parameters and a stool sample to permit future testing of the intestinal microbiome from each enrolled child. Furthermore, after endline is completed, we will collect 10 additional monthly follow up stool samples from 60 children enrolled in the EE subset (20 children in the WASH arm, 20 children in the nutrition arm, and 20 children in the control arm). These additional stool samples will be used for future testing of the intestinal microbiome to assess how the interventions impact development and stability of the colonic microbial community. We will further assess how the microbial community interacts with immune functions such as intestinal inflammation and explore the microbiome as a critical link in the causal pathway between interventions and child growth and development.We will analyze the microbial community composition (16S rRNA sequencing), functional gene content (shotgun metagenom sequencing), gene expression (metatranscriptomic profiling), and assesspathogen load(qPCR). In addition, these stool samples will be tested for the same intestinal inflammation biomarkers as described above for the EE subset (Midline Assessment).

Environmental Enteropathybiomarkers will also be measured in a subset of participants, as described above (Midline Assessment). In addition, at endline, whole blood hemoglobin will be measured at the time of blood sample collection using a portable spectrophotometer (Hemocue 301). An aliquot of whole blood will be also be sent to the Thalassemia Center at Shishu Hospital to test for markers of inherited hemoglobin disorders (thalassemia and HbE).We will collect a total of 7.7 ml of blood from each EE participant at endline. The increase in blood volume at endline reflects the addition of the anemia measurement.The trial’s randomized, factorial design will enable us to experimentally measure the independent and combined effects of interventions to reduce anemia. The results of this study are likely to identify new strategies to address this important and intractable problem.Furthermore, we have experienced differential refusals by treatment arm in the EE subsample during midline that may threaten the validity of the trial. We experience the highest number of refusals in the control arm. Since the control arm is the arm that we compare all the other arms against, this differential refusal rate is potentially a large problem. We hope to correct this issue by providing a small token of our appreciation, a plastic chair or equivalent item, to the control households at endline. After numerous discussions with the field team, the plastic chair was suggested as a token that did not interfere with our water, sanitation, handwashing, and nutrition interventions and would also be useful to the households in the EE subsample.

Throughout our midline enrollment, the majority of caregivers request blood grouping results. Thus, at endline, from the blood sample we are already planning to take, we will perform a blood grouping test on each mother and child enrolled in the EE subsample. The caregivers will be provided with the results.

Intestinal parasitic infections will also be measured at endline. We will collect stool and blood spot samples from 7 target children per cluster and up to two older children living in the same household compound. The two older children will include (1) the same child that was 18-27 months old at baseline and provided a baseline sample, and (2) an older 5-12 year old child that lives in the same compound as the target child.The procedures will be the same as described in the Baseline Assessment section.Additionally, at endline, an aliquot of each stool sample will also be processed by Kato Katz microscopy for detection of Ascaris, hookworm, and Trichuris ova (Albonico et al., 2012)- the most common soil transmitted helminth infections in Bangladesh affecting children. All members of study compoundsbe offered deworming medicine at endline. The remaining aliquots of stool will be frozen for future biomarker validation ( qPCR for protozoa detection, alpha-1 antitrypsin, myeloperoxidase, and neopterin assays for environmental enteropathy markers).

Chlorine water testing will be conducted for households that report treating their water. Water samples will be collected from all households and after departure from the home, field staff will test on the samples from those that indicate using Aquatabs to treat their water. In addition, we will collect a sample from source of drinking water from all the households during endline to measure the arsenic (As) and manganese (Mn) concentration using EconoQuick kits.Both chemicals in drinking water have been recognized as emerging threats and documented their adverse health effect on child cognitive and motor development. Thus controlling for variation in Mn and As exposure is required for analysis of intervention impact.This ongoing study presents a unique opportunity to collect randomized evidence of the impact of Mn and As on health with wide geographical coverage.

Data collection procedures

Trained field staff will conduct all anthropometry, diarrhea morbidity, and child development assessments in the participant’s home or at a nearby field office at the beginning of the study, one year following intervention implementation, and 2 years following intervention implementation. These assessments will take about 1 hour to complete, and we expect the baseline/enrollment visit to require 2 hours total.

Local health promoters will visit households several times weekly early in the study to encourage families to adopt the new behaviors, help with solving problems and answering questions. Visits will gradually taper off to at most monthly by the end of the two year period, though participants will be encouraged to contact the promoters if they encounter equipment breakage or consumable product shortage. In the arms receiving the nutrition intervention, the promoters will deliver the supplement to target households, teach the mother/guardian about proper use of the supplement, and will deliver behavior change communications to encourage breastfeeding and proper feeding of complementary foods after 6 months of age. In arms receiving water, sanitation, and/or handwashing interventions, likewise, the promoters deliver technologies and supplies, look after repairs, problem solve, answer questions and doubts, encourage and congratulate the adopters.

Environmental enteropathy assessment will be conducted by trained staff, including phlebotomists, at two household visits within participating communities. This assessment will take place at the beginning, middle and end of the study. The assessment will take about 8 hours per participant and will occur during two days. On the first day, the field team will visit each household to deliver the stool collection kit and provide instructions as well as conduct anthropometry, collect blood, saliva, and hair, and measure heart rate, blood pressure, autonomic function, and skin conductance. On the second day, they will collect stool, urine, saliva and administer the infant food frequency questionnaire. The first visit is expected to take 2 hours and the second visit is expected to take 6 hours.

Stool specimen collection to test for intestinal parasites will be conducted by trained field staff during the final survey. Stool collection will require two visits to each household. The first visit will last about 20 minutes and will involve delivery of the stool collection kit and provision of instructions to the caregiver regarding stool collection. The following day, field staff will return to collect the stool specimen. This visit is expected to take 10 minutes.

Monitoring and Process Documentation

Valid evaluation of the study hypotheses requires a consistent intervention, but the WASH Benefits intervention is a large complex intervention spread over 5 districts. While an intervention of this scope and complexity involving this many individuals will inevitably have some deviation from optimal implementation as planned, meaningful interpretation of the results requires a rigorous assessment of how consistently the intervention activities were delivered. This assessment will include 3 components:

1. A monitoring system that tracks
   1. procurement and distribution of commodities and technologies
   2. recruitment, training and supervision of promoters
2. An unannounced fidelity assessment of the delivered intervention (Appendix 6)
   1. The fidelity assessments will be conducted
      1. In each of the initial 12 intervention implementation clusters after 1, 2, 3 and 4 months of intervention
      2. In each of the second group of 12 implementation clusters after 4 months of intervention
      3. In each of the third group of 12 implementation clusters after 3 months of intervention
      4. In each of the fourth group of 12 implementation clusters after 2 months of intervention
      5. In each of the fifth group of 12 implementation clusters after 1 month of intervention
      6. In each of these groups (i-v)subsets of BCC samples 50% which is 4 out of 8 households
      7. Assessments will continue in 24intervention clusters (4 blocks) per month (4from each of the 6 interventions with a subsets sample 50% )

12 Cluster blocks

1

2

3

4

5

6

7

8

9

10

11

12

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14

15

16

17

18

19

20

21

22

23

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28

29

30

1

2

3

4

5

Random 4 blocks per month

Month

Revised fidelity assessment strategy :

The revision of the fidelity assessment will be made to see the uptake status both for initial phases as well as new phases with a intention to have a similar number of samples from new phases and reducing samples from initial phases.

Stages:

Selection of 1 block from more than 6 months intervention implementation blocks from each phase (10 blocks phase = 1 stratum) and selection of 2 blocks from each phase (stratum) where intervention implementation less than or equal to 6 months.

Selection of 9 blocks (1 block from each phase) randomly after 6 assessment months and it will continue up to reaching 24 months by phase one.

Fidelity assessment will be ended in one point of time when the first phase will complete 24 months of intervention

* 1. The focus will be on the households that received the intervention and will address key elements of the intervention
     1. Are each of the elements of hardware distributed to the appropriate home
     2. Are each of the elements of distributed hardware functional?
     3. Is there objective evidence of uptake
        1. Handwashing
           1. presence of a HW station
           2. Water present?
           3. Soap present?
           4. Soapy water bottle present?
           5. Soapy water present?
           6. Is all equipment in working order?
        2. Water
           1. Is the icddr,b provided water storage container present?
           2. Are Aquatabs present?
           3. Is drinking water in the storage container?
           4. Is the equipment in working order?
           5. Are the containers being used for storage of other liquids?
           6. Is there detectable residual chlorine
        3. Sanitation
           1. Is the potty available?
           2. Is the potty immediately available to the child?
           3. Is the potty in working order?
           4. Is the poop scoop available within 30 seconds?
           5. Is the poop scoop in working order?
           6. Does the latrine show signs of use?
           7. Is there an odor of feces in the latrine?
           8. Is the latrine in working order?
        4. Supply of LNS
           1. How many days ago was it delivered?
           2. How many sachets are present?
           3. How many sachets have been used?
     4. For each intervention, 1 – 3 key questions will be asked of persons who received the intervention to see if they received the principal message of the intervention
     5. How many times has the community health worker visited
        1. in the preceding week?
        2. in the preceding month?
  2. The data will be collected by smart phone, that is uploaded to ICDDRB server the day it is collected with reports produced every month and circulated to the management team.
  3. Assessments are front loaded so that early problems can be addressed through refresher training, additional supervisory visits or other appropriate strategies.

1. A process documentation system that tracks operational problems and how they were addressed, and modification made to intervention and the reasons for these modifications.

A primary goal of the process documentation is to provide the CHP supervisors with the information necessary to ensure the intervention is implemented according to the prescribed strategy and to identify areas where additional communication and training would be helpful. In addition an external consultant has been contracted to conduct process evaluation throughout the intervention.

Structure Observation

Trained field workers will conduct structured observation in a subset of participating households to observe how the interventions are being used. We will randomly select 6 blocks from each of the nine Phases of study area. From each of the selected 54 blocks, we’ll randomly select one household in each cluster. Therefore a total 432 households will be selected for structured observation during midline. If the uptake seems to be low during midline below the benchmark, we will consider conducting structured onservation during endline.

If the structured observation data suggest important difficulties in uptake and use of the interventions, then the project leadership will consider additional qualitative investigation (detailed below) or changes to the intervention.

Additional structured observations will be conducted in a total of 150 houseolds (subset of the 2160 households enrolled in the in-depth environmental contamination assessment)in the sanitation alone arm (n=50), the combined sanitation, water, and hygiene arm (n=50), and the control arm (n=50) to characterize hygiene, water treatment, food hygiene, and sanitation behaviors in richer detailand with an emphasis on child exposure to feces or fecal contamination (consent form in Appendix 1r). Each structured observation will allow for observation of child defecation events and child feces disposal practices, child feeding events, latrine usage, food preparation, food storage, and handwashing behavior at critical times.

To complement the structured observations, we will obtain video surveillance of practices and activities in the same 150 households to capture key water, sanitation and hygiene practices and behaviors. Video surveillance will be conducted by local women trained to conduct video data collection; videographers will also record notes on behaviors during the observation. Behaviors includes personal hygiene, household water management (water usage and storage pattern), handwashing practices at critical times, object contact with children’s hand and mouth, presence of feces within and surrounding the households, defecation practices of older children (3+ years) interactions with domestic and pet animals, dealing with and disposal of animal feces, contact with mother and family members. Observations will be made of how commonly children come in contact with soil in their own and neighboring compounds, play with children including those from neighboring compounds.

Qualitative Investigation

We will conduct up to 45 in-depth interviews(subset of the 2160 households enrolled in the in-depth environmental contamination assessment)in the sanitation alone arm (n=15), the combined sanitation, water, and hygiene arm (n=15), and the control arm (n=15) to explore individual beliefs and perception of certain practices that contribute to fecal contamination (consent from in Appendix 1s). We will focus on personal and household hygiene behaviors (handwashing, food preparation, water management), decision making processes, empowerment, defecation practices among children, women, sick and older people; animal rearing methods (open or corralled, within or outside the households) contributing to environmental fecal contamination. The in-depth interview guidelines are in Appendix 3 (Module 53).

We will conduct at least:

* 30 interviews with primary and secondary caregivers of the children,
* 5-10 interviews with the person accompany a child most of the time in absence of a caregiver (grandmothers, older siblings, aunts of the child).
* 5-10 interviews with fathers of the children to explore their concern and role on child’s health and development.

The principal and co-principal investigators will carefully review the intervention fidelity assessments and identify any areas of low uptake of interventions. Critical benchmarks for uptake based on unannounced visits are:

* Handwashing promotion households
  + 65% of households have at least one handwashing station with soap and water present
* Water quality intervention households
  + 65% of households with children 6 – 24 months of age have stored chlorinated drinking water
* Sanitation
  + 80% of households have a potty easily accessible to mother
  + 50% of households have a potty easily accessible to child 12 – 36 months of age
  + 80% of households have a sani-scoop easily accessible to mother
  + 80% of households have a latrine with a functional water seal
* Nutrition
  + 80% report hearing any messages on infant/child nutrition and or Sonamoni
  + 90% report at least one visit by the CHP in household to discuss infant and child nutrition
  + Within households with targeted children > 6 months of age, the stock of LNS sachets in 70% of households is consistent with daily use of two sachets per day

If any of the uptake measures are below the critical benchmarks, then a qualitative team will review the monitoring and process documentation in the low performing area, visit the site of the low uptake, meet with community hygiene promoters, supervisors and study subjects and troubleshoot the cause of the low uptake. Because these interventions have each been piloted and in the pilots achieved these benchmarks of uptake, we expect that uptake below the benchmark will indicate a problem where the intervention was not implemented as planned, and the investigation will identify needs to provide additional training or other support to achieve the planned intervention.

While unlikely, it is also possible that the community hygiene promoters will be implementing the intervention precisely as planned, but uptake is lower than expected. If uptake is below the benchmark in the setting where implementation followed the prescribed approach, the qualitative team will conduct more in-depth evaluation will be framed around the Integrated Behavioral Model for Water, Sanitation and Hygiene (IBM-WASH), based on the earlier Integrated Model for Hygiene, Point-of-use water treatment and Sanitation behaviors (IMHPS). The IBM-WASH was developed and refined based on the pilot phase of the WASH Benefits project, as well as the concurrent Cholera Behavior Change (CBC) study carried out in Mohammadpur, Dhaka. It also incorporates behavioural determinants from a number of previous models used for WASH behaviour change interventions. This ecological (multi-level) model has 5 levels (Societal/structural, Community, Interpersonal/household, Individual and Behavioral/Habitual) and 3 dimensions (Contextual, Psychosocial and Product/Technology).

|  |  |  |  |
| --- | --- | --- | --- |
| IBM-WASH | Contextual | Psychosocial  “Software” | Product/technology  “Hardware” |
| Societal/Structural |  |  |  |
| Community |  |  |  |
| Interpersonal/ Household |  |  |  |
| Individual   * Adult * Child |  |  |  |
| Behavioral/Habitual |  |  |  |

One investigation in one cluster will involve up to:

* 5 interviews with implementation partners
* 10 observations of household visits by CHPs
* 10 household-level interviews with 3 individuals in each household: One person responsible for maintaining the product/hardware e.g. handwashing station, and two users of the product/hardware.
* 10 household-level observations of the product, its condition and associated factors affecting its use.

We anticipate 10 investigations per year, for a total of up to 35x10 = 350 interviews and 10x10 = 100 observations of CHP visits and 10x10 =100 household-level observations.

The objective of these investigations is to rapidly identify problems that can be addressed throughout the intervention to ensure a consistent high quality intervention with regular uptake by study participants.

Ethnographic investigation

Two female researchers will stay for approximately two months in two communities at a time and collect data through observations during waking hours in a natural setting when the activities related to defecation, handling fecal matter or waste disposal occurs. Theselected communities will not be enrolled in the WASH Benefits study, but will be near the WASH Benefits study area. The ethnographers will collect data through participant observation (unstructured), informal conversation, in-depth interviews (consent form in Appendix 1s) and focus group discussions (consent form in Appendix 1t) when necessary with community members, for a total of 15 in-depth interviews with adult males and females, with the primary and secondary caregivers of children to record beliefs and practices related to water, sanitation and hygiene. The researchers will also conduct 6 (depending on the community setting) focus groups with the community members.The focus group guidelines are in Appendix 3 (Module 54).

Lead Assessment

At baseline mothers have a blood sample collected using lead-free blood collection equipment, and are asked where most of the rice they eat comes from. We will randomly select 500 mothers for whom most of the rice they eat comes from their own fields and will analyze their blood lead levels in the nutritional biochemistry laboratory at icddr,b. Lead will be measured in whole blood by the Graphite Furnace Atomic Absorption Spectrometry (Shimadzu). For quality control, Standard Reference Material from the National Institute of Standards and Technology (SRM, NIST) is used for external quality control purpose. For internal quality of the assay, duplicates are run as well as recovery checks in every lot are performed to maintain the quality.

Qualitative researchers will visit 15 of the women with high blood lead levels and seek informed consent for participation in this component of the study (Appendix 1n). They will observe the women’s living environment and ask questions about various potential sources of lead exposure including pesticides, herbicides, fertilizer, industrial processes or wastes that use lead, cosmetics and canned food (Appendix 3, Module 50). Through these conversations they will generate a list of potential exposures. The anthropologists will visit four area shops that sell agrochemicals, seek the informed consent of shop proprietors (Appendix 1o) and ask questions to understand the range of chemicals available and their typical selling pattern(Appendix 3, Module 51). They will use this information in discussion with the women and whomever in the household purchases and applies agrochemicals to develop a taxonomy that explicates how people in this area classify the various chemicals and so how questions can be framed to assess exposures. The anthropologists will also ask questions about the process of applying agrochemicals, including who mixes and applies them, how they are mixed and applied, where the chemicals are stored, and how the containers that stored the chemicals are used or disposed(Appendix 3, Module 51).

The project collaborators will review the findings from the in-depth interviews and use these to revise the multiple choice questions to explore potential exposures to lead in these communities(Appendix 3, Module 52). We will classify the 100 mothers with the highest blood lead levels as cases and the 100 mothers with the lowest blood lead levels as controls. Field research assistants will re-visit these mothers and seek their consent to participate in this component of the study (Appendix 1p). The field team will administer the questionnaire to the cases and controls.

During the household visit the field team will collect a sample of uncooked rice that was grown in the study participant’s field and a sample of soil from the field. To collect the soil sample, the field worker will ask the respondent to identify the agricultural field where most of the rice that they consume is grown.They will identify the corner of the field that is the farthest from the household and designate the border of the field that is most closely aligned east to west access as the x-axis and the border that intersects it as the y-axis. They will consult a random number table that lists random integers between 1 and 9. They will use these 2 numbers as coordinates measured in meters to identify a point within the field to collect a soil sample. If the random number selected corresponds to a point that is not located within the field, the field team will select the next random number in the table. The field team will identify 3 coordinates within the field.

At each of the selected coordinates, field workers will collect soil to a depth of 25 cm (rooting depth) using a 2 cm diameter push corer. Field workers will extrude soil from the corer and placed in plastic, zip-lock bags.Soil and food samples will be shipped to Stanford, dried and ground. The samples will then be examined by X-ray fluorescence (XRF) spectroscopy to determine the concentrations of Pb. The XRF analysis will be conducted in the Environmental Measurements facility (<http://em-1.stanford.edu/>) at Stanford, which is shared analytical facility in the School of Earth Sciences.

We will analyze the questionnaire data, soil and food lead levels and assess which exposures are statistically associated with elevated blood lead levels.

The anthropology team will follow up on the exposures that are identified in the case-control study to determine how and why people come in contact with this source. If the analysis supports the hypothesis of agrochemical contamination as the primary pathway of lead exposure in this population, the field team will return to a subset of houses over the course of the season to collect a representative sample of agrochemicals to understand more thoroughly which chemicals are being applied and identify those that are most likely to contain lead for further testing.

Once the source of lead is confirmed, by confirmation of high levels of lead in the pathway statistically associated with high lead levels in the mothers, the Bangladesh anthropology team will return to the community to explore the patterns of lead containing product use and trade further. Where are the products purchased? Why are these specific products used, and where do these products come from? Who sells the products, and why do they sell these product and not others? We will trace back the source of production as far as possible and explore any existing regulations and the process of their enforcement.

**Spillover substudy**

The household having a child 0-59 months, which is nearest to a compound with combined intervention and control arms, will be eligible for this study. We will administer a survey to measure caregiver reported diarrhea and respiratory illness of children under five years. We will define diarrhea as 3 or more loose or watery stools in 24 hours, or ≥1 stool with blood. Respiratory illness will be defined as a persistent cough or difficulty breathing in the 7 days before the interview. Symptoms will be reported by caregivers collected daily for the 7 days preceding the interview. We will collect a stool sample and analyze it for soil transmitted helminth (*Ascaris*, *Trichuris*, hookworm) ova in stool specimens among children 0-59 months. We focus on this age range because children in this range experience the greatest burden of diarrhea and respiratory diseases and are not covered by the national school-based deworming campaign. To measure helminth infection, field workers will deliver a stool collection kit, give instructions to the caregiver, and return the following day to collect the specimen. Field staff will collect specimens, preserve them, and detect helminth ova using the Kato-Katz technique.

Field workers will also visually inspect of mother and children’s fingers, fingernails, and palms for dirt and assess the presence of a handwashing station and soapy water bottles in the kitchen/latrine. They will take a sample of drinking water typically provided to a child, and we will analyze the samples for *E. coli* using DelAgua kits. Field workers will also count feces piles in courtyards. They will assess contamination of sentinel objects using the methods outlined above. They will assess fly density in the compound by recording the number of flies that land on sticky cards affixed to walls near where food is prepared for a 24 hour period.

Sample Size Calculation and Outcome (Primary and Secondary) Variable(s)

HAZ Sample Size Calculations:

Using data from the SHEWA-B assessment conducted by the icddr,b Water and Sanitation Research Group with included a large sample of rural Bangladesh, the mean (SD) HAZ among the 1,413 children < 3 years old with height data is -1.825 (1.243). The village level intra-class correlation is 0.01. There are two hypotheses of interest: (H1) comparison of individual treatment arms vs. control, and (H3) comparison of the combined nutrition+WSH arm to the nutrition arm. We have slightly more power for comparison to control due to the double sized control arm. We identified the minimum detectable effect (MDE) for the two comparisons with > 80% power. We have assumed a one sided α of 0.05. With the current design, we will have power to detect differences of +0.15 HAZ; this is approximately half the mean effect size observed in supplemental feeding intervention studies (Dewey 2008). We have targeted a smaller effect size because we expect the impacts from water, sanitation, and handwashing interventions to be smaller than from nutritional interventions.

| **Table 1a. HAZ: Minimum Detectable Effects**  Minimum detectable effects (MDE) with >80% power for treatment versus control (Hypothesis 1) or for combined nutrition+WSH versus nutrition alone (Hypothesis 3).  Study population: Children –6 to 0 months old at enrollment  Calculations assume no baseline measurement and 1 follow-up measurement. Other assumptions: 10% dropout after baseline, α=0.05, 1–β=0.8, one-sided test. | |
| --- | --- |
| Comparison of interest | Bangladesh  7 children per cluster  Treatment arms = 90 clusters  Control arm = 180 clusters |
| Any treatment arm vs. control (H1) | +0.15 |
| N+WSH vs. Nutrition alone (H3) | +0.18 |

Diarrhea Sample Size Calculations:

In the Bangladesh SHEWA-B dataset, described above, the 48 hour period prevalence of diarrhea is 12.5%. For all calculations, we have assumed that the diarrhea prevalence in the control group will be 12.0%. For comparisons of the combined WSH arm to any single treatment arm we assume that the single treatment arm prevalence is 8.0% (a 33% relative reduction from the control). There are two hypotheses of interest: (H1) comparison of individual treatment arms vs. control, and (H2) comparison of impacts in the combined WSH arm with the individual treatment arms. We identified the minimum detectable effect (MDE) for the two comparisons with > 80% power (see Table 1). We have assumed a one sided α of 0.05.

| **Table 1b. Diarrhea: Minimum Detectable Effects**  Minimum detectable effects (MDE) with >80% power for treatment versus control (Hypothesis 1) or for combined WSH treatment versus single water, sanitation, and handwashing treatments (Hypothesis 2).  Study population: children < 36 months at enrollment  Calculations assume 1 baseline and 2 follow-up measurements, with no baseline for 2/3 of the target children (not born). Other assumptions: 10% dropout after baseline, α=0.05, 1–β=0.8, one-sided test. | |
| --- | --- |
| Comparison of interest | Bangladesh  10 children per cluster  Treatment arms = 90 clusters  Control arm = 180 clusters |
| Any treatment arm vs. control (H1),  12% prevalence in control | –3.1% (RR=0.74) |
| WSH vs. single treatments (H2),  8% prevalence in single treatments | –2.4% (RR=0.70) |

Environmental Enteropathy Subgroup Sample Size Calculations:

We will collect blood,serum, urine, and stool specimens from a subsample of 2,000 children in the study to measure biomarkers for environmental enteropathy. Environmental enteropathy is one of the key hypothesized mechanisms for intervention impact on child growth and development. The sample of 2,000 children will be distributed equally over four arms in the study – 500children in each of the control arm, LNS alone arm, combined WSH arm, and the LNS+ combined WSH arm. Specimen collection will take place 3 months after baseline at midline (1 year following baseline), and endline (2 years following baseline).

We arrived at a sample size of 2,000 children (500children per arm) using two outcome measurements we collected in our Bangladesh environmental enteropathy pilot study, the lactulose: mannitol (L/M) ratio and Endotoxin Core Antibody (EndoCAb). In the pilot, the 119 children ranged in age from 10 to 48 months and lived in 83 villages across rural Bangladesh. Using estimates of variability in the lactulose: mannitol (L/M) ratio and Endotoxin Core Antibody (EndoCAb), we estimate that this design will have greater than 80 percent power to detect differences between groups of –0.20 SDs in the L:M ratio and –0.25 SDs in IgG EndoCAb antibodies. These detectable differences are smaller than those observed between children in poor versus improved hygiene households in the pilot study: –0.42 SDs for L:M and –0.29 SDs for EndoCAb. In these calculations, we assumed a village-level intra-class correlation of 0.05 for L:M and 0.27 for EndoCAb, and child-level intra-class correlations (for repeated measures within children) that range between 0.5 and 0.9.

Spillover Study Sample Size Calculations:

Since spillover effects are likely smaller than the direct effects of the intervention, we will need to measure outcomes in more children per arm in the spillover study than are enrolled in the main trial. We aim to detect a relative reduction of 6% in our primary outcomes. We calculated the prevalence and intraclass correlation coefficients (ICC) for diarrhea from a WASH Benefits pilot study and soil-transmitted helminths from a study of children in rural India. In the WASH Benefits pilot, the prevalence of Ascaris and Trichuris was 10.4% and 7.5%, respectively, in households with poor hygiene and 20.7% and 13.8%, respectively, in households with good hygiene. Our sample size calculations did not focus on respiratory illness due to their higher prevalence relative to diarrhea and helminth infection. The ICCs ranged from 0.023 to 0.153, and since these are somewhat larger than ICCs reported in the literature, we expect our sample size estimates are conservative. We assumed that we would measure 10 children per cluster. Assuming 80% power and a type I error of 0.05, we calculated the required sample size for each outcome of interest, adjusting for the ICC. Given these assumptions, the spillover study plan to enroll 2,000 children in 180 clusters (1,000 children and 90 clusters per arm).To understand mechanisms of spillovers, we will also conduct in-depth interviews with up to 30 participants in the spilloversubstudy. We will ask about the places they learn about health and hygiene behaviors, how they interact with their neighbors, and other information that will help us ascertain potential mechanisms of spillovers.

Intestinal Parasite Measurement in Target Children and and their peers:

At baseline, we plan to collect stool specimens and blood spot samples from children 18 – 27 months who live in the same compound as the target children (7 children per cluster; 5,040 total). At the 2-year follow-up, we will collect stool specimens and blood spot samples from target children, from the same 18-27 month old children thatprovided a sample at baseline and from an additional older child that is 5-12 yearsold at endline and lives in the same compound as the target child. The purpose of the stool collection is to measure the presence and intensity of intestinal parasite infections. For the stool samples, we propose to only measure protozoan parasites in this young age group because we expect the prevalence of these organisms to be reasonably high.The eventual goal of the blood spot collection will be to analyze the samples at some point in the future for intestinal helminths and protozoans using antigen-based assays.

Assuming 6 treatment arms and a double-sized control arm we would collect stool samples from approximately 10,080 children in Bangladesh (half young children and half older siblings). We estimate that these samples will be sufficient to detect a relative reduction of 18% in infection prevalence. Our power calculations assume 50% prevalence in the control arm, a village intraclass correlation of 0.14, and 71% successful stool collection and analysis (10 / 14 samples per village), which is highly conservative.

Facilities Available

Describe the availability of physical facilities at site of conduction of the study. For clinical and laboratory-based studies, indicate the provision of hospital and other types of adequate patientcare and laboratory support services. Identify the laboratory facilities and major equipment that will be required for the study. For field studies, describe the field area including its size, population, and means of communications.

The study will be conducted in villages throughout Gazipur, Kishorgonj, Manikganj, Mymensingh, Tangail, Netrokona, Pabna, Sirajganj, Natore and Bogra districts and that meet the study criteria and are characteristic of rural Bangladesh in terms of sanitary practices, water source and contamination and handwashing practices. The districtscover a total ofapproximately 2,6081 square kilometers and has a total population of 24,9 million.

The field team will not work from a fixed facility but will be equipped and trained so that they can utilize available space within villages for their assessments. Communication between the field team and the community will primarily be through face to face communication. All field workers will have mobile phones. Scientific and administrative support for the study will be provided through the main ICDDRB office in Mohakhali and the satellite offices at the Moyeen Centre in Gulshan. In the event of an adverse reaction to the intervention that we become aware of, ICDDRB staff will assess the child’s condition and, if necessary, provide transport to the closest medical facility for treatment.

Data Safety Monitoring Plan (DSMP)

All clinical investigations (biomedical and behavioural intervention research protocols) should include the Data and Safety Monitoring Plan (DSMP) to provide the overall framework for the research protocol’s data and safety monitoring. It is not necessary that the DSMP covers all possible aspects of each element. When designing an appropriate DSMP, the following should be kept in mind.

1. All investigations require monitoring;
2. The benefits of the investigation should outweigh the risks;
3. The monitoring plan should commensurate with risk; and
4. Monitoring should be with the size and complexity of the investigation.

Safety monitoring is defined as any process during clinical trials that involves the review of accumulated outcome data for groups of patients to determine if any treatment procedure practiced should be altered or not.

An independent Safety Monitoring Committee will be assembled in Bangladesh to monitor adverse events and to advise investigators. The Committee will include a multi-disciplinary team that will track adverse events in the nutrition arms of the study. This board will meet twice each year, once by phone and once in person.

The interventions used in the study have been used in many other settings and consistently found to be safe, but if hygiene promoters or study staff learn of a severe illness or injury that appears related to study activities, they will inform study supervisors who will inform Dr. Mahbubur Rahman who will collect information on the event, advise appropriate clinical care for an affected participant, and will notify the Principal Investigator. The event will be documented on an adverse event form and will be submitted to the study investigators at ICDDRB and UC Berkeley. The ICDDRB investigator will report the event to both ICDDRB's Ethical Review Committee and the Data Monitoring Committee.

Adverse events will be reviewed by the UC Berkeley PI. The event will be reported to CPHS if the event 1) is unexpected; 2) is related or possibly related to study participation; AND 3) suggests that the research places subjects or others at a greater risk of harm than was previously known or recognized. If the event is determined by the PI to be reportable, an initial report will be submitted via email to the Director, Research Subject Projection at CPHS. The initial report will be submitted as soon as possible, but no later than 7 days after the PI learns of the event. The initial report will be followed by a formal written report within 14 days of learning of the incident. The formal report will be submitted to CPHS via eProtocol.Since this is an efficacy study designed to identify proof of principal, even if a marked early benefit is identified with one or more of the intervention, neither the study implementers nor the Government of Bangladesh will be in a position to immediately scale up effective interventions. Thus, the social benefit of early stoppage is limited. However, we will provide midline assessment of anthropometry to the data safety and monitoring board. If at the midline, child height for age Z- score in any of the intervention arms is more than 2.0 standard deviations above the control arm we will look to the DSMB to decide on the appropriateness of continuing the trial.

Data Analysis

Describe plans for data analysis. Indicate whether data will be analysed by the investigators themselves or by other professionals. Specify what statistical software packages will be used and if the study is blinded, when the code will be opened. For clinical trials, indicate if interim data analysis will be required to determine further course of the study.

The analysis will be conducted by the scientific team using a variety of softwares including R, STATA, and SAS. We are not planning an interim analysis.

Definition of Primary, Secondary and Tertiary Outcomes

Primary Outcomes

* Height-for-age Z-scores (HAZ)after 2 years of intervention
* Caregiver-reported diarrhea

Secondary Outcomes

* HAZ measured 1 year after intervention
* Ages and Stages Questionnaire (ASQ) child development scores (motor, communication, personal/social) after 2 years of intervention
* Verbal Communicative Development Inventory (CDI) scores at 2 year follow-up
* Executive function scores at 2 year follow-up (A-NOT-B task and Tower Test)
* Proportion of children stunted (HAZ < – 2) 2 years after intervention
* Enteropathy biomarker measurements at 1 and 2 years after intervention
  + Lactulose / mannitol sugar permeability test
  + Antibody titers (Total IgG)
* Mean hemoglobin measurements at 2 years after intervention

Tertiary Outcomes

* Weight-for-age Z-scores at 1 and 2 years after intervention
* Weight-for-height Z-scores at 1 and 2 years after intervention
* Proportion of children underweight (WAZ < – 2) after 2 years of intervention
* Proportion of children wasted (WHZ < – 2) after 2 years of intervention
* Proportion of children severely stunted (HAZ < – 3) after 2 years of intervention
* Head circumference Z-scores after 2 years of intervention
* Parasitic infections at 2 year follow-up
  + Soil transmitted helminths (Ascaris, Trichuris, Hookworm)
  + Protozoans (Giardia, Cryptosporidium, E. histolytica)
* Verbal Communicative Development Inventory (CDI)scores at 1 year follow-up
* WHO Motor milestones at 1 year follow-up
* Caregiver reported respiratory illness in the preceding 7 days
* Degree of exposure to interventions
* Behavioral response to interventions
* Mortality
* Proportion of children with anemia (Hb<110 g/L)
* Micronutrient status at 2 years after intervention (iron, vitamin A, folate, B12)

Hypotheses and Comparisons Planned for Primary Outcomes

Basic notation for this section: Let Y be an outcome of interest and let A index treatment assignment, where A (c, w, s, h, wsh, n, nwsh). There are seven arms: c=control; w=water; s=sanitation; h=handwashing; wsh= combined water, sanitation and handwashing; n=nutrition supplement; and nwsh= nutrition plus combined wsh. The control arm will be double-sized. Let Z be a set of indicators for baseline stratification or matched groups. Finally, let ψ denote parameters of interest.

Like most medical trials, the village clusters included in the study will not likely be selected using a probability sample from all villages in the study regions. Thus, we will not be able to theoretically estimate population average treatment effects. Given the large size of our samples, we will still have good external validity, even if we only can theoretically estimate the Unit Average Treatment Effect (UATE) – or the average treatment effects in villages similar to our study villages in each country [Imai 2009].

H1: Water, sanitation, handwashing, nutrition and their combination improve child health and development.

ITT Comparisons of Each Treatment vs. Control

The mean outcomes in each active treatment arm (w, s, h, wsh) will be compared to the mean outcomes in the control arm (4 comparisons per outcome). These tests will address the hypotheses that improvements in water, sanitation, handwashing, nutrition and their combination improve child health and development (specifically height-for-age, diarrhea, child development scores).

The null hypothesis for each intervention treatment is that there is no difference between treatment and control. The same control group (double sized) will be used in every comparison. The parameters of interest are the difference in means between the assigned treatment groups and the control group. For a (w, s, h, wsh, n, nwsh):

ψ1,a = EZ( E[Y | A = a, Z ] – E[Y | A = c, Z ] )

H2: When delivered in combination, water, sanitation and handwashing interventions reduce child diarrhea more than when delivered individually.

ITT Comparison of W+S+H vs. individual WASH Treatments for diarrhea

The combined arm (wsh) treatment effect for diarrhea will be compared to individual WASH treatment effects to determine whether the combined effect is larger than the individual effects. The parameters of interest are the difference in means between the combined group and the individual treatment groups. For a (w, s, h):

ψ2,a = EZ( E[Y | A = wsh, Z ] – E[Y | A = a, Z ] )

H3: Combined Nutrient supplementation and WASH interventions improve child growth and development more than nutrient supplementation alone

ITT Comparison of N+WSH vs. Nutrition treatment alone

We will compare the combined nutrition+WASH arm (nwsh) treatment effects for growth and child development to the nutrient supplement arm (n) to determine whether nutrient supplementation is enhanced if deployed with WASH interventions. The null hypothesis is that the treatment effect in the two groups is equal: ψ1,NWSH= ψ1,N, and the parameter of interest is:

ψ3 =EZ( E[Y | A = nwsh, Z ] – E[Y | A = n, Z ] )

Anthropometry

Anthropometry : Target Population

The critical window for interventions that intend to prevent height growth faltering is before the age of 24 months [Victora 2010]. Our target population will be children aged –7 to 0 months at enrollment. The interventions will require 3 months to implement, so the year 1 survey will take place 15 months after baseline and the year 2 survey 27 months after baseline. These children will be between age 8 and 15 months at year 1, and between 20 and 27 months at our year 2 survey.

Anthropometry : Outcome Definition

We will convert height, weight and weight-for-height measurements to age- and sex-standardized Z-scores based on the WHO 2006 international reference standard [WHO 2006]. We will use publically available Stata algorithm to calculate the Z-scores. The broad definition of the parameters of interest are defined above (ψ1,a, ψ3). Note: we expect the effect of WASH interventions on height to be small, and so do not plan to test for differences between combined and single interventions in our primary analysis. All anthropometry measures (height, weight, head circumference) will be treated analogously to height-for-age Z-scores (HAZ), one of our primary outcomes. For HAZ, the primary outcome of interest, Y, will be HAZ for each individual measured at the 2-year follow-up survey. This measure will capture the cumulative impact of the interventions over the entire period.

Diarrhea

We will measure diarrhea using a symptom-based definition (3 or more loose or watery stools in 24 hours, or ≥1 stool with blood) [Baqui 1991], based on caregiver-reported symptoms collected daily for the 7 days prior to the interview [Feikin 2010]. We will use a 7-day recall period unless we find differential recall errors by the randomised group, in which case we will use a 2-day recall period([Arnold, Null et al. 2013](#_ENREF_1)).We focus on prevalence because the measure captures impacts on both the number of episodes and episode duration [Morris 1996]. Our current power calculations conservatively assume that we will use a 48 hr period prevalence measure, but we recommend measuring diarrhea over the previous week because there may be potential for increased power with little bias using a longer recall period. The broad definition of the three parameters of interest are defined above (ψ1,a, ψ2,a, ψ3). In the case of diarrhea, the outcome of interest, Y, will be a binary measure for each child, equal to 1 if the child has diarrhea and 0 otherwise. Thus, the mean will estimate the prevalence in each treatment group.

Interaction

We have not yet identified the parameters nor secured the funding to analyze the samples for potential interactions with treatment effects of the interventions. Once we identify the specific strategy, and secure funding, we will submit a protocol amendment for review by the Research Review Committee and Ethical Review Committees for review of the soundness of the scientific approach and an external assessment that the proposed analysis is consistent with the original consents and with appropriate interaction with study participants.

Ethical Assurance for Protection of Human Rights

Describe the justifications for conducting this research in human participants. If the study needs observations on sick individuals, provide sufficient reasons for using them. Indicate how participants rightswill be protected, and if there would be benefit or risk to each participants of the study.

Detailed responses to these issues are included in the summary for the Ethical Review Committee.

The proposed subjects include very young children (unborn to 24 months), pregnant women, and educationally and economically disadvantaged subjects. The goal of the WASH Benefits study is to generate rigorous evidence about the impacts of sanitation, water quality, handwashing, and nutrition interventions on child growth and development in the first years of life. There is abundant evidence aggregated over more than 325,000 children from around the world that the window for interventions to improve growth is in the first 1,000 days of life, including the 9 months before birth (Victora 2010). Meeting the study goals requires intervention in the middle of this development window. Enrolling pregnant women will ensure our ability to meet our sample size goals. The rural population that we are targeting in this study are very poor, and lack the water, sanitation, and hygiene infrastructure which we are assessing.

We will secure informed consent. We will take steps to minimize discomfort and to secure confidentiality. All videotapes will be identified by a number only; no recordings will identify you or your child by name. These will be viewed only by trained personnel for coding of your child’s response to the procedure. The videos will not be viewed by any other person. The videos will be stored in a locked cabinet accessible by study personnel only. These will never be made available to any persons not participating in the study.

Participants will receive the results of all assessments and referrals to appropriate treatment will be made as necessary. Households in the intervention arms will additionally benefit from free sanitation, handwashing and water quality improvements, and nutrient supplements provided by the study. In the long term, the results of this study could benefit other children in Bangladesh and elsewhere by helping us understand the effects of providing nutrition supplements in combination with WASH interventions.

In the anthropometry and enteropathy assessment survey, children who are found to be severely wasted (WHZ < -3 and/or bipedal edema) will be referred to the appropriate existing treatment programs. Children who are found to be infected with intestinal protozoan or helminth parasites will be referred to treatment at the closest health facility.Children with severe anemia (Hb<70 g/L) will be referred for treatment to the closest health facility. Families with children found to have β-thalassemia major will be informed at will be referred to the nearest facility with the capacity for counselling and treatment.

We are interestepd in holding biological specimens and videos that we collect for 20 years because we envision that these study subjects will be followed in subsequent studies for at least this long so the study population will be a group for whom there is active ongoing scientist interest. The issues that such samples allow us to explore-- how cellular level characteristics influence growth, development and ultimately adult function--are issues where the assays are actively developing in what they can measure. Every year brings substantial breakthroughs. We anticipate that these advances will continue over the next 20 years and permit important insights to be quickly realized without the cost and delay of conducting another decades long longitudinal study.

Our assessment is that the benefits to study participation outweigh the minimal risks.

Use of Animals

Describe if and the type and species of animals to be used in the study. Justify with reasons the use of particular animal species in the experiment and the compliance of the animal ethical guidelines for conducting the proposed procedures.

Not applicable.

Literature Cited

Identify all cited references to published literature in the text by number in parentheses. List all cited references sequentially as they appear in the text. For unpublished references, provide complete information in the text and do not include them in the list of Literature Cited. There is no page limit for this section, however, exercise judgment in assessing the “standard” length.

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Zwane AP, Zinman J, Dusen EV, Pariente W, Null C, et al. (2011) Being surveyed can change later behavior and related parameter estimates. Proc Natl Acad Sci U S A 108: 1821–1826. doi:10.1073/pnas.1000776108

Dissemination and Use of Findings

Describe explicitly the plans for disseminating the accomplished results. Describe if and how the research findings would be shared with stakeholder, identifying them if known, and the mechanism to be used. Also describe what type of publication is anticipated: working papers, internal (institutional) publication, international publications, international conferences and agencies, workshops etc. Indicate,if the project is linked to the Government of the People’s Republic of Bangladesh through a training programme or a collaborative arrangement.

We see this study as a pivotal study within public health. We anticipate that there will be >20 presentations in scientific fora. We anticipate that this work will produce >20 scientific publications in the peer reviewed international scientific literature. We anticipate that the work will have high level global policy implications that will provide specific guidance on the importance of water, sanitation and hygiene interventions. We anticipate participating in numerous fora guided by the outcome of the study.At this time the planning of the specific publications, the authorship lead and schedule of dissemination in international scientific journals is in process. This project is not linked to the Government People’s Republic of Bangladesh through a training programme or a collaborative arrangement.

Collaborative Arrangements

Briefly describe if this study involves any scientific, administrative, fiscal, or programmatic arrangements with other national or international organizations or individuals. Indicate the nature and extent of collaboration and include a letter of agreement between the applicant or his/her organization and the collaborating organization.

This project was co-developed by the University of California Berkeley, ICDDRB, and Innovations for Poverty Action (IPA), and it is funded by The Bill and Melinda Gates Foundation. ICDDRB will be responsible for implementing the protocol, collecting the data, and in collaboration with partner analyzing and reporting the results. The University of California Berkeley serves as the designated primary point of contact with The Gates Foundation. Epidemiologists at the University of California Berkeley will contribute to the statistical design and analysis of the study and will contribute to the development of child cognitive development assessment tools. Members of the School of Public Health and Health Professions at the State University of New York at Buffalo will oversee the assessment of handwashing behavior and lead in developing and interpreting measures of handwashing behavior. Behavior change experts at Johns Hopkins Bloomberg School of Public Health will provide framework for behavior change interventions, coach the local team in its implementation, and suggest strategies for revision based on field experience. Members of the Nutrition Department at UC Davis have developed the lipid nutrient supplement used in this study and will advise the development and delivery of the nutrition intervention.Tom Clasen from the London School of Hygiene and Tropical Medicine will provide input on the sanitation intervention and its evaluation.

Biography of the Investigators

Give biographical data in the following table for key personnel including the Principal Investigator. Use a photocopy of this page for each investigator.

(Note: Biography of the external Investigators may, however, be submitted in the format as convenient to them)

1 Name: Stephen P Luby

2 Present Position: Director, Centre for Communicable Diseases

3 Educational background:

(last degree and diploma & training

relevant to the present research proposal)

4.0List of ongoing research protocols

(start and end dates; and percentage of time)

As Principal Investigator

|  |  |  |  |
| --- | --- | --- | --- |
| 2005-026 | 1 Nov 2005 | 30 June 2013 | 5 |
| 2006-043 | 1 Nov 2006 | 31 July 2011 | 1 |
| 2007-003 | 1 May 2007 | 31 Apr 2011 | 3 |
| 2007-010 | 1 July 2007 | 30 Sep 2012 | 3 |
| 2007-045 | 24 Oct 2007 | 31 Dec 2011 | 5 |
| 2007-054 | 1 Jul 2008 | 30 Sep 2012 | 3 |
| PR-09048 | 20 Oct 2009 | 31 Dec 2012 | 8 |
| PR-09053 | 01 Jan 2010 | 31 Dec 2011 | 10 |
| PR-10038 | 01 Jan 2011 | 07 Aug 2012 | 3 |
| PR- 10050 | 01 Jan 2011 | 01 Jul 2012 | 3 |

As Co-Principal Investigator

|  |  |  |  |
| --- | --- | --- | --- |
| Protocol Number | Starting date | End date | Percentage of time |
| PR-100061 | 01 Jan 2011 | 03 Mar 2014 | 5 |
|  |  |  |  |

4.3 As Co-Investigator

|  |  |  |  |
| --- | --- | --- | --- |
| Protocol Number | Starting date | End date | Percentage of time |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

5 Publications

|  |  |
| --- | --- |
| Types of publications | Numbers |
| 1. Original scientific papers in peer-review journals | 178 |
| 1. Peer reviewed articles and book chapters | 9 |
| 1. Papers in conference proceedings | 1 |
| 1. Letters, editorials, annotations, and abstracts in peer-reviewed journals | 7 |
| 1. Working papers | 0 |
| 1. Monographs | 0 |

1. Five recent publications including publications relevant to the present research protocol
2. Ram PK, Naheed A, Brooks WA, Hossain MA, Mintz ED, Breiman RF, Luby SP. Risk factors for typhoid fever in a densely populated slum in Dhaka, Bangladesh. Epidemiology and Infection. 2007 135:458-65.
3. Bowen A, Huilai M, Ou J, Billhimer W, Long T, Mintz E, Hoekstra RM, Luby S. A Cluster-Randomized Controlled Trial Evaluating the Effect of a Handwashing Promotion Program in Chinese Primary Schools, American Journal of Tropical Medicine and Hygiene. June 2007 76(6):1166-1173.
4. Luby SP, Islam MS, Johnston RB. Chlorine spot treatment of flooded tube wells, an efficacy trial. Journal of Applied Microbiology. 2006; 100:1154-1158.
5. Luby SP, Mendoza C, Keswick BH, Chiller T, Hoekstra RM. Difficulties in bringing point-of-use water treatment to scale in rural Guatemala. American Journal of Tropical Medicine and Hygiene.2008;78 382-387.
6. Luby SP, Kadir MA, Sharker Y, Yeasmin F, Unicomb L, Islam MS. A community-randomised controlled trial promoting waterless hand sanitizer and handwashing with soap, Dhaka, Bangladesh, Tropical Medicine and International Health. 2010 Dec;15(12):1508-1516.

BIOGRAPHICAL SKETCH

1. Name : Dr. Tahmeed Ahmed
2. Present position : Director & Senior Scientist

Centre for Nutrition & Food Security

ICDDRB

1. Educational background : PhD, 1996, University of Tsukuba, Japan

Training in Pediatrics, 1990-92, Department of Pediatrics

University of Tsukuba Hospital, Japan

Training in Pediatrics, 1989-90, Dhaka Shishu (Children’s) Hospital MBBS, 1983, University of Dhaka

1. List of ongoing research protocols

4.1 As Principal Investigator

|  |  |  |  |
| --- | --- | --- | --- |
| Protocol number | Starting date | End date | Percentage of time |
| 2008-020 (Mal-ED) | May 2009 | 2014 | 60 |
| PR-10066 (RUCFS) | January 2011 | January 2012 | 10 |
| 2007-026 (RUTF) | August 2011 | July 2013 | 10 |

4.2 As Co-Investigator

|  |  |  |  |
| --- | --- | --- | --- |
| Protocol number | Starting date | End date | Percentage of time |
| PR-10044 (LNS) | November 2010 | October 2015 | 5 |

1. Publications

|  |  |
| --- | --- |
| Type of publication | Number |
| a) Original scientific papers in peer-reviewed journals | 74 |
| b) Peer-reviewed articles and book chapters | 15 |
| c) Papers in conference proceedings | More than 20 |
| d) Letters, editorials, annotations, and abstracts in peer-reviewed journals | 3 |
| e) Working papers | 6 |
| f) Monographs | 2 |

1. Recent publications

* Ahmed T, Ahmed AMS. Reducing the burden of malnutrition in Bangladesh. BMJ 2009;339:b4490.
* Bhutta ZA, Ahmed T, Black RE, Cousens S, Dewey K, Giugliani E, Haider BA, Kirkwood B, Morris SS, Sachdev HPS, Shekar M, for the Maternal and Child Undernutrition Study Group. What works? Interventions for maternal and child undernutrition and survival. Lancet2008;371:417-40.
* elletier DL, Frongillo EA, Gervais S, Hoey L, Menon P, Ngo T, Stoltzfus RJ, Ahmed AMS, Ahmed T. Nutrition agenda setting, policy formulation and implementation: lessons from the Mainstreaming Nutrition Initiative. Health Pol and Planning 2011 doi:10.1093/heapol/czr011.
* AhmedT, SobhanF, AhmedAMS, BanuS, MahmoodAM, HyderKA, ChistiMJ, AbdullahK, MahfuzM, SalamMA. Childhood tuberculosis: a review of epidemiology, diagnosis and management. Inf Dis J Pak 2008;17:52-60.
* Ahmed T, Rahman S, Cravioto. Oedematous malnutrition.
* Ahmed T, Haque R, Ahmed AMS, Petri WA, Cravioto A. Use of metagenomics to understand the

genetic basis of malnutrition. Nutr Rev 2009;67:S201-S206.

* Arsenault JE, Yakes EA, Hossain MB, Islam MM, Ahmed T, Hotz C, Lewis B, Rahman AS, Jamil KM, Brown KH. [The current high prevalence of dietary zinc inadequacy among children and women in rural Bangladesh could be substantially ameliorated by zinc biofortification of rice.](http://www.ncbi.nlm.nih.gov/pubmed/20668253) J Nutr. 2010 Sep;140(9):1683-90. Epub 2010 Jul 28.

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| --- | --- | --- | --- | --- |
| BIOGRAPHICAL SKETCH  Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.Follow this format for each person. DO NOT EXCEED FOUR PAGES. | | | | |
|  | | | | |
| NAME  John M. Colford, Jr. | | POSITION TITLE  Professor | | |
| eRA COMMONS USER NAME  JCOLFORD | |
| EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.) | | | | |
| INSTITUTION AND LOCATION | DEGREE  (if applicable) | | YEAR(s) | FIELD OF STUDY |
| Santa Clara University, Santa Clara, CA | B.S. | | 1981 | Chemistry |
| Johns Hopkins School of Medicine, Baltimore, MD | M.D. | | 1985 | Medicine |
| University of California, Berkeley, CA | M.P.H. | | 1992 | Public Health |
| University of California, Berkeley, CA | Ph.D. | | 1996 | Epidemiology |
|  |  | |  |  |

Personal Statement

Jack Colford, MD, PhD is an infectious disease epidemiologist at School of Public Health, whose main research focus is on waterborne diarrheal diseases and randomized intervention trials. He has conducted large field studies in the U.S. and in Bolivia to measure the risk of diarrheal disease due to drinking water, and, in the U.S. due to recreational water exposure. He is currently the lead epidemiologist on water, sanitation and hygiene intervention projects in Bangladesh and Kenya. His expertise includes health measurements and randomized intervention.

Positions and Honors: Positions and Employment

1985-88 Medical Resident, University of California, San Francisco, Department of Medicine

1989-90 Chief Medical Resident, Department of Medicine, Stanford University School of Medicine, Stanford, California

1990-94 Fellow, University of California, San Francisco, Dept of Medicine, Div of Infectious Diseases

* 1. Fellow, University of California, San Francisco Department of Epidemiology and Biostatistics,

Traineeship in AIDS Prevention Studies

1995-96 Assistant (Adjunct) Professor of Epidemiology and Biostatistics and Co-Director, Traineeship in AIDS Prevention Studies University of California, San Francisco, Department of Epidemiology and Biostatistics

* 1. Assistant Professor, Division of Public Health Biology and Epidemiology, School of Public Health, University of California, Berkeley

2002-Present Associate Professor, Division of Public Health Biology and Epidemiology, School of Public Health, University of California, Berkeley

2003-04 Visiting Scientist (sabbatical year) WHO, Water, Health & Sanitation Cluster, Geneva

Other Experience and Professional Membership

1988-indef. Diplomate in Internal Medicine, American Board of Internal Medicine

1996-2006 Diplomate in Infectious Diseases, American Board of Internal Medicine Member, American Medical Association

1998 Member, National Institutes of Health, Special Review Panel, Cardiovascular Disease

Member, National Hepatitis C Advisory Panel, Veterans’ Administration, Washington DC

1998 Member, Susceptible Subpopulations Advisory Panel, George Washington University/EPA Cooperative Agreement on “Advances in Risk Assessment for Water Quality”

1999 Member, Invited Panel on the Global Burden of Gastrointestinal Disease, American Society of Microbiology, Galway, Ireland

Ad Hoc Reviewer for: Clinical Infectious Diseases, JAMA, Annals of Epidemiology, American Journal of Epidemiology, American Journal of Public Health, Annals of Internal Medicine

Honors

2002 UC Berkeley School of Public Health Distinguished Teaching and Mentoring Award

College National Merit California Statewide Four Year College Scholarship

Pacific Gas & Electric Company Statewide Four Year Scholarship

Phi Beta Kappa

Residency Dr. Jeffrey Weingarten Housestaff Teaching Award, 1987-1988

Housestaff Teaching Award, 1988

Outstanding Teacher Award, 1989

Chief Residency-Helen Rantz Award (Outstanding Teaching & Patient Care), 1989-1990

C. Selected peer-reviewed publications (in chronological order, selected from over 65).

1. Colford JM Jr., Wade TJ, Rees JR, et al. Participant blinding and gastrointestinal illness in a randomized, controlled trial of an in-home drinking water intervention. Emerg Infect Dis. 2002;8(1):29-36.
2. Eisenberg JN, Brookhart MA, Rice G, Brown M, Colford JM Jr. Disease transmission models for public health ddecision making: analysis of epidemic and endemic conditions caused by waterborne pathogens. Environ. Health Perspect. 2002:110(8)783-90.
3. Wade TJ, Pai N, Eisenberg JNS, Colford JM Jr. Do U.S. Environmental Protection Agency water quality guidelines for recreational waters prevent gastrointestinal illness? A systematic review and meta-analysis. Environ. Health Perspect. 2003;111(8):1102-1109.
4. Colford JM Jr., Saha SR, Wade TJ, et al. A pilot randomized, controlled trial of an in-home drinking water intervention among HIV + persons. J Water Hlth. 2005;3(2):173-184.
5. Colford JM Jr., Wade TJ, Sandhu SK, et al. A randomized, controlled trial of in-home drinking water intervention to reduce gastrointestinal illness. Am J Epidemiol. 2005;161(5):472-82.
6. Fewtrell L, Colford JM Jr., Kaufmann RB, et al. Water, sanitation, and hygiene interventions to reduce diarrhoea in less developed countries: a systematic review and meta-analysis. Lancet Infect Dis. 2005;5(1):42-52.
7. Eisenberg JN, Hubbard A, Wade TJ, Sylvester MD, LeChevallier MW, Levy DA, Colford JM Jr. Inferences drawn from a risk assessment compared directly with a randomized trial of a home drinking water intervention. Environ Health Perspect. 2006;114:1199-204.
8. Colford JM Jr., Roy S, Beach MJ, et al. A review of household drinking water intervention trials and an approach to the estimation of endemic waterborne gastroenteritis in the United States. J Water Health. 2006;4 Suppl 2:71-88.
9. Arnold BF, Colford JM Jr. Treating water with chlorine at point-of-use to improve water quality and reduce child diarrhea in developing countries: a systematic review and meta-analysis. Am J Trop Med Hyg. 2007;76(2):354-364.
10. Colford JM Jr., Wade TJ, Schiff KC, et al. Water quality indicators and the risk of illness at beaches with nonpoint sources of fecal contamination. Epidemiology. 2007;18(1):27-35.
11. Eisenberg JN, Moore K, Soller JA, Eisenberg D, Colford JM Jr. Microbial risk assessment framework for exposure to amended sludge projects. Environ Health Perspect. 2008;116:727-33.
12. Colford JM Jr., Hilton JF, Wright CC, et al. The Sonoma Water Evaluation Trial: A Randomized Drinking Water Intervention Trial to Reduce Gastrointestinal Illness in Older Adults. Am J Public Health. 2009;99(11):1988-1995.
13. Arnold BF, Hubbard AE, Arana B, Mausezahl D, Colford JM Jr. Evaluation of a pre-existing, 3-year household water treatment and handwashing intervention in rural Guatemala. Int J Epidemiol. 2009;38(6):1651-1661.
14. Yau V, Wade T, deWilde C, Colford JM Jr. Skin-related symptoms following exposure to recreational water: a systematic review and meta-analysis. Water Qual Expo Health. 2009;1:79-103.

University of Texas SouthwesternMedicalSchool at Dallas

MD, 1986

University of Rochester StrongMemorialHospital

Internship and residency in Internal Medicine.

Centers for Disease Control -- Epidemic Intelligence Service 1990

Completed Preventive Medicine Residency 1993.

1. Mäusezahl D, Christen A, Pacheco GD, Tellez FA, Iriarte M, Zapata ME, Cevallos M, Hattendorf J, Cattaneo MD, Arnold B, Smith TA, Colford JM Jr. Solar drinking water disinfection (SODIS) to reduce childhood diarrhoea in rural Bolivia: a cluster-randomized, controlled trial. PLos Med. 2009;6(8).

D. Research Support

Current Projects

7156775 (PI: Colford) 9/30/10-06/30/12

World Bank/Bill and Melinda Gates Foundation

Project Title: WSP Impact Evaluation

Major Goals: To provide advisory and technical support to assure quality control of all health, epidemiological and microbiological components of the country impact evaluations in the Global Scaling-Up projects

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| OPPGD759 (PI Colford) | 9/17/09 – 9/30/14 |  |
| Bill and Melinda Gates Foundation  Project Title: Measuring the benefits of sanitation, water quality, and handwashing interventions for improving health and development  Major Goals: We will conduct a randomized controlled trial enrolling 22,500 children in Bangladesh and Kenya to provide policymakers and NGOs with rigorous evidence on the impact of simple, low-cost water, sanitation and hygiene technologies on children’s health outcomes. | | |
| 1 R01 ES013519 (PI: Colford) | 07/01/06 – 03/31/12 |  |
| NIEHS |  | |
| Project Title: Indicators of Recreational Water Contamination and Illness  Major Goals: To assess risk of swimming at a nonpoint source contaminated beach, to determine association between health risk and traditional and nontraditional water quality indicators. | | |

Completed Projects

|  |  |  |
| --- | --- | --- |
| 07426 (P.I.: Colford) | 7/01/07-3/28/10 |  |
| SCCWRP/Cal EPA Water Resources Control Board |  |  |
| Project Title: Epidemiology Study of Swimming-Related Illness at Non-Point Source Polluted Beaches  Major Goals: To assess risk of swimming at a nonpoint source contaminated beach, to determine association between health risk and traditional and nontraditional water quality indicators. | | |

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| 005144 (P.I. Colford) 10/01/07-06/30/10  University of Bristol |  |
| Project Title: Aquatest 2: Field Studies  Major Goals:To conduct a qualitative evaluation of local stakeholder interest in use of a device to measure water quality. | |

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| 0FEA1 (P.I.: Colford) | 12/01/06-12/01/08 |  |
| Institute for Public Health and Water Research  Project Title: Long-Term Outcomes Following a Solar Water Disinfection Intervention in Rural Guatemala  Major Goals: To evaluate the use and effectiveness of household solar water disinfection (SODIS) four years into a large-scale community intervention. | | |

|  |  |
| --- | --- |
| R01 AI50087 (P.I.: Colford) | 07/01/02 – 06/30/07 |
| National Institutes of Health |  |
| Project Title Solar Water Disinfection: Randomized Intervention Trial  Major Goals: To evaluate the effectiveness of home-based solar water disinfection (SODIS) in reducing the burden on GI illness in children in rural villages participating in a country-wide Bolivian SODIS program. | |

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| BIOGRAPHICAL SKETCH | | | | |
|  | | | | |
| NAME  Unicomb, Leanne Elizabeth | | POSITION TITLE  Scientist | | |
| eRA COMMONS USER NAME (credential, e.g., agency login)LEANNEU | |
| EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.) | | | | |
| INSTITUTION AND LOCATION | DEGREE  (if applicable) | | MM/YY | FIELD OF STUDY |
| La Trobe University, Victoria, Australia | BSc (Hons) | | 05/83 | Biological Sciences |
| Newcastle University, NSW, Australia | M Med Sci | | 06/00 | Clinical Epidemiology |
| Australian National University, ACT, Australia | Ph.D | | 06/08 | Epidemiology |

A. Positions and Honors

Positions and Employment

2008-present Scientist, International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)

2005-2008: PhD student, National Centre for Epidemiology and Population Health, Australian

National University, Canberra, Australia

2000-2004: Epidemiologist, OzFoodNet project, Hunter New England Population Health, NSW

Department of Health, NSW, Australia.

1999-2000: Research Officer, Hunter Public Health Unit, NSW Australia

19981999: Consultant, GeneType Pty Ltd, Vic, Australia.

19891997: Research Virologist, International Centre for Diarrhoeal Disease Research,

Bangladesh (ICDDR,B), Dhaka, Bangladesh.

1983-1989: Research Officer and Research Assistant, Department of Gastroenterology,

Royal Children's Hospital, Vic, Australia.

Honors and Fellowships

2002-2004 Member of the World Health Organization Expert Group on Campylobacteriosis,

2003 Finalist, NSW Health Department, Hunter Health Gold Ribbon Awards for Achievement

2005-2008 Australian Postgraduate Award (PhD scholarship),

B. Selected peer-reviewed publications (in chronological order, selected from over 50).

1. Kilgore PE, Unicomb LE, Gentsch JR, Albert MJ, McElroy CA, Glass RI. Neonatal rotavirus in Bangladesh. Strain characterization and risk factors for nosocomial infection. Pediatr Infect Dis J1996;15:672677.
2. Unicomb LE, Kilgore PE, Faruque ASG, Hamadani JD, Fuchs GJ, Albert MJ, Glass RI. Anticipating rotavirus vaccines: Hospitalbased surveillance for rotavirus diarrhea and estimates of disease burden in Bangladesh. Pediatr Infect Dis J1997;16:947951
3. Unicomb LE, Podder G, Gentsch JR, Hasan KZ, Faruque ASG, Albert MJ, Glass RI. Evidence of promiscuous genomic reassortment of group A rotavirus strains in Bangladesh strain surveillance from 1992 to 1997. J Clin Microbiol1999;37:1885-1891.
4. Ramachandran M, Kirkwood CD, Unicomb L, Cunliffe NA, Ward RL, Bhan, MK, Clark HF, Glass RI, Gentsch JR. Molecular characterization of serotype 9 rotavirus strains from a global collection. Virol2000;278:436-444.
5. Unicomb L, Bird P, Dalton C. Outbreak of Salmonella Potsdam Associated with Salad Dressing at a Restaurant. Commun Dis Intell 2003;27:508-512
6. Unicomb L, Ferguson J, Riley T, Collignon P. Absence of fluoroquinolone resistance among Campylobacter isolates from humans in Australia. Emerg Infect Dis 2003; 9:1482-3
7. Hall GV, Kirk MD, Becker N, Gregory JE, Unicomb L, Millard G, Stafford R, Lalor K and the OzFoodNet Working Group. Estimating foodborne gastroenteritis, Australia. Emerg Infect Dis 2005;11:1257-1264
8. Unicomb LE, Simmons G, Merritt T, Gregory J, Nicol C, Jelfs P, Kirk M, Tan A, Thomson R, Adamopoulos J, Little CL, Currie A, Dalton CB.Sesame seed products contaminated with Salmonella: Three outbreaks associated with tahini. Epidemiol Infect2005;133: 1065-1072.
9. Unicomb LE, Ferguson J, Stafford RJ, Ashbolt R, Kirk MD, Becker N, Patel MS, Gilbert GL, Valcanis M, Mickan L, and the Australian Campylobacter Subtyping Study Group. Low Level Fluoroquinolone Resistance among Locally Acquired Campylobacter jejuni Isolates in Australia. Clin Infect Dis 2006;42:1368-1374
10. O’Reilly LC, Inglis TJJ, Unicomb L, and the Australian Campylobacter Subtyping Study Group. Australian Multicentre Study of Subtyping Methods Suitable for the Epidemiological Investigation of Campylobacter Infection Epidemiol Infect 2006; 134:768-779
11. Djordjevic SP, Unicomb LE, Adamson P, Mickan L, Rios R and the Australian Campylobacter Subtyping Study Group. Clonal Complexes of Campylobacter jejuni Identified by Multilocus Sequence Typing are Reliably Predicted by Restriction Fragment Length Polymorphism Analyses of the flaA gene. J Clin Microbiol, 2007;45:102-108
12. Stafford RJ, Schulter P, Kirk M, Wilson A, Unicomb L, Ashbolt R, Gregory J and the OzFoodNet Working Group. A multicentre prospective case-control study of campylobacter infection in persons aged 5 years and older in Australia. Epidem Infect 2007; 135:978-988.
13. Unicomb LE, Dalton CB, Gilbert GL, Becker NG, Patel M, and the Australian Campylobacter Subtyping Group. Risk factors for sporadic Campylobacter infection in the Hunter RegionNew South Wales, Australia. Foodborne Path Dis 2008;5:79-85.
14. Kirk MD, McKay I, Hall GV, Dalton CB, Stafford R, Unicomb L, Gregory J. Foodborne disease down under: the OzFoodNet experience. Clin Infect Dis 2008;47:392-400.
15. Unicomb LE, O’Reilly LC, Kirk MD, Stafford RJ, Smith HV, Becker NG, Patel MS, Gilbert GL and the Australian Campylobacter Subtyping Study Group. Risk factors for infection with Campylobacter jejuniflaA genotypes. Epidem Infect 2008; 136: 1480-1491.
16. Unicomb LE, Fullerton KE, Kirk MD, Stafford RJ. Outbreaks of campylobacteriosis in Australia, 2001 to 2006. Foodborne Path Dis 2009; 6:1241-1250
17. Stafford RJ, Schluter PJ, Wilson A, Kirk M, Hall G, Unicomb L and the OzFoodNet Working Group. Improving estimates of attributable risks for chicken and other independent risk factors associated with Campylobacter infection in Australia. Emerg Infect Dis 2008;14:895-901.
18. Unicomb LE. Food Safety: pathogen transmission routes, hygiene practices and prevention. J Health Popul Nutr 2009;27:599-601.
19. Nasreen S, Azziz-Baumgartner E, Gurley ES, Winch P, Unicomb L, Sharker MAY, Southern D, Luby SP. Prevalent high risk respiratory hygiene practices in urban and rural Bangladesh Trop Med Int Health 2010; Jun;15(6):762-71

C. Research Support

Ongoing Research Support

|  |  |  |  |
| --- | --- | --- | --- |
| Bill & Melinda Gates Foundation | | Colford (PI) | 09/17/09 – 09/16/14 |
| Title: | Measuring the benefits of sanitation, water quality, and handwashing interventions for improving health and development | | |
| Goals: | Major to conduct a randomized controlled trial of simple water, sanitation, and hygiene interventions to reduce diarrhea incidence and improve child development measures in rural Bangladesh and Kenya. | | |
| Role: | Epidemiologist | | |
| Bill & Melinda Gates Foundation | | Qadri (PI) | 09/01/09 – 08/31/14 |
| Title: | Introduction of cholera vaccine in Bangladesh | | |
| Goals: | Conduct and evaluate the feasibility and effectiveness of a hygiene and safe water intervention focused on encouraging home drinking water treatment and regular handwashing with soap in decreasing the incidence of severe dehydrating diarrhea from cholera compared to the population receiving vaccine or the community without any intervention. | | |
| Role: | Epidemiologist | | |
| CDC | | Unicomb (PI) | 09/30/09 – 09/29/14 |
| Title: | Addressing Emerging Infectious Dieases In Bangladesh | | |
| Goals: | Provide an administrative, surveillance and research platform that identifies emerging infectious diseases in Bangladesh and facilitates collaboration with CDC. | | |
| Role: | Principal Investigator | | |

Completed Research Support

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| --- | --- | --- | --- |
| Swedish SIDA | | Luby (PI) | 10/01/08 – 12/31/09 |
| Title: | End-user Preferences for and Use of Point-of-Use Water Treatment Measures in Bangladesh | | |
| Goals: | Point of use water treatment product preference among consumers initially introduced to several safe water products | | |
| Role: | Epidemiologist | | |

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| CDC | | Ram (PI) | 12/01/08 – 03/31/10 |
| Title: | A Case-Control Study to Measure the Association between Environmental Factors and Influenza / Radiologically-Confirmed Pneumonia among Children < 5 years old in Dhaka, Bangladesh | | |
| Goals: | Determine the association between household handwashing behavior and risk of influenza infection or radiologically-confirmed pneumonia among children < 5 years | | |
| Role: | Epidemiologist | | |

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| --- | --- | --- | --- |
| CDC | | Luby (PI) | 01/01/09 – 00/30/09 |
| Title: | A pilot study in selected rural and urban areas to find ways to reduce pandemic influenza risks by improving respiratory hygiene and handwashing | | |
| Goals: | Assess respiratory hygiene in densely populated communities in Bangladesh,develop and pilot a scalable intervention to improve respiratory hygiene and handwashing with soap | | |
| Role: | Epidemiologist | | |

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| --- | --- | --- | --- | --- |
| BIOGRAPHICAL SKETCH  Provide the following information for the Senior/key personnel and other significant contributors.Follow this format for each person. DO NOT EXCEED TWO PAGES. | | | | |
|  | | | | |
| NAME- Kathryn G. Dewey | POSITION TITLE  Distinguished Professor of Nutrition  Director, Program in International & Community Nutrition | | | |
| eRA COMMONS USER NAME - kgdewey |
| EDUCATION/TRAINING | | | | |
| INSTITUTION AND LOCATION | | DEGREE  (if applicable) | MM/YY | FIELD OF STUDY |
| State University of New York, Albany | | BS | 1973 | Biology |
| University of Michigan | | MS | 1976 | Zoology |
| University of Michigan | | PhD | 1980 | Biological Sciences |

1. Personal statement

I am the Director of the UC Davis Program in International and Community Nutrition (PICN) and Project Director for the International Lipid-based Nutrient Supplement (iLiNS) Project, a research consortium funded by a ~$21 million grant from the Bill & Melinda Gates Foundation that involves four randomized intervention trials in three African countries (Ghana, Malawi and Burkina Faso). I am also directing a large-scale research project being conducted in Bangladesh in collaboration with ICDDR,B, funded by USAID. My research interests focus on maternal and infant nutrition in both low-income and higher-income populations, particularly the short- and long-term consequences of cost-effective strategies to improve nutrition of mothers and their children.

B. Positions and Honors

Positions and Employment

* 1. Assistant Professor, Dept. of Nutrition, University of California, Davis

1986-1991 Associate Professor, Dept. of Nutrition, University of California, Davis

1991-2010 Professor, Dept. of Nutrition, University of California, Davis

2010-pres. Distinguished Professor, Dept. of Nutrition, University of California, Davis

2008-pres. Director, Program in International and Community Nutrition, UC Davis

Other Experience and Professional Memberships (selected)

1996-pres. Steering Committee, WHO Multicentre Growth Reference Study

2000-2002 President, Society for International Nutrition Research

1. Technical Consultation on Infant and Young Child Feeding, WHO and UNICEF
2. WHO Global Consultation on Complementary Feeding

2004-pres. Technical Consultant to WHO, IFPRI and FAO on Indicators of Dietary Diversity and Adequacy

2004 Technical Consultant to WHO on Feeding of Non-Breastfed Children 6-24 Months of Age

2005 Expert Consultation on Growth and Development for the Health and Nutrition Unit, UNICEF

2006 WHO Expert Consultation on Prevention and Control of Iron Deficiency in Different Environments

2006-2007 President, International Society for Research in Human Milk & Lactation

2006-2008 Co-Chair, Working Group on Breastfeeding and Complementary Feeding, Standing Committee on Nutrition (UN)

2007 Technical Consultant to UNICEF on Complementary Feeding

2008-pres. Chair, Formulations Subgroup, Maternal, Infant and Young Child Nutrition Working Group, Ten Year Strategy to Reduce Vitamin and Mineral Deficiencies

2008-pres. Project Director, International Lipid-based Nutrient Supplements (iLiNS) Project

2008-pres. Technical Working Group on Iron and Malaria, NIH

2009-pres. Chair, Technical Advisory Group, Alive and Thrive Project

2009-pres. Senior Editor, Maternal and Child Nutrition

Honors

1975-1978 National Science Foundation Graduate Fellowship

1978-1980 Social Science Research Council Intl. Doctoral Research Fellowship

1996 William Evans Visiting Fellow, Univ. of Otago, New Zealand

1997 Norman Kretchmer Memorial Award in Nutrition and Development, Amer. Soc. Clin. Nutr.

2000 March of Dimes Agnes Higgins Award in Maternal-Fetal Nutrition

2005 Kellogg Prize for International Nutrition Research, Society for International Nutrition Research

2008 Avanelle Kirksey Award Lecturer, Purdue University

C. selected recent Peer-reviewed publications(selected from over 250)

Lutter CK, Daelmans BMEG, de Onis M, Kothari M, Ruel MT, Arimond A, Deitchler M, Dewey KG, Blössner M, Borghi E. The unfinished agenda of undernutrition, poor feeding practices and low coverage of key nutrition interventions. Pediatrics 2011; doi: 10.1542/peds.2008-1536.

Dewey KG, Mayers DR. Early child growth: how do nutrition and infection interact? Matern Child Nutr 2011 7 Suppl 3:129-142.

Dewey KG, Begum K. Long-term consequences of stunting in early life. Matern Child Nutr 2011 7 Suppl 3:5-18.

Maalouf-Manasseh Z, Metallinos-Katsaras E, Dewey KG. Obesity in Preschool Children Is More Prevalent and Identified at a Younger Age When WHO Growth Charts Are Used Compared with CDC Charts. J Nutr. 2011 Jun;141(6):1154-8.

Chantry CJ, Nommsen-Rivers LA, Peerson JM, Cohen RJ, Dewey KG. Excess weight loss in firstborn breastfed newborns relates to maternal intrapartum fluid balance. Pediatrics 2011 127(1):e171-9.

Onyango AW, Nommsen-Rivers L, Siyam A, Borghi E, de Onis M, Garza C, Lartey A, Baerug A, Bhandari N, Dewey KG, Araújo CL, Mohamed AJ, Van den Broeck J; for the WHO Multicentre Growth Reference Study Group. Postpartum weight change patterns in the WHO Multicentre Growth Reference Study. Matern Child Nutr. 2011 Jul;7(3):228-240.

Nommsen-Rivers LA, Chantry CJ, Peerson JM, Cohen RJ, Dewey KG. Delayed onset of lactogenesis among first-time mothers is related to maternal obesity and factors associated with ineffective breastfeeding. Am J Clin Nutr 2010 92(3):574-84.

Chaparro CM, Dewey KG. Use of lipid-based nutrient supplements (LNS) to improve the nutrient adequacy of general food distribution rations for vulnerable sub-groups in emergency settings. Matern Child Nutr 2010; 6, Supp 1:1-69.

Michaelsen KF, Dewey KG, Perez-Exposito AB, Nurhasan M, Lauritzen L, Roos N. Food sources and intake of n-6 and n-3 fatty acids in low-income countries with emphasis on infants, young children (6-24 months), and pregnant and lactating women. Matern Child Nutr. 2011 Apr;7 Suppl 2:124-40.

Briend A, Dewey KG, Reinhart GA. Fatty acid status in early life in low-income countries--overview of the situation, policy and research priorities. Matern Child Nutr. 2011 Apr;7 Suppl 2:141-8.

Phuka J, Ashorn U, Ashorn P, Zeilani M, Cheung YB, Dewey KG, Manary M, Maleta K. Acceptability of three novel lipid-based nutrient supplements among Malawian infants and their caregivers. Matern Child Nutr. 2011 Apr 21. doi: 10.1111/j.1740-8709.2011.00297.x. [Epub ahead of print]

Adu-Afarwuah S, Lartey A, Zeilani M, Dewey KG. Acceptability of lipid-based nutrient supplements (LNS) among Ghanaian infants and pregnant or lactating women. Matern Child Nutr. 2010 Dec 23. doi: 10.1111/j.1740-8709.2010.00286.x. [Epub ahead of print]

Dewey KG, Huffman SL. Maternal, infant, and young child nutrition: Combining efforts to maximize impacts on child growth and micronutrient status. Food Nutr Bull 2009;30:S187-189.

Daelmans B, Dewey KG, Arimond MA, Working Group on Infant and Young Child Feeding Indicators. New and updated indicators for assessing infant and young child feeding. Food Nutr Bull 2009;30:S256-262.

Ten Year Strategy to Reduce Vitamin and Mineral Deficiencies, Maternal, Infant, and Young Child Nutrition Working Group: Formulation Subgroup. Formulations for fortified complementary foods and supplements: review of successful products for improving the nutritional status of infants and young children. Food Nutr Bull 2009;30:S239-255.

Dewey KG, Yang Z, Boy E. Systematic review and meta-analysis of home fortification of complementary foods. Mat Child Nutr, 2009; 5:283-321.

Yang Z, Lönnerdal B, Adu-Afarwuah S, Brown KH, Chaparro CM, Cohen RJ, Domellöf M, Hernell O, Lartey A, Dewey KG. Prevalence and predictors of iron deficiency in fully breastfed infants at 6 mo of age: comparison of data from 6 studies. Am J Clin Nutr. 2009 Mar 18. [Epub ahead of print]

Matias SL, Nommsen-Rivers LA, Creed-Kanashiro H, Dewey KG.  Risk Factors for Early Lactation Problems among Peruvian Primiparous Mothers.  Mat Child Nutr, 2009, published online Jun 24 2009.

Dewey KG, Adu-Afarwuah S. Systematic review of the efficacy and effectiveness of complementary feeding interventions in developing countries. Mat Child Nutr 2008;4:24-85.

Adu-Afarwuah S, Lartey A, Brown KH, Zlotkin S, Briend A, Dewey KG. Home fortification of complementary foods with micronutrient supplements is well accepted and has positive effects on infant iron status in Ghana. Am J Clin Nutr 2008;87:929-38.

Islam MM, Khatun M, Peerson JM, Ahmed T, Mollah MAH, Dewey KG, Brown KH. Effects of energy density and feeding frequency of complementary foods on total daily energy intakes and consumption of breast milk by healthy, breastfed Bangladeshi children. Am J Clin Nutr 2008;88:84-94.

Bhutta ZA, Ahmed T, Black RE, Cousens S, Dewey K, Giugliani, Haider BA, Kirkwood B, Morris SS, Sachdev HPS, Shekar M, for the Maternal and Child Undernutrition Study Group. What works? Interventions to affect maternal and child undernutrition and survival globally. Lancet 2008;370: Jan 17, 2008.

Adu-Afarwuah S, Lartey A, Brown KH, Zlotkin S, Briend A, Dewey KG. Randomized comparison of 3 types of micronutrient supplements for home fortification of complementary foods in Ghana: Effects on growth and motor development. Am J Clin Nutr 2007;86(2):412-20.

Dewey KG. Increasing iron intake of children through complementary foods. Food Nutr Bull 2007;28(4): S595-S609.

Dewey, K.G., Cohen, R.J. Does birth spacing affect maternal or child nutritional status? A systematic literature review. Mat Child Nutr 2007;3:151-173.

Dewey, K.G., Chaparro, C.M. Iron status of breast-fed infants. Proc Nutr Soc 2007;66:412-22.

Kimmons JE, Dewey KG, Haque E, Chakraborty MS, Osendarp SJM, Brown KH. Behavior change trials to assess the feasibility of improving complementary feeding practices and micronutrient intake of infants in rural Bangladesh. Food Nutr Bull 2004;25:228-238.

Chaparro CM, Neufeld LM, Tena Alavez G, Eguia-Líz Cedillo R, Dewey KG.Effect of the timing of umbilical cord clamping on iron status in 6-month-old Mexican infants: a randomized controlled trial. Lancet 2006;1997-2004.

Dewey KG, Cohen RJ, Rollins NC. Feeding of non-breastfed children 6-24 months of age in developing countries. Food Nutr Bull 2004;25:377-402.

Dewey KG, Cohen RJ, Brown KH. Exclusive breastfeeding for 6 months, with iron supplementation, maintains adequate micronutrient status among term, low birthweight, breastfed infants in Honduras. J Nutr 2004;134:1091-1098.

Dewey KG, Brown KH. Update on technical issues concerning complementary feeding of young children in developing countries and implications for intervention programs. Food Nutr Bull 2003;24:5-28.

Dewey, K.G., Nommsen-Rivers, L.A., Heinig, M.J., Cohen, R.J. Risk factors for sub-optimal infant breastfeeding behavior, delayed onset of lactation and excess neonatal weight loss. Pediatrics 2003;112:607-619.

Dewey, K.G., Domellof, M., Cohen, R.J., Landa Rivera, L., Hernell, O., and Lonnerdal, B. Iron supplementation affects growth and morbidity of breast-fed infants: results of a randomized trial in Sweden and Honduras. J Nutr 2002;132:3249-3255.

Dewey, K.G., Cohen, R.J., Brown, K.H., and Landa Rivera, L. Effects of exclusive breastfeeding for 4 versus 6 months on maternal nutritional status and infant motor development: results of two randomized trials in Honduras. J. Nutr, 2001;131:262-267.

D. RESEARCH SUPPORT

Current Research Support

49817 10/01/08-12/31/14

Bill & Melinda Gates Foundation

Development and Evaluation of Lipid-based Nutrient Supplements (LNS) for Prevention of Malnutrition: An Innovative, Food-based Approach

Major goal: To provide the evidence-base for development and scaling-up of programs using lipid-based nutrient supplements for prevention of malnutrition in vulnerable populations of infants and young children and pregnant or lactating women in Africa

Role: PI

No Number 1/5/09-12/31/2013

Academy for Ed. Development

Alive and Thrive Project

Major goal: To oversee the small research grants program, write technical documents, and serve as Chair of the Technical Advisory Group.

Role: PI

AED-4001-UCD-00 12/1/2008-11/30/2013

Academy for Ed. Development

Food and Nutrition Technical Assistance II Project

Major goal: To conduct research related to a) the impact of lipid-based nutrient supplements for pregnant and lactating women and their infants within a programmatic setting in Bangladesh, and b) the interaction between nutritional interventions and reproductive tract infections among pregnant women in Malawi.

Role: PI

No number 10/1/2009-9/30/2011

Mathile Institute

Essential fatty acid status of 6 to 18 month-old Malawian children: predictive factors and functional consequences

Role: PI

1RC1DK087234 10/1/2009-9/30/2012

National Institutes of Health

Prevention of overfeeding during infancy

Role: PI

No number 1//1/2010-3/15/2012

Mathile Institute

Effect of daily consumption of a micronutrient-fortified, energy-dense lipid-based nutrient supplement (LNS) on breast milk intake in Malawian infants

Role: PI

BIOGRAPHICAL SKETCH

1 Name: Sarker Masud Parvez

2 Present Position:

Research Investigator

water, Sanitation and Hygiene Research Group

Centre for communicable diseases, icddr'b

3 Educational background:

(Last degree and diploma & training relevant to the present research proposal)

4.0List of ongoing research protocols

(Start and end dates; and percentage of time)

* 1. As Principal Investigator

|  |  |  |  |
| --- | --- | --- | --- |
| Protocol Number | Starting date | End date | Percentage of time |
|  |  |  |  |
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|  |  |  |  |

* 1. As Co-Principal Investigator

|  |  |  |  |
| --- | --- | --- | --- |
| Protocol Number | Starting date | End date | Percentage of time |
|  |  |  |  |
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|  |  |  |  |

* 1. As Co-Investigator

|  |  |  |  |
| --- | --- | --- | --- |
| Protocol Number | Starting date | End date | Percentage of time |
|  |  |  |  |
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|  |  |  |  |
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5 Publications

|  |  |
| --- | --- |
| Types of publications | Numbers |
| 1. Original scientific papers in peer-review journals |  |
| 1. Peer reviewed articles and book chapters |  |
| 1. Papers in conference proceedings |  |
| 1. Letters, editorials, annotations, and abstracts in peer-reviewed journals |  |
| 1. Working papers |  |
| 1. Monographs |  |

6 Five recent publications including publications relevant to the present research protocol

1)

2)

3)

Biography of the Investigators

1. Name: Md. Saiful Islam
2. Present Position: Assistant Scientist
3. Educational background: (last degree and diploma& training relevant to the present research proposal)

|  |  |  |
| --- | --- | --- |
|  | Institution | Year |
| Degree | MSS from University of Dhaka | 2003 |
| Degree | BSS from University of Dhaka | 2001 |
| Diploma |  |  |
| Training |  |  |
| Training |  |  |

1. Ethics Certification:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | If Yes | | |
|  |  | Issuing Authority | Registration No | Valid Until |
| No | Yes |  |  |  |

Note: If the response is “no”, please get certification from CITI or NIH before study initiation and submit a copy to the Committee Coordination Secretariat

1. List of ongoing research protocols/ activities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protocol/ Activity Number | Role in the protocol/ activity (PI, Co-PI, Co-I) | Starting date | End date | Percentage of time |
|  |  |  |  |  |
| 2008-040 | PI | December 2008 | December 2009 | 30% |
| 2008-55 | Co-I | January 2009 | December 2009 | 20 |
| PR-10024 | Co-I | June 2010 | December 2010 | 5 |
| PR-1267 | Co-Principle Investigator | March 2013 | December 2014 | 50% |

1. Publications

|  |  |
| --- | --- |
| Types of publications | Numbers |
| 1. Original scientific papers in peer-review journals | 9 |
| 1. Peer reviewed articles and book chapters |  |
| 1. Papers in conference proceedings |  |
| 1. Letters, editorials, annotations, and abstracts in peer-reviewed journals | 8 |
| 1. Working papers |  |
| 1. Monographs |  |

1. Five recent publications including publications relevant to the present research protocol
   1. M. Saiful Islam , Stephen P. Luby , Mahmudur Rahman , Shahana Parveen, Nusrat Homaira , Nur Har Begum , A. K. M. Dawlat Khan , Rebeca Sultana , Shammi Akhter , and Emily S. Gurley, Social Ecological Analysis of an Outbreak of Pufferfish Egg Poisoning in a Coastal Area of Bangladesh, Am. J. Trop. Med. Hyg., 85(3), 2011, pp. 498–503
   2. Emily S Gurley, Shahana Parveen, M. Saiful Islam, M. Jahangir Hossain, Nazmun Nahar, Nusrat Homaira, Rebeca Sultana, James J Sejvar, Mahmudur Rahman, Stephen P Luby, Family and community concerns about post-mortem needle biopsies in a Muslim society BMC Medical Ethics 2011, 12:10
   3. Emily S. Gurley1\*, Mahmudur Rahman, M. Jahangir Hossain1, Nazmun Nahar, M. Abul Faiz, Nazrul Islam, Rebeca Sultana, Selina Khatun, Mohammad Zashim Uddin, M. Sabbir Haider, M. Saiful Islam, Be-Nazir Ahmed, Muhammad Waliur Rahman, Utpal Kumar Mondal, Stephen P. Luby, “Fatal Outbreak from Consuming Xanthium strumarium Seedlings during Time of Food Scarcity in Northeastern Bangladesh, PLoS ONE 5(3): e9756. doi:10.1371/journal.pone.0009756
   4. W. Abdullah Brooks, A.S.M. Alamgir, Rebecca Sultana, M. Saiful Islam, Mustafizur Rahman, Alicia Fry, Bo Shu, Stephen Lindstrom, Kamrun Nahar, Doli Goswami, M. Sabbir Haider, Sharifun Nahar, Ebonee Butler, Kathy Hancock, Ruben O. Donis, Charles T. Davis, Rashid Uz Zaman, Stephen P. Luby, Timothy M. Uyeki, and Mahmudur Rahman, Avian Influenza Virus A (H5N1), Detected through Routine Surveillance, in Child, Bangladesh, Vol. 15, No. 8, August 2009, PP1311-1313.
   5. Rebeca Sultana, Nadia Ali Rimi1, Shamim Azad1, M. Saiful Islam1, Emily S Gurley1, Salah Uddin Khan1, Elizabeth Oliveras1, Nazmun Nahar1, Stephen P Luby1,2, ‘Bangladeshi backyard poultry raisers’ perception and practices related to zoonotic transmission of avian influenza, J Infect Dev Ctries 2012 Feb 13;6(2):156-65

Amy Janel Pickering, Ph.D.

Curriculum Vitae

Woods Institute for the Environment, Civil and Environmental Engineering

473 Via Ortega, Room 247, Y2E2 Building, Stanford University, Stanford, CA 94306

amyjanel@stanford.edu, (510) 410-2666, www.stanford.edu/~amyjanel

Education

Cornell University Biological Engineering B.S. (1999-2003

UC Berkeley Environmental Engineering M.S. (2003-2004)

Stanford University Interdisciplinary Program in Environment and Resource PhD (2007-2011)

Stanford University Woods Institute, Environmental Engineering, Postdoctoral Fellow(2011 – present)

Appointments

2001 – 2003 Research Assistant, Biological and Environmental Engineering, Cornell University, NY

2002 National Science Foundation (NSF) Summer Research Program, Qingdao, China

2003 – 2004 Research Assistant, Renewable and Appropriate Energy Lab, UC Berkeley

2004 – 2005 Environmental Engineer, Office of Water, US Environmental Protection Agency, Washington DC

2005 – 2006 J. William Fulbright Scholar, Kuala Terengganu, Malaysia

2007 Director of Project Development, Fundación Cantaro Azul, Mexico

2007 Initiative Coordinator, Blum Center for Developing Economies, UC Berkeley, CA

2007 – 2011 PhD Candidate, Interdisciplinary Program in Environment and Resources, Stanford University

2011 – 2013 Consultant, Community-led Total Sanitation Impact Evaluation, funded by the Bill and Melinda Gates Foundation, Mali

2011- Present Postdoctoral Fellow, Civil and Environmental Engineering and the Woods Institute for the Environment, Stanford University

Publications

1. A.J. Pickering, J. Davis, S. Walters, H. Horak, D. Keymer, D. Mushi, R. Strickfaden, J. Chynoweth, J. Liu, A. Blum, K. Rogers, A. Boehm. “Hands, water, and health: fecal contamination in Tanzanian communities with improved, non-networked water supplies.” Environmental Science and Technology. 2010.
2. A.J. Pickering, T.R. Julian, S. Mamuya, A. Boehm, J. Davis. “Bacterial hand contamination varies temporally and after household activities among Tanzanian mothers.” Tropical Medicine andInternational Health. 2011.
3. A.J. Pickering, T.R. Julian, S.J. Marks, M.C. Mattioli, A.B. Boaehm, K.Schwab, J. Davis. “Fecal contamination and diarrheal pathogens on surfaces and soil show spatial heterogeneity within Tanzanian households and no association with improved sanitation.” Environmental Science and Technology. 2012.
4. A.J. Pickering, J. Davis. “Freshwater availability and water fetching time affect child health in Sub-Saharan Africa.” Environmental Science and Technology. 2012.
5. T.R. Julian, A.J. Pickering, J.O. Leckie, A.B. Boehm. “Enterococcus spp. on fomites and hands indicate increased risk of respiratory illness in childcare centers.” American Journal of Infection Control. 2013.
6. M. Mattioli, A.J. Pickering, R. Gilsdorf, J. Davis, A. Boehm. “Hands and water as vectors of diarrheal pathogens in Bagamoyo, Tanzania.” Environmental Science and Technology. 2013.

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2001 Channing Way, #2 aercumen@gmail.comP. Mazhar Öktel Sokak, 16/16

Berkeley, CA 94704 Istanbul / Turkey

(510) 225-8828 (+90 212) 234-4920

EDUCATION

**University of California, Berkeley**

Ph.D., Epidemiology, expected in Aug 2013

Dissertation research on interventions to reduce waterborne infectious disease in developing countries.

**University of California, Berkeley**

M.P.H., Epidemiology and Biostatistics, May 2009 (GPA 3.9/4.0)

Thesis on water distribution system deficiencies and risk of gastrointestinal illness.

**University of California, Berkeley**

M.S., Environmental Engineering with focus on Water Quality, May 2005 (GPA 4.0/4.0)

**Massachusetts Institute of Technology**

B.S., Environmental Engineering Science, May 2004 (GPA 5.0/5.0)

**RESEARCH EXPERIENCE**

**Lead Investigator, Health Impact of Treating and Safely Storing ShallowTubewell Water** (2010-2012)

* Randomized controlled trial with 1,800 households to assess individual and combined impact of chlorination and safe storage on drinking water quality and <2 diarrhea in rural Bangladesh.
* Assisted in developing study protocol, set up laboratory facility for water quality testing, recruited and trained data collection and laboratory staff, supervised field implementation and analyzed data.

**Lead Investigator, Health Impact of Intermittent versus Continuous Water Supply** (2010-2012)

* Matched cohort study with 4,000 households to evaluate impact of switching from intermittent to continuous delivery of piped water on drinking water quality and <5 diarrhea in urban India.
* Developed study protocol, recruited and trained staff, supervised data collectionand analyzed data.

**Research Assistant,UC Berkeley Arsenic Research Group** (2007-2010)

* Cohort study to assess effects of arsenic in drinking water on children’s lung function and respiratory health in rural Bangladesh.
* Assisted in selecting participants and developing data collection instruments.

**Monitoring and Evaluation Director, Haath Mein Sehat**(2007-2009)

* Water quality testing to evaluate impact of hygiene program led by UC Berkeley organization Haath Mein Sehat in slum communities in Mumbai, India.

**PROFESSSIONAL EXPERIENCE**

**Short-Term Consultant, World Bank**, Washington, DC (May-Oct 2012)

* Conducted review of methodologies for assessing environmental fecal exposure pathways and associated health outcomes, with specific focus on Bangladesh.

**Associate Environmental Engineer, Montgomery Watson Harza**, Walnut Creek, CA (2005-2007)

* Evaluated effect of increased filtration rates on performance of dual-media filters at San Francisco Public Utility Commission’s Harry Tracy water treatment plant.

**Intern, BASF Aktiengesellschaft**, Ludwigshafen, Germany (Sept-Dec 2002)

* Performed inhibition tests to evaluate restricting effect of different chemicals on nitrifying performance of chemical plant’s wastewater treatment facility.

**Intern**, **Kordsa Sabancı DuPont, Inc.**, Istanbul, Turkey (June-Aug 2001)

* Monitored effluent quality at chemical plant’s wastewater treatment facility.
* Conducted coagulation experiments with polymers to increase treatment efficiency.

**TEACHING EXPERIENCE**

Instructor, Health Impact Evaluation Workshop, KEMRI, Kenya (Jan 2013)

Teaching Assistant, Graduate-Level Impact Evaluation Methods Course, UC Berkeley (Fall 2012)

Instructor, Health Impact Evaluation Workshop, ICDDR,B, Bangladesh (Jan 2012)

Teaching Assistant, Graduate-Level Advanced Epidemiologic Methods Course, UC Berkeley (Fall 2009)

Teaching Assistant, Fluid Mechanics Course, MIT (Spring 2003)

**HONORS AND AWARDS**

Outstanding Graduate Student Instructor Award, UC Berkeley (2010)

Center for Global Public Health Summer Fellowship, UC Berkeley (2010)

Graduate Division Summer Grant, UC Berkeley (2010)

Davis Peace Projects Grant (2008)

Richard Lee Russell Award for Academic Excellence, MIT (2004)

**PUBLICATIONS**

**Ercumen** A, Gruber JS, Colford JM. Water distribution system deficiencies and gastrointestinal illness: A systematic review and meta-analysis. Environ Health Perspect (under review).

Smith AH, Yunus M, Khan AF, **Ercumen** A, Yuan Y, Smith MH, Liaw J, Balmes J, von Ehrenstein O, Raqib R, Kalman D, Alam DS, Streatfield K, Steinmaus C. Chronic respiratory symptoms in children following in utero and early life exposure to arsenic in drinking water in Bangladesh.Int J Epidemiol (in press).

Smith AH, **Ercumen** A, Yuan Y, Steinmaus CM (2009). Increased lung cancer risks are similar whether arsenic is ingested or inhaled.J Expo Sci Environ Epidemiol.19: 343-348.

**CONFERENCE PRESENTATIONS**

**Ercumen** A, Naser AM, Rahman MW, Arnold BF, Colford JM, Islam MS, Unicomb L, Luby SP. UNC Water and Health Oct 3-6, 2011 (poster).Uptake of chlorine treatment and safe storage of shallow tubewell water in rural Bangladesh:A pilot study.

Naser AM, **Ercumen** A, Rahman MW, Arnold BF, Colford JM, Islam MS, Unicomb L, Luby SP. ASTMH Dec 4-8, 2011 (poster).Microbiological effectiveness of treating and safely storing shallow tubewell water in rural Bangladesh: A pilot study.

**Ercumen** A, Kumpel E, Nelson KL. Singapore International Water Week Jun 28-Jul 2, 2010(presentation) Water quality and household behaviors affecting water quality in an intermittent and continuous urban piped water supply.

**Ercumen** A, Colford JM. APHA Nov 7-11, 2009 (presentation). Water distribution systems and the risk of gastrointestinal illness.

**Ercumen** A, Kumpel E, Burt ZI. WEF Disinfection Mar 1-3, 2009 (presentation). Volunteer-led effort linking research to development practice to promote safe water and hygiene in slums in India.

Budget Justifications

Please provide one page statement justifying the budgeted amount for each major item, including the use of human resources, major equipment, and laboratory services.

This total multiyear budget is a combination of 04 individual components of 1) WASH Benefit, 2) Nutrition, 3) Enteric Enteropathy and 4) Parasites. A brief description of this total this budget is given below:

Total budget would be going through 5 continuous years with an yearly allocation as defined into the total budget.

Personnel:

Stephen P. Luby - Principle Investigator: He would be the overall site in charge of these activities and would be overseeing overall planning, designing, monitoring and management activities. He is budgeted 10% of his time but no amount as he is being covered by other sources. Beside him there are respective Co PIs will be working and their respective allocation is budgeted according to their required % time as it determined and put into the budget. Also some admin and management staffs are their whose cost to be covered in a shared manner. Required project staffs are budgeted based on the project implementation plan and their required time. All of them are allocated into the respective budgets as per their level, pay rates and activity.

Consultant:

There will be some external consultants would be involved who will help and provide technical support to planning, designing and implementing the project activities smoothly. They will be covered by the respective activity based on their contracted pay rate. A total of US$190714/= is budgeted for this purpose.

Supplies, materials and logistics:

A total of US$3.28 million has been budgeted to cover the cost of different supplies and materials for these projects. This budget would cover project supplies like water treatment material, soap and HW promotion items, materials for latrines, nutritional supplies, lab supplies etc. Beside these this cost category is also covered the cost of field operation, rent, utilities, procurement shipment, testing, facilities, training, data management, office management, maintenance, logistics etc those having monthly cost <$10,000/=.

Travel:

This category would cover the cost of field trips, transport, local transport, perdiem, lodging, food cost for all implementation of respective activities. Total US$2.38 million is budgeted to cover this cost. Respective trips of international meetings, seminar, and workshop are budgeted here and put into the main budget as per required trip#, cost per trip and allocated accordingly.

Equipment:

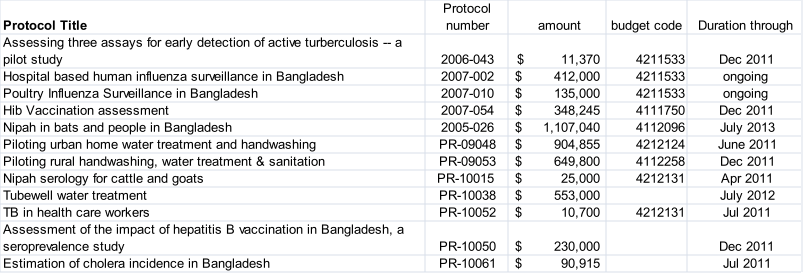
Gates foundation has considered some items as equipment those having value >$10,000/= each. Under this range some freezers, data storage server, equipment are budgeted. A total of $91,000/= has been budgeted for this category.

Indirect cost:

Indirect cost @15% of total cost is considered and budgeted that will cover all management support, other common service and facilities of the centre.

Other Support

Describe sources, amount, duration, and grant number of all other research funding currently granted to PI or under consideration.



Appendix 1a: English consent form for compound study enrollment

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Stephen Luby

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on diarrheal diseases in children to learn how it affects their physical and mental development. Through this research we want to learn about the direct health benefits of some simple interventions to improve the sanitation, water quality, hygiene practices or nutritional status for children under three. We want to understand whether child health and development is more when these interventions are provided separately or together so that we can make recommendations for cost effective interventions in the future.

Why are we inviting you to participate in the study?

We are interested in enrolling this compound because one of them women is pregnant, and we are interested in evaluating children early in their life.

What is expected from the participants of the research study?

The study will last for two years. Following your permission we will enroll this entire compound into the study. It will be assigned into a group that that may receive a hand washing station with soapy water, Aquatabs with a storage container for water treatment, potties and scoops for hygienic handling and disposal of children and animal feces, latrines with a water seal or nutritional supplements for children under 24 months. Any hardware provided will be promoted by a local community health promoter, who will visit your compound for household visits and courtyard meetings. You or your compound members cannot choose your group; you will be randomly assigned to a group through a lottery. It may be that even though the compound is eligible, interventions may not be given to meet the research needs. However, we hope that you will still participate for the knowledge this research will provide.

If your compound decides to join the study, study representatives will initially visit your household to collect some information through interviews with the family members, observations and by taking some measurements of the child if applicable. This will include demographic information and questions about everyday hygiene, water treatment and sanitation practices related information. With your permission, they will inspect your sanitation facilities as well. The representative will also ask questions about each child regarding vaccination status, child development and weigh and measure the child if they are present or after they are born.They will also ask mothers or caregivers about their infant feeding practices, and whether the infant has been sick. This will be done 3 times during the two year study period. We want to evaluate our interventions and its effects on your child through the collected information.

Risks & Benefits

There are no major risks involved in this study. The interventions described such as improved latrines, child potties, hand washing stations and Aquatabs are widely promoted for health benefits. Chlorine treatment of drinking water is the most common water disinfectant used.

There is no direct monetary compensation benefit for participating in this study. The Lipid-based Nutrient Supplement (LNS) that will be used in this study has been tested in Bangladesh and in Studies in Africa, and no adverse health effects were reported. We do not expect any adverse reactions related to this product in this trial either. Households of your compound might benefit health effects from the different interventions we would deliver.

Privacy, anonymity and confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country.

Confidentiality of the data and test results will be strictly maintained. All the recorded in-depth interview data will be kept confidential and the digitally recorded data will be erased after the completion of data analysis. We will use the information only for the purpose of the study, and we will not use your name in sharing and publishing the results of this study.

Future use of information

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy. With your permission, we may use information such as your name and household location to contact you in the future, after this study ends. We will ask for your permission at the end of this study (about 2 years from now).

Right not to participate and withdraw

Taking part in the study is completely voluntary. The enrolled members of the households may choose not to answer any or all of the questions asked. You can drop out of this study at any time, even in the middle of an interview or group discussion. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Sania Ashraf, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent to enroll into the study: YES\_\_\_\_\_\_ NO\_\_\_\_\_\_

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1b: English consent form for household enrollment

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Stephen Luby

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on diarrheal diseases in children to learn how it affects their physical and mental development. Through this research we want to learn about the direct health benefits of some simple interventions to improve the sanitation, water quality, hygiene practices or nutritional status for children under three. Malnutrition in children is associated with infections of our intestines that can change our use of nutrients. It is possible that genes in our body, made up of DNA, make some children more susceptible to malnutrition than others. These DNA is inherited from our parents and we also carry genes from many friendly microbes that live on and in our body. We want to understand whether child health and development is more when these interventions are provided separately or together so that we can make recommendations for cost effective interventions in the future. These 2 years of a child’s life is important for the child’s physical and mental development.

Why are we inviting you to participate in the study?

Because you are expecting to deliver a baby in the next 8 months and we are interested in evaluating child development early in life, we would like to invite you to participate in this study.

What is expected from the participants of the research study?

The study will last for two years. Following your permission we will enroll this household into the study. It will be assigned into a group that that may receive a hand washing station with soapy water, chlorine tablets named Aquatabs with a storage container for water treatment, potties and scoops for hygienic handling and disposal of children feces, latrines with a water seal or nutritional supplements for children under 24 months. Any hardware provided will be supported by behavior change communication to encourage their use, by a local community health promoter, who will visit your compound for household visits and courtyard meetings. You or your household members cannot choose your group; you will be randomly assigned to a group through a lottery. It may be that even though the household is eligible, no interventions will be given to meet study requirements. However, we hope that you will still participate for the knowledge this research will provide.

If your household decides to join the study, we will want to collect a small amount of blood (equivalent to two teaspoon) to determine your blood group and genes (DNA). We will also collect a stool and urine sample with your cooperation. This will only be done once at the beginning of the study. (Your decision to participate in this part of the study is optional and will not affect your child’s participation).

After you child is born, approximately one year after enrollment, when your child will be ~8-15 months, we will collect a small amount of blood (equivalent to a teaspoon) to determine your child’s genes (DNA) and examine whether they have been exposed to any parasites. We will also collect a sample of your child’s urine at this time.

We will repeat the above sample collection at year 2 when your child is 20-27 months old.

Study representatives will initially visit your household to collect some information through interviews with the family members, observations and by taking some measurements of the child if applicable. This will include socio-demographic information and questions about everyday hygiene, water treatment and sanitation practices related information. With your permission, they will inspect your sanitation facilities as well. The representative will also ask child specific questions regarding vaccination status, child development and weigh and measure the child if they are present or after they are born.They will also ask mothers or caregivers about their infant feeding practices, and whether the infant has been sick. This will be done 3 times during the two year study period. We want to evaluate our interventions and its effects on your child through the collected information.

Risks & Benefits

There are no major risks involved in this study. The interventions described such as improved latrines, child potties, hand washing stations and Aquatabs are widely promoted for health benefits. Chlorine treatment of drinking water is the most common water disinfectant used.

There is no direct monetary compensation benefit for participating in this study. The Lipid-based Nutrient Supplement (LNS) that will be used in this study has been tested in Bangladesh and in Studies in Africa, and no adverse health effects were reported. We do not expect any adverse reactions related to this product in this trial either. There is a slight risk of breach of confidentiality but we will take great care to protect your personal information. Households of your compound might benefit health effects from the different interventions we would deliver. The small amount of blood, stool or urine we will collect from you and your child over the course of this study will not be dangerous to you or your child.

Privacy, anonymity and confidentiality

Confidentiality of the data and test results will be strictly maintained. All the recorded in-depth interview data will be kept confidential and the digitally recorded data will be erased after the completion of data analysis. We will use the information only for the purpose of the study, and we will not use your name in sharing and publishing the results of this study.

All data and specimens collected will be kept confidential as allowed by the law of this country. The samples and the test results will be coded without your name or personal information, and stored separately for analysis by the researchers. None of these researchers will be able to identify you or your child as the sample donors. Other persons who may have access to your test results include research groups that oversee the safety of the study including institutes such as the University of California Berkeley and the Bill and Melinda Gates Foundation, USA. Because of the potential need to release information to these parties, and the genetic information we are collecting is potentially identifying, we cannot guarantee absolute confidentiality. However, we will ensure every effort that we can to preserve your confidentiality. If you sign this form, you permit us to release information to authorized researchers and the safety committee. There is no expiration date to this permission. This information will be coded and it is unlikely that anyone will be able to trace it to you and your child, protecting your privacy.

Future use of information

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy. In the future, we may wish to perform additional tests on the blood and stool specimens that already collected. The samples will be stored at ICDDR,B. No further consent will be taken from you. If you change your mind about having your specimen saved for further testing, you may contact us and the sample will be discarded and not saved.

Right not to participate and withdraw

Taking part in the study is completely voluntary. The enrolled members of the households may choose not to answer any or all of the questions asked. You can drop out of this study at any time, even in the middle of an interview or group discussion. We will withdraw your permission and if you wish, we will destroy your samples and those of your child and remove data from the database. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Sania Ashraf, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent to enroll into the study: YES\_\_\_\_\_\_ NO\_\_\_\_\_\_

Consent of the mother for sample collection: YES\_\_\_\_\_\_\_ NO \_\_\_\_\_\_

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1c: English consent form for household enrollment for water intervention

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Stephen Luby

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ andI work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on diarrheal diseases in children to learn how it affects their physical and mental development. Through this research we want to learn about the direct health benefits of some simple interventions to improve the sanitation, water quality, hygiene practices or nutritional status for children under three. We want to understand whether child health and development is more when these interventions are provided separately or together so that we can make recommendations for cost effective interventions in the future.

Why are we inviting you to participate in the study?

Because you are expecting to deliver a baby in the next 8 months and we are interested in evaluating child development early in life, we would like to invite you to participate in this study.

What is expected from the participants of the research study?

The study will last for two years. Following your permission we will enroll this household into the study. Through a lottery this compound your household has been assigned to receive Aquatabs, which a chlorine based tablet used to purify drinking water. We will also provide a storage container for you to store drinking water. A local female community health promoter will visit your compound for household visits and invite you to attend courtyard meetings where she will promote the use of this product to regularly treat your drinking water.

If your household decides to join the study, study representatives will initially visit your household to collect some information through interviews with the family members, observations and by taking some measurements of the child if applicable. This will include socio-demographic information and questions about everyday hygiene, water treatment and sanitation practices related information. With your permission, they will inspect your sanitation facilities as well. The representative will also ask child specific questions regarding vaccination status, child development and weigh and measure the child if they are present or after they are born. They will also ask mothers or caregivers about their infant feeding practices, and whether the infant has been sick. This will be done 3 times during the two year study period; once at the beginning, at one year and two year of the study period. We want to evaluate our interventions and its effects on your child through the collected information.

Risks & Benefits

There are no major risks involved in this study. Chlorine treatment of drinking water is the most common water disinfectant used. There is no direct monetary compensation benefit for participating in this study. Households of your compound might benefit health effects from the improved drinking water quality through use of this product.

Privacy, anonymity and confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country.

Confidentiality of the data and test results will be strictly maintained. All the recorded in-depth interview data will be kept confidential and the digitally recorded data will be erased after the completion of data analysis. We will use the information only for the purpose of the study, and we will not use your name in sharing and publishing the results of this study.

Future use of information

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to answer any or all of the questions that will be asked about your household or your hygiene or water related behavior. You can drop out of this study at any time, even in the middle of an interview or group discussion. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Sania Ashraf, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent to enroll into the study: YES\_\_\_\_\_\_ NO\_\_\_\_\_\_

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1d:English consent form for household enrollment for hand washing interventions

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Stephen Luby

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on diarrheal diseases in children to learn how it affects their physical and mental development. Through this research we want to learn about the direct health benefits of some simple interventions to improve the sanitation, water quality, hygiene practices or nutritional status for children under three. We want to understand whether child health and development is more when these interventions are provided separately or together so that we can make recommendation for cost effective interventions in the future.

Why are we inviting you to participate in the study?

Because you are expecting to deliver a baby in the next 8 months and we are interested in evaluating child development early in life, we would like to invite you to participate in this study.

What is expected from the participants of the research study?

The study will last for two years. Following your permission we will enroll this household into the study. Through a lottery your household has been assigned to receive a hand washing station to be placed beside your latrine and your kitchen to encourage hand washing after defecation and while preparing food. A local female community health promoter will visit your compound for household visits and invite you to attend courtyard meetings where she will promote the use of the hand washing station. She will also teach you how to make soapy water using detergent and water which you can use as a hand cleansing agent.

If your household decides to join the study, study representatives will initially visit your household to collect some information through interviews with the family members, observations and by taking some measurements of the child if applicable. This will include socio-demographic information and questions about everyday hygiene, water treatment and sanitation practices related information. With your permission, they will inspect your sanitation facilities as well. The representative will also ask child specific questions regarding vaccination status, child development and weigh and measure the child if they are present or after they are born. This will be done 3 times during the two year study period; once at the beginning, at one year and two year of the study period. We want to evaluate our interventions and its effects on your child through the collected information.

Risks & Benefits

There are no major risks involved in this study. Soapy water does not have any harmful side effects. There is no direct monetary compensation benefit for participating in this study. Households of your compound might benefit health effects from the improved health through use of this product.

Privacy, anonymity and confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country.

Confidentiality of the data and test results will be strictly maintained. All the recorded in-depth interview data will be kept confidential and the digitally recorded data will be erased after the completion of data analysis. We will use the information only for the purpose of the study, and we will not use your name in sharing and publishing the results of this study.

Future use of information

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to answer any or all of the questions that will be asked about your household or your hygiene or water related behavior. You can drop out of this study at any time, even in the middle of an interview or group discussion. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Sania Ashraf, Programme on Infectious Diseases and Vaccine Sciences, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent to enroll into the study: YES\_\_\_\_\_\_ NO\_\_\_\_\_\_

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1e: English consent form for household enrollment for sanitation interventions

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Stephen Luby

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on diarrheal diseases in children to learn how it affects their physical and mental development. Through this research we want to learn about the direct health benefits of some simple interventions to improve the sanitation, water quality, hygiene practices or nutritional status for children under three. We want to understand whether child health and development is more when these interventions are provided separately or together so that we can make recommendation for the most cost effective interventions in the future.

Why are we inviting you to participate in the study?

Because you are expecting to deliver a baby in the next 8 months and we are interested in evaluating child development early in life, we would like to invite you to participate in this study.

What is expected from the participants of the research study?

The study will last for two years. Following your permission we will enroll this household into the study. Through a lottery your household has been assigned to receive a child potty for your child to use for defecation, a sani scoop for hygienic disposal of animal and child feces into a latrine or a pit. Sani scoops will be also provided to all the households. In addition, all latrines in this compound will be inspected by research members to see if they meet hygienic standards. If not, they will be repaired to meet hygienic standards which may include installing water seals, dual pits, repairs or building a new dual pit latrine where appropriate. A local female community health promoter will visit your compound for household visits and invite you to attend courtyard meetings where she will promote the use of the mentioned products and the latrine.

If your household decides to join the study, study representatives will initially visit your household to collect some information through interviews with the family members, observations and by taking some measurements of the child if applicable. This will include socio-demographic information and questions about everyday hygiene, water treatment and sanitation practices related information. With your permission, they will inspect your sanitation facilities as well. The representative will also ask child specific questions regarding vaccination status, child development and weigh and measure the child if they are present or after they are born. This will be done 3 times during the two year study period; once at the beginning, at one year and two year of the study period. We want to evaluate our interventions and its effects on your child through the collected information.

Risks & Benefits

There are no major risks involved in this study. There is no direct monetary compensation benefit for participating in this study. Households of your compound might benefit from improved health through use of the products and of the latrine.

Privacy, anonymity and confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country.

Confidentiality of the data and test results will be strictly maintained. All the recorded in-depth interview data will be kept confidential and the digitally recorded data will be erased after the completion of data analysis. We will use the information only for the purpose of the study, and we will not use your name in sharing and publishing the results of this study.

Future use of information

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to answer any or all of the questions that will be asked about your household or your hygiene or water related behavior. You can drop out of this study at any time, even in the middle of an interview or group discussion. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Sania Ashraf, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent to enroll into the study: YES\_\_\_\_\_\_ NO\_\_\_\_\_\_

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1f: English consent form for household enrollment fornutritional supplements

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Stephen Luby

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on diarrheal diseases in children to learn how it affects their physical and mental development. Through this research we want to learn about the direct health benefits of some simple interventions to improve the sanitation, water quality, hygiene practices or nutritional status for children under three. We want to understand whether child health and development is improvedwhen these interventions are provided separately or together so that we can make recommendation for cost effective interventions in the future.

Why are we inviting you to participate in the study?

Because you are expecting to deliver a baby in the next 8 months and we are interested in evaluating child development early in life, we would like to invite you to participate in this study.

What is expected from the participants of the research study?

The study will last for two years. Following your permission we will enroll this household into the study. Through a lottery your household has been assigned to receive daily nutritional supplements for children from the age of 6 to 21 months. Since there might not be a child in that age group in this household at the moment, you will receive the supplement when your child reaches that age. A local female community health promoter will visit your compound for household visits and invite you to attend courtyard meetings where she will promote the daily consumption of 2 sachets of the supplements. She will also deliver a monthly requirement of these sachets to your households.

The product is a vitamin and mineral supplement made using vegetable oil, groundnut and milk powder. Twice per day, you should add 1 sachet (10g) of the supplement to 2-3 tablespoons of already prepared food (such as rice porridge), and feed your child the mixture before feeding the rest of the food. In total, your child should consume two sachets per day. Do not cook the supplement or refrigerate it; it will keep at room temperature.

If your household decides to join the study, study representatives will initially visit your household to collect some information through interviews with the family members, observations and by taking some measurements of the child if applicable. This will include socio-demographic information and questions about everyday hygiene, water treatment and sanitation practices. With your permission, they will inspect your sanitation facilities as well. The representative will also ask child specific questions regarding vaccination status, child development and weigh and measure the child if they are present or after they are born. They will also ask mothers or caregivers about their infant feeding practices, and whether the infant has been sick. This will be done 3 times during the two year study period; at the beginning, after one year and after two years. We want to evaluate our interventions and its effects on your child using this information.

Risks & Benefits

There are no major risks involved in this study. There is no direct monetary compensation benefit for participating in this study.

The Lipid-based Nutrient Supplement (LNS) that will be used in this study has been tested in Bangladesh and in studies in Africa, and no adverse health effects were reported. We do not expect any adverse reactions related to this product in this trial either. However, should your child have any adverse reactions shortly after ingesting the supplement (such as vomiting, stomach pain, rash, breathing problems with wheezing), we recommend that you stop using the supplement and notify one of the study staff immediately.

Privacy, anonymity and confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country.

Confidentiality of the data and test results will be strictly maintained. All the recorded in-depth interview data will be kept confidential and the digitally recorded data will be erased after the completion of data analysis. We will use the information only for the purpose of the study, and we will not use your name in sharing and publishing the results of this study.

Future use of information

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to answer any or all of the questions that will be asked about your household or your hygiene or water related behavior. You can drop out of this study at any time, even in the middle of an interview or group discussion. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for participating in the study.

Persons to contact:

If you have any questions, you can ask me any time. If you have additional questions about the survey, you may contact:

Sania Ashraf, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent to enroll into the study: YES\_\_\_\_\_\_ NO\_\_\_\_\_\_

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1g: English consent form for household enrollment for water + hygiene + sanitation

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Stephen Luby

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ andI work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on diarrheal diseases in children to learn how it affects their physical and mental development. Through this research we want to learn about the direct health benefits of some simple interventions to improve the sanitation, water quality, hygiene practices or nutritional status for children under three. We want to understand whether child health and development is more when these interventions are provided separately or together so that we can make recommendation for cost effective interventions in the future.

Why are we inviting you to participate in the study?

Because you are expecting to deliver a baby in the next 8 months and we are interested in evaluating child development early in life, we would like to invite you to participate in this study.

What is expected from the participants of the research study?

The study will last for two years. Following your permission we will enroll this household into the study. Through a lottery your household has been assigned to receivea hand washing station with soapy water, Aquatabs with a storage container for water treatment, potties and scoops for hygienic handling and disposal of children feces, installation or repairs to a dual pit latrine with a water seal. A local female community health promoterwill visit your compound for household visits and invite you to attend courtyard meetings where she will promote the use of these products. Sani scoops will be also provided to all the households. In addition, all latrines in this compound will be inspected by research members to see if they meet hygienic standards. If not, they will be repaired to meet hygienic standards which may include installing water seals, dual pits, repairs or building a new dual pit latrine where appropriate.

If your householddecides to join the study, study representatives will initially visit your household to collect some information through interviews with the family members, observations and by taking some measurements of the child if applicable. This will include socio-demographic information and questions about everyday hygiene, water treatment and sanitation practices related information. With your permission, they will inspect your sanitation facilities as well. The representative will also ask child specific questions regarding vaccination status, child development and weigh and measure the child if they are present or after they are born. They will also ask mothers or caregivers about their infant feeding practices, and whether the infant has been sick. This will be done 3 times during the two year study period; once at the beginning, at one year and two year of the study period. We want to evaluate our interventions and its effects on your child through the collected information.

Your acceptance or refusal to these activities will not affect your consent to participate in the overall study.

Risks & Benefits

There are no major risks involved in this study. Soapy water does not have any harmful side effects. There is no direct monetary compensation benefit for participating in this study. You and your family might experience a health benefits from the different interventions we would deliver. Households will benefit by receiving free sanitation, handwashing, water quality improvements and nutrition supplements provided by the study.

The Lipid-based Nutrient Supplement (LNS) that will be used in this study has been tested in Bangladesh and in Studies in Africa, and no adverse health effects were reported. We do not expect any adverse reactions related to this product in this trial either. However, should your child have any adverse reactions shortly after ingesting the supplement (such as vomiting, stomach pain, rash, breathing problems with wheezing), we recommend that you stop using the supplement and notify one of the study staff immediately.

Privacy, anonymity and confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country.

Confidentiality of the data and test results will be strictly maintained. All the recorded in-depth interview data will be kept confidential and the digitally recorded data will be erased after the completion of data analysis. We will use the information only for the purpose of the study, and we will not use your name in sharing and publishing the results of this study.

Future use of information

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to answer any or all of the questions that will be asked about your household or your hygiene or water related behavior. You can drop out of this study at any time, even in the middle of an interview or group discussion. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Sania Ashraf, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat,phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent to enroll into the study: YES\_\_\_\_\_\_ NO\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1h: English consent form for household enrollment for water + hygiene + sanitation + nutritional supplements

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Stephen Luby

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on diarrheal diseases in children to learn how it affects their physical and mental development. Through this research we want to learn about the direct health benefits of some simple interventions to improve the sanitation, water quality, hygiene practices or nutritional status for children under three. We want to understand whether child health and development is more when these interventions are provided separately or together so that we can make recommendation for cost effective interventions in the future.

Why are we inviting you to participate in the study?

Because you are expecting to deliver a baby in the next 8 months and we are interested in evaluating child development early in life, we would like to invite you to participate in this study.

What is expected from the participants of the research study?

The study will last for two years. Following your permission we will enroll this household into the study. Through a lottery your household has been assigned to receive a hand washing station with soapy water, Aquatabs with a storage container for water treatment, potties and scoops for hygienic handling and disposal of children feces, installation or repairs to a dual pit latrine with a water seal if applicable and nutritional supplements for children under 24 months. Since there might not be a child in that age group in this household at the moment, you will receive the supplement when your child reaches that age. A local female community health promoter will visit your compound for household visits and invite you to attend courtyard meetings where she will promote the use of these products. She will also deliver a monthly requirement the nutritional sachets to your households. Sani scoops will be also provided to all the households. In addition, all latrines in this compound will be inspected by research members to see if they meet hygienic standards. If not, they will be repaired to meet hygienic standards which may include installing water seals, dual pits, repairs or building a new dual pit latrine where appropriate.

The nutritional product is a vitamin and mineral supplement made using vegetable oil, groundnut and milk powder. Twice per day, you should add 1 sachet (10g) of the supplement to 2-3 tablespoons of already prepared food (such as rice porridge), and feed your child the mixture before feeding the rest of the food. In total, your child should consume two sachets per day. Do not cook the supplement or refrigerate it; it will keep at room temperature.

If your household decides to join the study, study representatives will initially visit your household to collect some information through interviews with the family members, observations and by taking some measurements of the child if applicable. This will include socio-demographic information and questions about everyday hygiene, water treatment and sanitation practices related information. With your permission, they will inspect your sanitation facilities as well. The representative will also ask child specific questions regarding vaccination status, child development and weigh and measure the child if they are present or after they are born. They will also ask mothers or caregivers about their infant feeding practices, and whether the infant has been sick. This will be done 3 times during the two year study period; once at the beginning, at one year and two year of the study period. We want to evaluate our interventions and its effects on your child through the collected information.

Risks & Benefits

There are no major risks involved in this study. Soapy water does not have any harmful side effects. There is no direct monetary compensation benefit for participating in this study. You and your family might experience a health benefits from the different interventions we would deliver. Households will benefit by receiving free sanitation, handwashing, water quality improvements and nutrition supplements provided by the study.

The Lipid-based Nutrient Supplement (LNS) that will be used in this study has been tested in Bangladesh and in studies in Africa, and no adverse health effects were reported. We do not expect any adverse reactions related to this product in this trial either. However, should your child have any adverse reactions shortly after ingesting the supplement (such as vomiting, stomach pain, rash, breathing problems with wheezing), we recommend that you stop using the supplement and notify one of the study staff immediately.

Privacy, anonymity and confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country.

Confidentiality of the data and test results will be strictly maintained. All the recorded in-depth interview data will be kept confidential and the digitally recorded data will be erased after the completion of data analysis. We will use the information only for the purpose of the study, and we will not use your name in sharing and publishing the results of this study.

Future use of information

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to answer any or all of the questions that will be asked about your household or your hygiene or water related behavior. You can drop out of this study at any time, even in the middle of an interview or group discussion. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any questions, you can ask me any time. If you have additional questions about the survey, you may contact:

Sania Ashraf, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent to enroll into the study: YES\_\_\_\_\_\_ NO\_\_\_\_\_\_

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1i: English consent for parasitic assessment of children (target child, children aged18-27months at baseline or 5-12 years at endline) in the same compound

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s Name: Dr. Leanne Unicomb

Purpose of the research

Hello/Assalamualaikum/Namaste. My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are conducting research on diarrheal diseases and through this particular study we want to learn about the health impact of diarrheal diseases in children. We are interested in learning if the exposure of a child to diarrheal disease has long term effects.We are conducting this research with scientists at the University of California, Berkeley in the United States.

Why are we inviting you to participate in the study?

We are interested in enrolling your child because s/heis under the age of 12 years. Diarrhea is common among children in this age group. We are interested to know the risk of parasites for children in this bari. Therefore, we hope you will allow your child to participate into this study upon learning more details of participation.

What is expected from the participants of the research study?

Participation in this study will only span a few hours. To achieve the aim of the project we will collect a blood and a stool samplefrom your child. Both the samples will help us understand whether your child has been exposed to parasites diarrhea by conducting laboratory tests.

If you agree to participate, a field research person will visit your household twice for this purposeto collect a stool sample and a blood prick from your child. On the day before the collection a field member will deliver a stool collection kit and instruct you how to collect stool from your child. You will be instructed to collect your child’s stool on the following morning, if your child defecates before their arrival, by having your child defecate on a sheet of provided plastic and use a plastic scoop to collect a small amount of fresh stool from the top of the pile into a container. The field person will collect this container when they come to collect the other specimens.We will examine whether your child has any worm infections, but this analysis will be done in Dhaka, and we will not be able to share the results with you. We will offer all members of your compounddeworming medication regardless of the stool sample result.

The blood sample will be collected through a finger prick. Your child will experience a momentary pinch andapproximately seven drops of blood will be collected by our trained field staff.One drop of blood will be used to test your child for anemia, a condition of lower than normal red blood cells. The field member can provide you with the results of this test during their visit.

In addition, if you are enrolled in the sanitation or control arms of the study, we will collect one soil sample from your householdentrance to look for worm eggs.

Risks & Benefits

Although we will try to protect your identity there is some possibility that confidentiality could be compromised.The blood drops will be collected by a trained professional. Your child may feel some momentary pain during the blood collection. There is no direct benefit for participating in this study, but your child’s participation will help us to gain knowledge on diarrheal disease in children.

Confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country.

Confidentiality of the data and test results will be strictly maintained. We will use the information only for the purpose of the study, and we will not use your name in sharing and publishing the results of this study.

Future use of information

The blood and stool samples may be stored until the end of the study, so they can be analyzed in the lab. If you agree, the information, along with some of the blood and stool collected will be stored for a long time after the study ends. This is because new laboratory techniques will become available in the future to help us better understand how diarrheal diseases affect children’s health. The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You have the right to decline to allow your child to participate or to withdraw your child at any point in this study without penalty or loss of benefits to which you are otherwise entitled. You may choose not to answer any or all of the questions that will be asked. You can drop out of this study at any time, even in the middle of an interview. You have the right to refuse to take part in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any questions, you can ask me any time. If you have additional questions about the survey, you may contact:

Masud Parvez, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the research, you may contact or meet IRB Secretariat, M. A. Salam Khan:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to participatein our studyand to allow your child to participate in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

I consent to storing my child’s blood and stool samples long term [ ]

Thank you for your cooperation

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature or left thumb impression of Guardian Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1i-2: English assent for parasitic assessment of children aged 7-12 years at endline in the same compound

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s Name: Dr. Leanne Unicomb

Hello/Assalamualaikum/Namaste. My name is *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,* and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are conducting research on health and worm infections. We are conducting this research with scientists at the University of California, Berkeley in the United States. You are being invited to participate in this study because your bari is already participating in the study.

**What is a research study?**

A research study is when people like me collect a lot of information about a certain thing to find out more about it.

This letter tells you about the study so you can decide if you want to be in it. Before you decide, you can talk about it with your parents or anyone else you like. If you have any questions about the research, just ask me.

**Why are we doing this study?**

The purpose of this study is to learn how certain hygiene, sanitation, and nutrition behaviors and practices affect health and worm infections in children.Worm infections are common in rural Bangladesh, especially in children.

**Why are we talking to you about this study?**

We are inviting thousands of other children your age in Bangladesh to participate in this study. We're inviting you to be in the study because your bari is already participating in the study.

**What will happen if you are in this study?**

If you agree to be in this study and your parents say it's okay, we may ask you to:

* Let us take a blood sample from your finger.

We will also ask you to let us prick your finger to collect blood. You will experience a momentary pinch and seven drops of blood will be collected through our trained field staff. We will collect seven drops of blood to test for infections. Thispart will take about 10 minutes.

If you don't want to give a blood sample, you don't have to.

* Collect a poop sample.

We will give you a kit to collect stool with today and we will come back tomorrow. We will ask you to poop on a sheet of plastic and use a plastic scoop to collect a small amount of fresh poop from the top of the pile into a container. Your parents can help you if needed. The field person will collect this container when they return. This part will take about 10 minutes.

If you don't want to give a poop sample, you don't have to.

* Offer you deworming medication.

We will offer you deworming medication. This part will take about 5 minutes

If you don't want to take deworming medication, you don't have to.

Total time: Altogether, the whole study will take about 25 minutes of your time.

Study place: We will collect these samples at your bari.

**Will you get healthier if you are in the study?**

We will offer you deworming medication in this study. If you have certain worm infections, the medication may help make you feel better by treating your infection.

**Will any part of the study be uncomfortable or hurt?**

* Blood drawing: Getting yourfinger pricked canhurt for a few seconds from the needle stick going in, like when you get a shot at the doctor's office. Afterwards, you might get a little bruise. Sometimes an infection can develop there, but that hardly ever happens.
* Deworming medication: The medication also may make you feel sick for a short time.There is a very small chance that you will have stomach pain, diarrhea, nausea, vomiting, dizziness, itchiness or skin rash.

**Will you get paid for being in the study?**

You will not be paid for being in this study.

**Do you have to be in the study?**

No, you don't! Research is something you do only if you want to. Nothing bad will happen if you don't want to be in the study. Just tell us. And remember, you can always change your mind later if you don't want to be in the study any more.

**Do you have any questions?**

You can ask questions about this study at any time, now or later. You can talk to me, or your parents, or someone else if you like.

You can contact MasudParvez: phone: 01817541872, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**ASSENT OF CHILD(7-12 years old)**

If you decide to participate, and your parents agree, we will give you a copy of this form to keep. That way you can look at it later if you want to.

***Do you agree to be in this research study?***

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Child's Name/Signature (*printed or written by child*)\* Date

*or by field worker if child cannot write*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature of Investigator/Person Obtaining Assent Date

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\**If verbal assent only is being obtained:*

Investigator or Person Conducting Assent Discussion: Initial here if child cannot sign, to document that child received this information and gave assent verbally: \_\_\_\_\_\_

Appendix 1j: English consent form for environmental enteropathy and parasitic assessment

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

Purpose of the research

Hello/Assalamualaikum/Namaste. My name is \_\_\_\_\_\_\_\_ andI work with the ICDDR,B (Cholera Hospital) in Dhaka. We are conducting research on diarrheal diseases and through this particular study we want to learn about the health impact of diarrheal diseases in children. Malnutrition in children is associated with infections of our intestines that can change our use of nutrients. It is possible that genes in our body, made up of DNA, make some children more susceptible to malnutrition than others. This DNA is inherited from our parents and we also carry genes from many friendly microbes that live on and in our body. We are interested in learning if the exposure of a child to diarrheal disease has long term effects.We also are interested in learning how certain foods, nutrition, or life experiences in general may interact with diarrhea or other illnesses.

Why are we inviting you to participate in the study?

We are interested in enrolling this compound because we collected information on your household earlier and we are interested in conducting additional testing to evaluate your child’s digestive tract.We are interested in evaluating your child’s blood, stool, saliva, hair and urine for markers of nutritional status, infections and health. We are also interested in evaluating your saliva, hair, blood, and urine for markers of infections, stress and health.

What is expected from the participants of the research study?

Participation in this study will only span a few hours. To achieve the aim of the project, if you agree to be in this study, we will collect a blood, stool, and urine sample from your child. With your permission, we might also collect 5 saliva samples and 3-4 strands of hair from your child and a urine sample, a blood sample, 4 saliva samples, and 3-4 strands of hair from you. From the blood sample, we will measure nutritional markers, indicators of factors children inherit from their parents, and we will be able to understand whether your child has been exposed to infection.The urine sample will help us understand whether there has been a long term physical effect as a result of diarrhea. We will also collect a stool sample from your child with your help.

If you agree to participate, a field research person will visit your household twice for this purpose. Today, a field member will weigh the child using a scale, measure his/her height using a height board, measure armand head circumference using a tape measureand collect general health measures of blood pressure, sweat, and heart rate. The blood pressure and heart rate results from your child will be provided to you after the testing. The field representative will also collect general health measures of blood pressure, sweat, and heart rate. Your blood pressure and heart rate results will be provided to you after the testing. The field representative will also cut and collect 3-4 strands of hair from you and your child.With your permission, we will collect a small amount of blood (equivalent to 1.5teaspoons) from a vein in your child’s arm to determine their blood group and genes (DNA) and test for infections that they may have had in the past, and measure their nutritional status.One dropof blood will be used to test your child for anemia, a condition of lower than normal red blood cells. The field member can provide you with the results of this test during their visit. We will record how your child responds to these procedures. If you agree, we would like to videotape your child during the blood-draw. We will use this information to better understand how these procedures affect child behavior. We will also ask you about how your child reacts to new situations, and what helps your child feel comfortable in new situations, which will take 10-15 minutes. This will help us understand your child’s reaction to the different procedures we are administering for this project. We might also collect a small amount (10ml) of blood from your vein. We might also collect 3 saliva samples each from both you and your child before, during, and after the blood draw using a soft sponge placed under the tongue.The field member will deliver a stool collection kit and instruct you how to collect stool from your child. You will be instructed to collect your child’s stool on the following morning, if the child defecates before their arrival, by having your child defecate in a clean diaper and use a plastic scoop to collect a small amount of fresh stool from the top of the pile into a container. The field person will collect this container when they come to collect the other specimens on the following day.Total participation time today will be approximately 3 hours and 15 minutes.

Tomorrow, we will ask you to collect your first urine sample of the morning immediately after you wake up. The main procedure will involve saliva collection, collecting your child’s urine for 1 hour,feeding your child sugar syrup and then collecting their urine sample over a period of 5 hours. We intend to test the urine for the syrup to help us understand the health impacts of diarrhea in children. For a urine sample,due to the age of your child, we will be using a special urine collection bag to collect the urine from your child and we will demonstrate how it is used. You/the mother will be requested to not feed your child for at least onehour before we feed him/her the syrup. During this fasting period, we will collect your child’s urine for 1 hour by attaching the urine collection bag with a drainage tube (show sample) to the child. We will also collect two additional saliva samples from your child and one additional saliva sample from you using a soft sponge. We will then give a dose of the sugar syrup to the child and attach the urine collection bag with a drainage tube (show sample) to the child immediately after feeding him/her the syrup. We will encourage the child to drink water 30 minutes after taking the syrup to help urination. The field representative will remove the urine from the bag, whenever the child urinates. This collection will take place for 6 hours after which the bag will be removed from the child. During the 6-hour period of urine collection, you will be asked the quantities of foods (and the ingredients) you fed the child in the previous day and night. You will also be asked about your personal life experiences and health. You will be asked about perceptions regarding social norms that may affect a child’s health. From the stool sample, we will examine whether your child has any worm infections, but this analysis will be done in Dhaka. We will offer your child deworming medication regardless of the stool sample result.Total participation time tomorrow will be approximately 7 hours.

Later, at the laboratory, we will measure your blood, saliva, hair, and urine samples and your child’s blood, stool, saliva, hair, and urine samples for markers of nutritional status, infections, and health. You will not receive the results of any laboratory tests.

**Study time**: Study participation will take a total of approximately *10 hours and 15 minutesover 2 days.*

Risks & Benefits

Although we will try to protect your identity there is some possibility that confidentiality could be compromised.The syrup is a natural sugar solution that tastes pleasant. The blood drops will be collected by a trained professional. You and your child may feel some momentary pain during the blood collection. Your child may also feel some discomfort due to the presence of urine collection bag for 6 hours. Some of the questions I would like to ask you may seem private or personal since they touch on your life and health. You may feel uncomfortable talking about some of the topics. You do not have to answer any question or take part in the discussion/interview/survey if you don't wish to do so, and that is also fine. You do not have to give us any reason for not responding to any question, or for refusing to take part in the interview. All your answers will be kept as confidential as possible, and we anticipate that the risks from participating in this survey will be very minimal. There is no direct benefit for participating in this study, but your child’s participation will help us to gain knowledge on the health impact of diarrheal diseases and how certain foods, nutrition, and life experiences in general may interact with diarrhea or other illnesses.

Confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country. The samples and the test results will be coded without your nameor your child’s name or personal information, and stored separately for analysis by the researchers. None of these researchers will be able to identify you or your child as the sample donors. Other persons who may have access to your test results include research groups that oversee the safety of the study including institutes such as the University of California Berkeley and the Bill and Melinda Gates Foundation, USA. Because of the potential need to release information to these parties, and the genetic information we are collecting is potentially identifying, we cannot guarantee absolute confidentiality. However, we will ensure every effort that we can to preserve your confidentiality. There is no expiration date to this permission. This information will be coded and it is unlikely that anyone will be able to trace it to you and your child, protecting your confidentiality.

All videotapes will be identified by a number only; no recordings will identify you or your child by name. These will be viewed only by trained personnel for coding of your child’s response to the procedure. The videos will not be viewed by any other person. The videos will be stored in a locked cabinet accessible by study personnel only. These will never be made available to any persons not participating in the study.

Future use of information

The blood, urine, saliva, hair,and stool samples may be stored until the end of the study, so they can be analyzed in the lab at the same time. If you agree, the information, along with some of the blood, urine, saliva,hair and stool collected will be stored at ICDDR,B for up to 20 years so that we can conduct advanced tests on these samples to understand the infections that you may have had, and to find out what microbes lived in your body. No further consent will be taken from you, and you will not receive the results of these tests. A senior scientist at ICDDR,B will decide who can use the stored samples, and what tests will be done. If you change your mind about having your specimen saved for further testing, you may contact us and the sample will be discarded and not saved.The videotapes will be stored indefinitely.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to allow your child to participate in this study. You can drop out of this study at any time, even in the middle of the sample/urine collection. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any questions, you can ask me any time. If you have additional questions about the survey, you may contact:

Masud Parvez: phone: 01817541872., ICDDR,B, Mohakhali, Dhaka 1212.

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet IRB Secretariat,M. A. Salam Khan:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to participate and you allow your child to participate, please indicate that by checking the boxes of the activities that you will agree to below:

**Urine Collection |\_\_| mother |\_\_| child**

**Venous Blood Collection |\_\_| mother |\_\_| child**

**Stool Collection |\_\_| child**

**Saliva sample collection |\_\_| mother |\_\_| child**

**Hair sample collection |\_\_| mother |\_\_| child**

Opt-out

**Urine Long-term storage |\_\_| mother |\_\_| child**

**Venous Blood Long-term storage |\_\_| mother |\_\_| child**

**Stool Long-term storage |\_\_| child**

**Saliva sample Long-term storage |\_\_| mother |\_\_| child**

**Hair sample Long-term storage |\_\_| mother |\_\_| child**

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1k-1: English consent form for environmental assessment (drinking water, hand rinse, sentinel toy, food sampling and fly density measurements)

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

Purpose of the research

Hello (Assalamualaikum/Namaste). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are doing research on diarrheal diseases in children. Through this research we want to learn how certain conditions in sanitation, water quality and hygiene practices impact health.We are conducting this research in collaboration with scientists at University of California, Berkeley in the United States.

Why are we inviting you to participate in the study?

We are seeking households that have a child less than 3 years old and have already taken part in other activities from this study. We would like to tell you more detail about this study and hope you and your child will volunteer to participate.

**What is expected from the participants of the research study?**

If you decide to take part in the study, during two visits we will conduct some specific activities. In the first visit, which we would like to do today, we will ask you questions about your home and compound, and some practices in your home. We will also give your children one toy ball and set up fly traps in the latrine and kitchen areas of your compound. We will also wash your young child’s hands in clean water and keep the water used to wash the hands. We will also take a very small amount of stored food that young children in your household will eat.Finally, we will ask you to give us a glass of water that you would give to your children to drink. We will take a small amount of the water that you give us.

We will return tomorrow for a second visit, wash the balls in water, keep the water used to wash the toy. Your child may choose to play with the ball or not; this is up to him or her. During this second visit, we will count the flies caught at the fly trap in the latrine and kitchen areas of your compound. We will also ask you a few short questions. Each visit will be less than 1 hour.

**Risks & Benefits**

There are no major risks involved in this study. Your children will receive 2 toy balls as a gift. You will not directly benefit from participating in this study but this participation will enable us to gain knowledge regarding fecal contamination in association with diarrhea.

**Privacy, anonymity and confidentiality**

We will do everything we can keep what you tell us confidential as allowed by the law of this country. We will not use your real name when we write out the data. All the information we collect will be kept locked. We will use the information only for the purpose of the study. We will not use your name when we share and publish the results of this study. We expect the steps we take will keep all of your information confidential, but it is possible that because of mistakes or unforeseen events, it could become compromised.

**Future use of information**

If it is necessary, we may share the information we collected from this study with other researchers. If this is done, we will not use your real name and we will maintain your confidentiality. We will store the information we collect from you for a long time after the end of the study.

**Right not to participate and withdraw**

Taking part in the study is completely voluntary. You may choose not to answer any or all of the questions that will ask. You can drop out of this study at any time, even in the middle of an interview. You have the right to refuse to take part in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

**Principle of compensation**

You do not need to pay us to take part in this study, and we will not pay you money for taking part in the study.

**Persons to contact:**

If you have any questions, you can ask me any time. If you have additional questions about the survey, you may contact: Masud Parvez: phone: 01817541872,Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212.

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of this study, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to participatein our studyand for your children to participate in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1k-2: English consent form for environmental assessment (drinking water and foodmeasurements in water arm)

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

Purpose of the research

Hello (Assalamualaikum/Namaste). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are doing research on diarrheal diseases in children. Through this research we want to learn how certain conditions in sanitation, water quality and hygiene practices impact health.We are conducting this research in collaboration with scientists at University of California, Berkeley in the United States.

Why are we inviting you to participate in the study?

We are seeking households that have a child less than 3 years old and have already taken part in other activities from this study. We would like to tell you more detail about this study and hope you and your child will volunteer to participate.

**What is expected from the participants of the research study?**

If you decide to take part in the study, we will conduct some specific activities. During our visit, which we would like to do today, we will ask you questions about your home and compound, and some practices in your home. We will also take a very small amount of stored food that young children in your household will eat.Finally, we will ask you to give us a glass of water that you would give to your children to drink. We will take a small amount of the water that you give us. The visit will be less than 1 hour.

**Risks & Benefits**

There are minimal risks involved in this study. There is a slight risk of breach of confidentiality, but we will do our best to minimize this risk. You will not directly benefit from participating in this study but this participation will enable us to gain knowledge regarding fecal contamination in association with diarrhea.

**Privacy, anonymity and confidentiality**

All data and specimens collected will be kept confidential to the greatest extent possible.. Researchers at ICDDR,B will have access to some of your personal information that could identify you, such as your name and your phone number. They will remove the identifiable information before sharing it with researchers at partner institutions, such as UC Berkeley. Your research records will be kept in a locked cabinet, and computer-based data, will be stored in an encrypted format on a password-protected server.

Other persons who may have access to your information include research groups that oversee the safety of the study including institutes such as the University of California Berkeley and the Bill and Melinda Gates Foundation, USA. None of the researchers outside of ICDDR,B will be able to identify you or your child from information you provide.We will use the information only for the purpose of the study. We will not use your name when we share and publish the results of this study. We expect the steps we take will keep all of your information confidential, but it is possible that because of mistakes or unforeseen events, it could become compromised.

**Future use of information**

If it is necessary, we may share the information we collected from this study with other researchers. If this is done, we will not use your real name and we will maintain your confidentiality. We will store the information we collect from you for a long time after the end of the study.

**Right not to participate and withdraw**

Taking part in the study is completely voluntary. You have the right to decline to allow your child to participate or to withdraw your child at any point in this study without penalty or loss of benefits to which you are otherwise entitled. You may choose not to answer any or all of the questions that will ask. You can drop out of this study at any time, even in the middle of an interview. You have the right to refuse to take part in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

**Principle of compensation**

You do not need to pay us to take part in this study, and we will not pay you money for taking part in the study.

**Persons to contact:**

If you have any questions, you can ask me any time. If you have additional questions about the survey, you may contact: Masud Parvez: phone: 01817541872,Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212.

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of this study, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to participate in our studyand for your children to participate in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1k-3: English consent form for environmental assessment (hand rinse and foodmeasurements in hygiene arm)

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

Purpose of the research

Hello (Assalamualaikum/Namaste). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are doing research on diarrheal diseases in children. Through this research we want to learn how certain conditions in sanitation, water quality and hygiene practices impact health.We are conducting this research in collaboration with scientists at University of California, Berkeley in the United States.

Why are we inviting you to participate in the study?

We are seeking households that have a child less than 3 years old and have already taken part in other activities from this study. We would like to tell you more detail about this study and hope you and your child will volunteer to participate.

**What is expected from the participants of the research study?**

If you decide to take part in the study, we will conduct some specific activities. During our visit, which we would like to do today, we will ask you questions about your home and compound, and some practices in your home. We will also take a very small amount of stored food that young children in your household will eat.We will also wash your young child’s hands in clean water and keep the water used to wash the hands. The visit will be less than 1 hour.

**Risks & Benefits**

There are minimal risks involved in this study. There is a slight risk of breach of confidentiality, but we will do our best to minimize this risk. You will not directly benefit from participating in this study but this participation will enable us to gain knowledge regarding fecal contamination in association with diarrhea.

**Privacy, anonymity and confidentiality**

All data and specimens collected will be kept confidential to the greatest extent possible. . Researchers at ICDDR,B will have access to some of your personal information that could identify you, such as your name and your phone number. They will remove the identifiable information before sharing it with researchers at partner institutions, such as UC Berkeley. Your research records will be kept in a locked cabinet, and computer-based data, will be stored in an encrypted format on a password-protected server.

Other persons who may have access to your information include research groups that oversee the safety of the study including institutes such as the University of California Berkeley and the Bill and Melinda Gates Foundation, USA. None of the researchers outside of ICDDR,B will be able to identify you or your child from information you provide.We will use the information only for the purpose of the study. We will not use your name when we share and publish the results of this study. We expect the steps we take will keep all of your information confidential, but it is possible that because of mistakes or unforeseen events, it could become compromised.

**Future use of information**

If it is necessary, we may share the information we collected from this study with other researchers. If this is done, we will not use your real name and we will maintain your confidentiality. We will store the information we collect from you for a long time after the end of the study.

**Right not to participate and withdraw**

Taking part in the study is completely voluntary. You have the right to decline to allow your child to participate or to withdraw your child at any point in this study without penalty or loss of benefits to which you are otherwise entitled. You may choose not to answer any or all of the questions that will ask. You can drop out of this study at any time, even in the middle of an interview. You have the right to refuse to take part in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

**Principle of compensation**

You do not need to pay us to take part in this study, and we will not pay you money for taking part in the study.

**Persons to contact:**

If you have any questions, you can ask me any time. If you have additional questions about the survey, you may contact: Masud Parvez: phone: 01817541872,Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212.

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of this study, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to participate in our study and for your children to participate in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1L: English consent form for 5-hour structured observation

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on diarrheal diseases in children to learn how it affects their physical and mental development. Through this research we want to learn about the direct health benefits of some simple interventions to improve the health of children under three.

Why are we inviting you to participate in the study?

Because you are expecting to deliver a baby in the next 8 months/you have a child under 3 years, and we are interested in evaluating child development early in life, we would like to invite you to participate in this study.

What is expected from the participants of the research study?

If you agree to take part, I will find a place to sit in your home or courtyard so that I will not be in your way. I will observe hygiene related activities in your home and take some notes. I may look around the courtyard to observe some of these practices and may ask you some questions in the end. I will be here for a total of about five hours.

Risks & Benefits

There is no cost to you for participation in this research. You will not receive any compensation for being in the study. We will only collect information related to health and hygiene. The process of having someone in your home for a longer time may be uncomfortable to you. However, we do not expect any harm to come to you or your family because of being observed.

Privacy, anonymity and confidentiality

We will secure all information collected from you in a locked cabinet, and none other than designated staff of this research study will have access to that information. We would, however, like to inform you that disclosure of your information is subject to the laws of Bangladesh. Your name and identity will not be used in reporting and presenting study findings.

Right not to participate and withdraw

You are free to decide whether or not to take part in the study. If you decide against participating in the study, and also if you withdraw your consent at any time after participation, you and your family will continue to receive the same benefits that you have otherwise been eligible for.

Persons to contact:

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Dr. Abu Naser, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

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Name of study representative Signature of Investigator Date:

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Name of study participant Signature/thumb impression of participant Date:

Appendix 1m: English consent form for maternal sample collection

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Stephen Luby

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on diarrheal diseases in children to learn how it affects their physical and mental development. Through this research we want to learn about the direct health benefits of some simple interventions to improve the sanitation, water quality, hygiene practices or nutritional status for children under three. Malnutrition in children is associated with infections of our intestines that can change our use of nutrients. It is possible that genes in our body, made up of DNA, make some children more susceptible to malnutrition than others. These DNA is inherited from our parents and we also carry genes from many friendly microbes that live on and in our body. We want to understand whether child health and development is more when these interventions are provided separately or together so that we can make recommendations for cost effective interventions in the future. These 2 years of a child’s life is important for the child’s physical and mental development.

Why are we inviting you to participate in the study?

Because you are expecting to deliver a baby in the next 8 months and we are interested in evaluating child development early in life, we would like to invite you to participate in this study.

What is expected from the participants of the research study?

As part of the study, if your household decides to enroll in it, we will want to collect a small amount of blood (equivalent to two teaspoon) to determine your blood group and genes (DNA) and test for infections that you may have had in the past. We will also collect a stool and urine sample with your cooperation. We will test for parasites from the stool sample and try to understand nutritional status from the urine sample. This sample collection will only be done once at the beginning of the study.You will not receive the results of any tests. Your decision to participate in this part of the study is optional and will not affect your child’s participation.

Risks & Benefits

The small amount of blood, stool or urine we will collect from you for this study will be collected through trained professionals and will not be dangerous to you. You may experience some discomfort during sample collection.

Privacy, anonymity and confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country. The samples and the test results will be coded without your name or personal information, and stored separately for analysis by the researchers. None of these researchers will be able to identify you or your child as the sample donors. Other persons who may have access to your test results include research groups that oversee the safety of the study including institutes such as the University of California Berkeley and the Bill and Melinda Gates Foundation, USA. Because of the potential need to release information to these parties, and the genetic information we are collecting is potentially identifying, we cannot guarantee absolute confidentiality. However, we will ensure every effort that we can to preserve your confidentiality. There is no expiration date to this permission. This information will be coded and it is unlikely that anyone will be able to trace it to you and your child, protecting your privacy.

Future use of information

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy. In the future, we may wish to perform additional tests on the blood and stool specimens that already collected. The samples will be stored at ICDDR,B. for upto 20 years so that we can conduct advanced tests on these samples to understand the infections that you may have had, and to find out what microbes lived in your body. No further consent will be taken from you, and you will not receive the results of these tests. A senior scientist at icddrb will decide who can use the stored samples, and what tests will be done. If you change your mind about having your specimen saved for further testing, you may contact us and the sample will be discarded and not saved.

Right not to participate and withdraw

Taking part in the study is completely voluntary. We will withdraw your permission and if you wish, we will destroy your samples and those of your child and remove data from the database. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Sania Ashraf, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone:

8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent of the mother for sample collection: YES\_\_\_\_\_\_\_ NO \_\_\_\_\_\_

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Signature or left thumb impression of Participant Date

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Signature of the PI or his/her representative Date

Appendix 1n: English consent form for household in-depth lead exposure interview

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on exposures that people in this area have to lead. Sometimes lead exposure can cause illness so we want to understand them better.

Why are we inviting you to participate in the study?

Because a sample of blood collected from you had an elevated level of lead. We are interested in exploring how you and your family might be exposed.

What is expected from the participants of the research study?

If your household decides to enroll in we will ask you a series of questions. We will ask also questions of the person who does most of the farming. We will want to look at your home and the fields your family works in. As it is very difficult to write all the conversation in a note pad, so, if you agree, we would like to record this sessions in a tape recorder. We would also like to take some notes from this session. This session will last about an hour. We would like to return to ask additional questions sometime in the future. Your decision to participate in this part of the study is optional and will not affect your household participation in WASH Benefits.

Risks & Benefits

We do not forsee any risk to the study. If we identify a source of lead, we will make recommendations on how to limit your family’s exposure.

Privacy, anonymity and confidentiality

All data collected will be kept confidential as allowed by the law of this country. Other persons who may have access to your test results include research groups that oversee the safety of the study including institutes such as the University of California Berkeley and the Bill and Melinda Gates Foundation, USA. Because of the potential need to release information to these parties, we cannot guarantee absolute confidentiality. However, we will ensure every effort that we can to preserve your confidentiality. There is no expiration date to this permission. This information will be coded and it is unlikely that anyone will be able to trace it to you and your child, protecting your privacy.

Future use of information

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy.

Right not to participate and withdraw

Taking part in the study is completely voluntary. We will withdraw your permission and if you wish, we will destroy your soil and rice samples. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Dr. Mahbubur Rahman, Centre of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent of the mother for sample collection: YES\_\_\_\_\_\_\_ NO \_\_\_\_\_\_

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Signature or left thumb impression of Participant Date

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Signature of the PI or his/her representative Date

Appendix 1o: English consent form for agrochemical in-depth interview

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on exposures that people in this area have to lead. Sometimes lead exposure can cause illness so we want to understand them better.

Why are we inviting you to participate in the study?

Sometimes chemicals used in agriculture contain lead. We want to understand what chemicals the farmers in this area purchase.

What is expected from the participants of the research study?

If you decide to enroll in we will ask you a series of questions. We will want to look at your shop. We may want to come and and talk again. As it is very difficult to write all the conversation in a note pad, so, if you agree, we would like to record this sessions in a tape recorder. We would also like to take some notes from this session. This session will last about an hour. We would like to return to ask additional questions sometime in the future.

Risks & Benefits

We do not forsee any risk to the study. If we identify a source of lead, we will inform the government and this may affect which chemicals are allowed to be sold.

Privacy, anonymity and confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country. None of these researchers will be able to identify you. Other persons who may have access to you’re your responses and the audio recodings include research groups that oversee the safety of the study including institutes such as the University of California Berkeley and the Bill and Melinda Gates Foundation, USA. Because of the potential need to release information to these parties, we cannot guarantee absolute confidentiality. However, we will ensure every effort that we can to preserve your confidentiality. There is no expiration date to this permission. This information will be coded and it is unlikely that anyone will be able to trace it to you protecting your privacy.

Future use of information

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy.

Right not to participate and withdraw

Taking part in the study is completely voluntary. We will withdraw your permission and if you wish, we will destroy your soil and rice samples. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Dr. Mahbubur Rahman, Centre of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent of the mother for sample collection: YES\_\_\_\_\_\_\_ NO \_\_\_\_\_\_

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Signature or left thumb impression of Participant Date

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Signature of the PI or his/her representative Date

Appendix 1p: English consent form for lead case-control study

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

Purpose of the research

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on exposures that people in this area have to lead. Sometimes lead exposure can cause illness so we want to understand them better.

Why are we inviting you to participate in the study?

Some chemicals and metals can affect health and child development. We are interested in exploring how you and your family might be exposed to chemicals or metals in the environment.

What is expected from the participants of the research study?

If your household decides to enroll in we will ask you a series of questions. We will ask also questions of the person who does most of the farming. We will want to look at your home and the fields your family works in. We would like to collect a sample of soil from the field and a sample of uncooked rice that you cooked in the field. This session will last about an hour. We would like to return to ask additional questions sometime in the future. Your decision to participate in this part of the study is optional and will not affect your household participation in WASH Benefits.

Risks & Benefits

We do not forsee any risk to the study. If our study identifies a dangerous exposure in your environment, we will make recommendations on how to limit your family’s exposure.

Privacy, anonymity and confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country. The soil and rice samples and the test results will be coded without your name or personal information, and stored separately for analysis by the researchers. None of these researchers will be able to identify you or your family as the sample donors. Other persons who may have access to your test results include research groups that oversee the safety of the study including institutes such as the University of California Berkeley and the Bill and Melinda Gates Foundation, USA. Because of the potential need to release information to these parties, we cannot guarantee absolute confidentiality. However, we will ensure every effort that we can to preserve your confidentiality. There is no expiration date to this permission. This information will be coded and it is unlikely that anyone will be able to trace it to you and your child, protecting your privacy.

Future use of information

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy.

Right not to participate and withdraw

Taking part in the study is completely voluntary. We will withdraw your permission and if you wish, we will destroy your soil and rice samples. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Dr. Mahbubur Rahman, Centre of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent of the mother for sample collection: YES\_\_\_\_\_\_\_ NO \_\_\_\_\_\_

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Signature or left thumb impression of Participant Date

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Signature of the PI or his/her representative Date

Appendix 1q: English consent form for in-depth environmental assessment

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr.Stephen P. Luby

Purpose of the research

Hello (Assalamualaikum/Namaste). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are conducting a research on diarrheal diseases in childrento learn how certain conditions in sanitation, water quality and hygiene practices impact health.

Why are we inviting you to participate in the study?

We are seeking households that are already taking part in other activities from this existing study. We would like to tell you more detail about this study and hope you and your child will volunteer to participate in this study. Additionally, there was pregnant women and a young child in your household and we are interested to talk about their health..

What is expected from the participants of the research study?

If you decide to take part in the study, during two visits we will conduct some specific activities. In the first visit, which we would like to do today, we will ask you several questions about your home and compound, your child’s health and observe your home. We will also collect some samples from your compound environment, including a water sample from your drinking water source, some water from your stored drinking water, some soil from the area where your children play and some prepared food you have in your home. We will also rinse your child’s hands in clean water and collect the rinsed water. Finally we will capture some flies in your compound. We will take all of these samples back to our field lab to analyse them for bacterial contamination. These samples will help us understand what makes your children become sick by conducting laboratory tests. We will also take a look at your compound with your permission to observe your water, latrine and handwashing facilities. We will also ask you about your children’s health. After initial visit we will return in about 7 to 10 days to look at your water, latrine and handwashing facilities again and ask you again about your child’s health. Each visit will be less than 1 hour.

Risks & Benefits

There are no major risks involved in this study. There is no monetary compensation for taking part in this study but this participation will enable us to gain knowledge regarding fecal contamination in association with diarrhea.

Privacy, anonymity and confidentiality

We will do everything we can keep what you tell us confidential as allowed by the law of this country. We will not use your real name when we write out the data. All the information we collect will be kept locked. We will use the information only for the purpose of the study. We will not use your name when we share and publish the results of this study. We expect the steps we take will keep all of your information confidential, but it is possible that because of mistakes or unforeseen events, it could become compromised.

Future use of information

If it is necessary, we may share the information we collected from this study with other researchers. If this is done, we will not use your real name and we will maintain your confidentiality.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to answer any or all of the questions that will ask. You can drop out of this study at any time, even in the middle of an interview. You have the right to refuse to take part in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You do not need to pay us to take part in this study, and we will not pay you money for taking part in the study.

Persons to contact:

If you have any questions, you can ask me any time. If you have additional questions about the survey, you may contact: Sarker Masud Parvez phone: 01817541872, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212.

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of this study, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1r: English consent form for structured observations with video recording

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr.Stephen P. Luby

Purpose of the research

Hello (Assalamualaikum/Namaste). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are doing research on diarrheal diseases in children. Through this research we want to learn how certain conditions in sanitation, water quality and hygiene practices impact health.

Why are we inviting you to participate in the study?

We are seeking households that are already taking part in other activities from this study. We would like to tell you more detail about this study and hope you and your child will volunteer to participate. Your are living in a rural social and natural environment from where we would like to learn something more. Additionally, there was pregnant women and a young child in your household and we are interested to talk about their health.

What is expected from the participants of the research study?

If you agree to take part, I will find a place to sit in your home or courtyard so that I will not be in your way. I will observe activities in your home and the daily activities of your child and take some notes. I may look around the courtyard and may ask you some questions in the end. I will also take a video of you and your child during your daily activities. I will be here for a total of about five hours.

Risks & Benefits

There are no major risks involved in this study. There is no monetary compensation for taking part in this study.

Privacy, anonymity and confidentiality

We will do everything we can keep what you tell us confidential as allowed by the law of this country. We will not use your real name when we write out the data. All the information we collect will be kept locked. We will use the information only for the purpose of the study. We will not use your name when we share and publish the results of this study. We expect the steps we take will keep all of your information confidential, but it is possible that because of mistakes or unforeseen events, it could become compromised.Footage from the cameras will not be publicly shared, nor will participants be identifiable in any published works. The recorded footage will be stored securely until data analysis is complete, and will then be erased.

Future use of information

If it is necessary, we may share the information we collected from this study with other researchers. If this is done, we will not use your real name and we will maintain your confidentiality.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to answer any or all of the questions that will ask. You can drop out of this study at any time, even in the middle of an interview. You have the right to refuse to take part in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You do not need to pay us to take part in this study, and we will not pay you money for taking part in the study.

Persons to contact:

If you have any questions, you can ask me any time. If you have additional questions about the survey, you may contact: Muhammad FaruqeHussain: phone: 01711437326 from the Water Sanitation and Hygiene Research Group, Centre for Communicable Diseases (CCD), icddr,b Mohakhali, Dhaka 1212.

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of this study, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Separate consent to photography and video taping

During the study we would also like to take photographs and videos of you, your child, your family members and activities including your natural environment. These photographs and videos will be used, if necessary, in presentations or reports at scientific meetings or to the general public.  if you even do not permit us to take photographs or video tape you might be considered to take part in this study.

Please sign next to “YES” or “NO” if you agree with possibly having photos taken.

Permit to take photographs and videos during the study (if necessary):     YES\_\_\_     NO\_

Appendix 1s: English consent form for in depth interview in relationship to environmental assessment

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr.Stephen P. Luby

Purpose of the research

Hello (Assalamualaikum/Namaste). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka located at Mohakhali. We are doing research on child health and diarrheal diseases. Through this research we want to learn how certain conditions in sanitation, water quality and hygiene practices impact health.

Why are we inviting you to participate in the study?

We are seeking households that are already taking part in other activities from this study. We would like to tell you more detail about this study and hope you and your child will volunteer to participate. Your are living in a rural social and natural environment from where we would like to learn something more. Additionally, there was pregnant women and a young child in your household and we are interested to talk about their health.

What is expected from the participants of the research study?

With your permission we would like to enrol your compound and household in this study. If you agree to take part in the study, I will request you to allocate me at least 40-60 minutes to talk about your water, sanitation and hygiene related facilities and activities in your compound and household . I will also ask about your child’s health and development. With your permission we will record our conversation. .

Risks & Benefits

There are no major risks involved in this study. There is no monetary compensation for taking part in this study.

Privacy, anonymity and confidentiality

We will do everything we can keep what you tell us confidential as allowed by the law of this country. We will not use your real name when we write out the data. All the information we collect will be kept locked. We will use the information only for the purpose of the study. We will not use your name when we share and publish the results of this study. We expect the steps we take will keep all of your information confidential, but it is possible that because of mistakes or unforeseen events, it could become compromised.

Future use of information

If it is necessary, we may share the information we collected from this study with other researchers. If this is done, we will not use your real name and we will maintain your confidentiality.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to answer any or all of the questions that will ask. You can drop out of this study at any time, even in the middle of an interview. You have the right to refuse to take part in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You do not need to pay us to take part in this study, and we will not pay you money for taking part in the study.

Persons to contact:

If you have any questions, you can ask me any time. If you have additional questions about the survey, you may contact: Muhammad FaruqeHussain: phone: 01711437326 from the Water Sanitation and Hygiene Research Group, Centre for Communicable Diseases (CCD), icddr,b , Mohakhali, Dhaka 1212.

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of this study, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1t: English consent form for Focus Group Discussion (FGD)

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr.Stephen P. Luby

Purpose of the research

 Hello (Assalamualaikum/Namaste). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are doing research on diarrheal diseases in children. Through this research we want to learn how certain conditions in sanitation, water quality and hygiene practices impact health.

Why are we inviting you to participate in the study?

We are seeking some participants who have been living within our study area and can provide us some valuable information about the local water, sanitation and hygiene practices. We know that you are undertaking a great responsibilities for your children, all other family members including maintaining the household environment. Your are also living in a rural social and natural environment from where we would like to learn something more. We are interested to know some of rural water, sanitation and hygiene behaviour, particularly about our family members during every day life that may help us to understand how environmental contaminations may occur including fecal matters and draw a pathway map.

What is expected from the participants of the research study?

If you agree to take part in the discussion, I will let you know a common place and request you to present and meet with some other participants invited for discussion. I talk about some water sanitation and hygiene activities and practices of household members in their daily activities including your child. We will take notes of our discussion and conversations. To make sure we captured well the important information and discussion points we will tape record. I would expect your permission to tape record the discussion session. We would request you to provide us 1 hour of your valuable time. One of our colleagues will assist us taking notes and tape record our conversation.

Risks & Benefits

There are no major risks involved in this study. We would entertain all of our participants with some snacks and tea during our discussion. Other than the refreshment if you think you will have some cost for your local transportation to arrive in the discussion venue we can compensate through reimbursing after your arrival and end of the discussion. There is no more monetary compensation for taking part in this study.

Privacy, anonymity and confidentiality

We will do everything we can keep what you tell us confidential as allowed by the law of this country. We will not use your real name when we write out the data. All the information we collect will be kept locked. We will use the information only for the purpose of the study. We will not use any of your name when we share and publish the results of this study. We expect the steps we take will keep all of your information confidential, but it is possible that because of mistakes or unforeseen events, it could become compromised.The tape recordings will not be publicly shared, nor will participants be identifiable in any published works. The recordings will be stored securely until data analysis is complete, and will then be erased.

Future use of information

If it is necessary, we may share the information we collected from this study with other researchers. If this is done, we will not use your real name and we will maintain your confidentiality.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to answer any or all of the questions that will ask. You can drop out of this study at any time, even in the middle of the discussion. You have the right to refuse to take part in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You do not need to pay us to take part in this study, and we will not pay you money for taking part in the study unless you have some local transportation cost to attend in the discussion and some refreshments.

Persons to contact:

If you have any questions, you can ask me any time even during the discussion. But if you ask any question now or before starting the discussion it would be helpful for us. If you have additional questions about the study or discussion, you may contact: Muhammad FaruqeHussain: phone: 01711437326 from the Water Sanitation and Hygiene Research Group, Centre for Communicable Diseases (CCD), icddr,b, Mohakhali, Dhaka 1212.

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of this study, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of participation in the Focus Group Discussion, please indicate that by putting your signature or your left thumb impression at the specified space below.

Thank you for your cooperation in the discussion.

Focus Group Discussion participant list with written consent by signature or thump impression

Date: Time: From- To-

Place:

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| Sl. | Name of the participant | Age | Education | Occupation | No. of<3 child | Signature/ thumb impression |
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Name of the moderator:

Name of the note taker:

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1u: English consent form for longitudinal environmental assessment

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

Purpose of the research

Hello (Assalamualaikum/Namaste). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are conducting a research on diarrheal diseases in childrento learn how sanitationconditions in sanitation, water quality and hygiene practices impact health.This research is being conducted in collaboration with scientists at the University of California Berkeley in the United States.

Why are we inviting you to participate in the study?

We are seeking households that are already taking part in other activities from this existing study. We would like to tell you more detail about this study and hope you and your child will volunteer to participate in this study.

What is expected from the participants of the research study?

If you decide to take part in the study, we will visit your household now and we will continue to visit you once every three months over the next two years (for a total of eight visits). At each visit, we willcollect some samples from your compound environment, including a water sample from your stored drinking water, and during two of these visits we will also collect some soil from the household entrance and a small amount of food that you feed to your young children. At each visit, we will also rinse your hands and your child’s hands in clean water and collect the rinsed water. We will take all of these samples back to our field lab to analyse them for bacterial contamination. These samples will help us understand what makes your children become sick by conducting laboratory tests. We will also take a look at your compound with your permission to observe your water, latrine and handwashing facilities. We will also ask you about your children’s health. Each visit will be less than 1 hour. Additionally,after 3 months from now, we will install a sensor device in your latrine, which does not capture any video or audio information. We will leave this device in your latrine for oneweek and then remove it.The sensors capture the timing of when someone enters or exits the latrine.

We will do this in your household twice within 2 years.

Risks & Benefits

This study presents minimal risk to you and your child. There is a slight risk of breach of confidentiality, but we will do our best to minimize this risk. You will not directly benefit from participating in this study but this participation will enable us to gain knowledge regarding fecal contamination in association with diarrhea.

Confidentiality

All data and specimens collected will be kept confidential to the greatest extent possible. Researchers at ICDDR,B will have access to some of your personal information that could identify you, such as your name and your phone number. They will remove the identifiable information before sharing it with researchers at partner institutions, such as UC Berkeley. Your research records will be kept in a locked cabinet, and computer-based data, will be stored in an encrypted format on a password-protected server.

Other persons who may have access to your information include research groups that oversee the safety of the study including institutes such as the University of California Berkeley and the Bill and Melinda Gates Foundation, USA. None of the researchers outside of ICDDR,B will be able to identify you or your child from information you provide. We will use the information only for the purpose of the study. We will not use your name when we share and publish the results of this study. We expect the steps we take will keep all of your information confidential, but it is possible that because of mistakes or unforeseen events, it could become compromised.

Future use of information

If it is necessary, we may share the information we collected from this study with other researchers. If this is done, we will not use your real name and we will maintain your confidentiality. We will store the information we collect from you for a long time after the end of the study. Data resulting from research involving children will be stored for at least 7 years after the child reaches the age of 18 years.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You have the right to decline to allow your child to participate or to withdraw your child at any point in this study without penalty or loss of benefits to which you are otherwise entitled. You may choose not to answer any or all of the questions that will ask. You can drop out of this study at any time, even in the middle of an interview. You have the right to refuse to take part in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You do not need to pay us to take part in this study, and we will not pay you money for taking part in the study.

Persons to contact:

If you have any questions, you can ask me any time. If you have additional questions about the survey, you may contact: Sarker Masud Parvez phone: 01817541872, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212.

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of this study, you may contact or meet IRB Secretariat, M. A. Salam Khan:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to participate in our studyand to allow your child to participate in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1v: English consent form assessment of child's cognitive development

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child cognitive development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Purpose of the research

Hello/Assalamualaikum/Namaste. My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are conducting research on diarrheal diseases and through this particular study we want to learn about the health impact of diarrheal diseases in children. We are interested in learning if the exposure of a child to diarrheal disease has long term effects.

Why are we inviting you to participate in this study?

We are interested in enrolling your household because you have a child between the age of 8-15 months, and your household has already participated in other parts of this study. Diarrhea is common among children in this age group. We are interested to know how diarrhea affects child development outcomes, such as motor and language skills. Therefore, we hope you will allow your child to participate into this study upon learning more details of participation.

What is expected from the participants of the research study?

If you decide to participate, and let your child participate, all of our activities here today will take about one hour. We will ask you some general things about your household, such as things your child likes to play with. We will also ask you to complete three measures that are like games, where we ask you to do some things like remember numbers and words and repeat a story. We will ask you some questions about which words your child can uderstand and speak. We would also like to see what motor skills your child can do, such as sitting, standing and walking. For this motor skill activity, we will try to get your child to perform these various behaviors. This will take about 10-15 minutes to complete. Finally, we will ask you some questions about your well-being.

Risks & Benefits

There are no major risks involved in this study. Some of the interview questions may make you uncomfortable, but you are free to decline to answer any questions or stop the interview at any time.

Your child may get tired during the physical motor activity, although it is very brief. To put your child at ease, you and/or a caregiver may sit with them during any of the activities, and you are free to stop the assessments at any time.

There is no anticipated direct benefit to you or your child for participating in this study. However, it is hoped that the information gained from the study will help improve our knowledge of how diarrhea affects young children.

Privacy, anonymity and confidentiality

We will do everything we can keep what you tell us confidential as allowed by the law of this country. We will not use your real name or your child’s name when we write out the data. All the information we collect will be kept locked. We will use the information only for the purpose of the study. We will not use your name or your child’s name when we share and publish the results of this study. We expect the steps we take will keep all of your information confidential, but it is possible that because of mistakes or unforeseen events, it could become compromised.

Future use of information

If it is necessary, we may share the information we collected from this study with other researchers. If this is done, we will not use your real name and we will maintain your confidentiality.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to answer any or all of the questions that will ask, and you can refuse for your child to participate in the motor skills activity. You can drop out of this study at any time, even in the middle of an interview. You have the right to refuse to take part in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You do not need to pay us to take part in this study, and we will not pay you money for taking part in the study.

Persons to contact:

If you have any question, you can ask me any time. If you have additional questions about these activities, you may contact:

Dr. Fahmida Tofail, Scientist, Child Development Unit (CDU), Dhaka Hospital, ICDDRB, 68 Shaheed Tajuddin Ahmed Sarani, Mohakhali, Dhaka-1212, Bangladesh Phone no. +880 2 9840 523-32; Ext. 2350 Cell: +880 1715 700370

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of this study, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

# Appendix 1w: English consent form for neighboring compounds in spillover study

**International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)**

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

**Spillover substudy**

**Purpose of the research**

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on diarrheal diseases in children to learn how it affects their physical and mental development. Through this research we want to learn about the health benefits of some simple interventions to improve the sanitation, water quality, hygiene practices or nutritional status for children under five. We want to understand whether children who live in the same communities as children receiving these interventions benefit from them as well.

**Why are we inviting you to participate in the study?**

Because you live near to recipients of water, sanitation, and hygiene interventions, we are interested in evaluating your child’s health, we would like to invite you to participate in this study.

**What is expected from the participants of the research study?**

If you agree to participate, a field research person will visit your household twice for this purpose. Participation in this study will only span a few hours. In the first visit, which we would like to do today, we will ask you questions about your home and compound, and some practices in your home. We will ask you questions about sociodemographic information, your water, sanitation, and hygiene practices and the health of your children under five years old. With your permission, they will inspect your sanitation facilities as well. We will also ask mothers or caregivers about whether your child has been sick.

We will also give your children one toy ball and set up fly traps in the latrine and kitchen areas of your compound. We will ask you to give us a glass of water that you would give to your children to drink. We will take a small amount of the water that you give us.

We will return tomorrow for a second visit, wash the balls in water, keep the water used to wash the toy. Your child may choose to play with the ball or not; this is up to him or her. During this second visit, we will count the flies caught at the fly trap in the latrine and kitchen areas of your compound. We will also ask you a few short questions. Each visit will be less than 1 hour.

We will also collect a stool sample from your children under five years old. We will examine whether your child has any worm infections, but this analysis will be done in Dhaka, and we will not be able to share the results with you. We will offer your child deworming medication regardless of the stool sample result. Today, a field member will deliver a stool collection kit and instruct you how to collect stool from your child. We will ask you to collect your child’s stool before the field worker returns tomorrow by having your child defecate on a sheet of provided plastic and use a plastic scoop to collect a small amount of fresh stool from the top of the pile into a container. The field person will collect this container when they come to collect the other specimens.

**Risks & Benefits**

There are minimal risks involved in this study. There is a slight risk of breach of confidentiality. Your child’s participation will help us to gain knowledge on diarrheal disease in children.

**Privacy, anonymity and confidentiality**

All data and specimens collected will be kept confidential to the greatest extent possible.. Researchers at ICDDR,B will have access to some of your personal information that could identify you, such as your name. They will remove the identifiable information before sharing it with researchers at partner institutions, such as UC Berkeley. Your research records will be kept in a locked cabinet, and computer-based data, will be stored in an encrypted format on a password-protected server.

Other persons who may have access to your information include research groups that oversee the safety of the study including institutes such as the University of California Berkeley and the Bill and Melinda Gates Foundation, USA. None of the researchers outside of ICDDR,B will be able to identify you or your child from information you provide. We will use the information only for the purpose of the study. We will not use your name when we share and publish the results of this study. We expect the steps we take will keep all of your information confidential, but it is possible that because of mistakes or unforeseen events, it could become compromised.

**Future use of information**

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy. In the future, we may wish to perform additional tests on the blood and stool specimens that already collected. The samples will be stored at ICDDR,B. No further consent will be taken from you. If you change your mind about having your specimen saved for further testing, you may contact us and the sample will be discarded and not saved.

**Right not to participate and withdraw**

Taking part in the study is completely voluntary. You have the right to decline to allow your child to participate or to withdraw your child at any point in this study without penalty or loss of benefits to which you are otherwise entitled. The members of the households may choose not to answer any or all of the questions asked. You can drop out of this study at any time, even in the middle of an interview or sample collection. If you wish, we will withdraw your permission and we will destroy your samples and those of your child and remove data from the database. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

**Principle of compensation**

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

**Persons to contact:**

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Abu Naser, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212. Phone: 8860523-32 # 120

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet him personally at following address:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

Consent to enroll into the study: YES\_\_\_\_\_\_ NO\_\_\_\_\_\_

Consent of the mother for sample collection: YES\_\_\_\_\_\_\_ NO \_\_\_\_\_\_

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Signature or left thumb impression of Participant Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Appendix 1z: English consent for microbiome substudy

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

Purpose of the research

Hello/Assalamualaikum/Namaste. My name is \_\_\_\_\_\_\_\_ andI work with the ICDDR,B (Cholera Hospital) in Dhaka. We are conducting research on diarrheal diseases and through this particular study we want to learn about the health impact of diarrheal diseases in children. Malnutrition in children is associated with infections of our intestines that can change our use of nutrients. It is possible that genes in our body, made up of DNA, make some children more susceptible to malnutrition than others. This DNA is inherited from our parents and we also carry genes from many friendly microbes that live on and in our body. We are interested in learning if the exposure of a child to diarrheal disease has long term effects.

Why are we inviting you to participate in the study?

We are interested in enrolling this compound because we collected information on your household earlier and we are interested in conducting additional testing to evaluate your child’s digestive tract.

What is expected from the participants of the research study?

Participation in this study will only take 15 minutes each month.To achieve the aim of this study, we will collect a stool sample from your child once a month for the next 10 months. The samples will help us understand whether your child has been exposed to infections and will also help us understand the friendly microbes that live in your child’s digestive tract.

If you agree to participate, a field research person will visit your household twice per month for the next 10 months for this purpose. On the first day, a field member will deliver a stool collection kit and instruct you how to collect stool from your child. You will be instructed to collect your child’s stool on the following morning, if the child defecates before the field member’s arrival, by having your child defecate on a sheet of provided plastic and you will use a plastic scoop to collect a small amount of fresh stool from the top of the pile into a container. The field person will collect this container.We will examine whether your child has infections or determine which friendly microbes live in your child’s digestive tract through different laboratory test, but we will not be able to share the results with you.

Risks & Benefits

Although we will try to protect your identity there is some possibility that confidentiality could be compromised.There is no direct benefit for participating in this study, but your child’s participation will help us to gain knowledge on diarrheal disease and friendly microbes in children.

Confidentiality

All data and specimens collected will be kept confidential as allowed by the law of this country.

Confidentiality of the data and test results will be strictly maintained. We will use the information only for the purpose of the study, and we will not use you or your child’s name in sharing and publishing the results of this study.

Future use of information

The stool samples may be stored until the end of the study, so they can be analyzed in the lab. If you agree, the information, along with some of the stool collected will be stored at ICDDR,B for up to 20 years so that we can conduct advanced tests on these samples to understand the infections that you may have had. No further consent will be taken from you, and you will not receive the results of these tests. A senior scientist at ICDDR,B will decide who can use the stored samples, and what tests will be done. If you change your mind about having your specimen saved for further testing, you may contact us and the sample will be discarded and not saved.

Right not to participate and withdraw

Taking part in the study is completely voluntary. You may choose not to allow your child to participate in this study. You can drop out of this study at any time, even in the middle of the sample collection. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

Principle of compensation

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

Persons to contact:

If you have any questions, you can ask me any time. If you have additional questions about the survey, you may contact:

Masud Parvez: phone: 01817541872, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212.

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet IRB Secretariat, M. A. Salam Khan:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to our proposal of enrolling your household in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

I agree to have my child’s stool samples to be stored long term [ ]

Thank you for your cooperation

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature or left thumb impression of Guardian Date

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Signature or left thumb impression of the witness Date

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Signature of the PI or his/her representative Date

Opt-out

I do not want my child’s stool samples to be stored long term [ ]

# Appendix 1aa: English consent form for in-depth interviews about spillovers

**International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)**

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

Principal Investigator’s name: Dr. Leanne Unicomb

**Spillover substudy**

**Purpose of the research**

Hello (Assalamualaikum/Nomoshkar). My name is \_\_\_\_\_\_\_\_ and I work with the ICDDR,B (Cholera Hospital) in Dhaka. We are interested in conducting research on diarrheal diseases in children to learn how it affects their physical and mental development. Through this research we want to learn about the health benefits of some simple interventions to improve the sanitation, water quality, hygiene practices or nutritional status for children under five. We want to understand whether children who live in the same communities as children receiving these interventions benefit from them as well. This research is being done in collaboration with scientists at the University of California, Berkeley in the United States.

**Why are we inviting you to participate in the study?**

Because you are participating in research with ICDDR,B (Cholera Hospital) or because you live near participants in this research, we are interested in asking you some questions about who you know in this village and where you get information about health.

**What is expected from the participants of the research study?**

If you decide to enroll in this study we will ask you a series of questions about who you know in this village and where you get information about health. It is very difficult to write all the conversation in a note pad, so, if you agree, we would like to record this sessions in a tape recorder. We would also like to take some notes from this session. This session will last about an hour.

**Risks & Benefits**

There are minimal risks involved in this study. There is a slight risk of breach of confidentiality. Your child’s participation will help us to gain knowledge on diarrheal disease in children.

**Confidentiality**

All data and specimens collected will be kept confidential to the greatest extent possible. Researchers at ICDDR,B will have access to some of your personal information that could identify you, such as your name. They will remove the identifiable information before sharing it with researchers at partner institutions, such as UC Berkeley. Your responses and audio recordings will be kept in a locked cabinet, and computer-based data, will be stored in an encrypted format on a password-protected server.

Other persons who may have access to your responses and audio recordings include research groups that oversee the safety of the study including institutes such as the University of California Berkeley and the Bill and Melinda Gates Foundation, USA. None of the researchers outside of ICDDR,B will be able to identify you or your compound members from information you provide. We will use the information only for the purpose of the study. We will not use your name when we share and publish the results of this study. We expect the steps we take will keep all of your information confidential, but it is possible that because of mistakes or unforeseen events, it could become compromised.

**Future use of information**

The information collected from this study may be shared with other researchers if needed, but we will strictly maintain your confidentiality and privacy. We will store the information we collect for a long time after the end of the study.

**Right not to participate and withdraw**

Taking part in the study is completely voluntary. You can drop out of this study at any time, even in the middle of an interviewwithout penalty or loss of benefits to which you are otherwise entitled. If you wish, we will withdraw your permission andremove your data from the database. You have the right to refuse participation in this study, which will not affect your family’s treatment at the Cholera Hospital in the future.

**Principle of compensation**

You need not pay us to take part in this study, and similarly we will not pay you money for attending in the study.

**Persons to contact:**

If you have any question, you can ask me any time. If you have additional questions about the survey, you may contact:

Masud Parvez: phone: 01817541872, Center of Communicable Diseases, ICDDR,B, Mohakhali, Dhaka 1212.

If you have questions about your rights as a participant of a research study, or if you think some harm has been done to you because of the survey, you may contact or meet M.A. Salam Khan, IRB Secretariat:

M. A. Salam Khan, IRB Secretariat, phone: 9886498 or PABX 8860523-32 ext. 3206

If you agree to participate in our study, please indicate that by putting your signature or your left thumb impression at the specified space below

Thank you for your cooperation

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature or left thumb impression of Participant Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature or left thumb impression of the witness Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature of the PI or his/her representative Date

Appendix 2a: Bengali consent form for compound study enrollment

†¯^”Qv m¤§wZcÎt evwo ÷vwW Gb‡ivj‡g›U

Iqvm †ewbwdUm †eRjvBb mv‡f©

AvšÍR©vwZK D`ivgq M‡elYv †K›`ª evsjv‡`k (AvB wm wW wW Avi, we)

M‡elYvi wk‡ivbvg:

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb Ges m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve

cÖavb M‡el‡Ki bvg: W. w÷‡db wc jywe

M‡elYvi D‡Ïk¨:

Avm&mvjvgyAvjvBKzg| Avgvi bvg ( \_\_\_\_\_\_\_\_\_ ) Ges Avwg AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx| Avgiv GB M‡elYvi gva¨‡g wKQy mvavib B›Uvi‡fbkb †hgb- cvqLvbvi Dbœqb, cvwbi ¸bMZgvb Ges ¯^v¯’¨m¤§Z Af¨vm ev wZb eQ‡ii †QvU ev”Pv‡`i cywóMZ Ae¯’v BZ¨vw`i Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q| Avgiv eySvi †Póv KiwQ KLb wkïi kvixwiK I gvbwmK e„w× †ekx nq, GB B›Uvi‡fbkb¸‡jv c„\_K fv‡e ‡`Iqv n‡j bvwK GKmv‡\_ †`qv n‡j| G‡Z K‡i Avgiv fwel¨‡Z ¯^í Li‡Pi B›Uvi‡fbk‡bi K\_v ej‡Z cvie|

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡b Avgš¿Y Rvbvw”Q?Avgiv GB evox‡K M‡elYvq AšÍ©f~³ Ki‡Z Pvw”Q KviY GLv‡b Kgc‡¶ GKRb Mf©eZx gv Av‡Qb Ges Avgiv wkï‡`i Rxe‡bi ïi“ †\_‡KB Zv‡`i ch©‡e¶Y Ki‡Z AvMÖnx|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx?

GB M‡elYv 2 eQi a‡i Pj‡e| Avcbvi AbygwZµ‡g Avgiv GB evox‡K GB M‡elYvq AšÍ©f~³ Kie| Avgiv wewfbœ MÖ“‡c fvM K‡i evox¸‡jv‡Z mvevb cvwb mn nvZ †avqvi Wªvg, cvwb cwi‡kva‡bi Rb¨ cvÎmn GKy¨qvU¨vem, wkï‡`i Ges cï-cvwLi cvqLvbv †djvi Rb¨ cwU I †mwb¯‹zc, cvwbi mxjmn cvqLvbv A\_ev 24 gv‡mi Kg eq‡mi wkï‡`i Rb¨ cywóKi Lvevi w`e| G¸‡jv m¤ú‡K© wewfbœ Z\_¨ †`Iqvi Rb¨ ¯’vbxq KwgDwbwU †nj\_ cÖ‡gvUi Avcbv‡`i Lvbv cwi`©kb Ki‡e Ges DVvb ˆeVK Ki‡e| Avcwb ev Avcbvi evoxi †Kvb m`m¨ GB B›Uvi‡fbkb wb‡R‡`i cQ›` Abyhvqx wb‡Z cvi‡eb bv, Bnv jUvwii gva¨‡g wbev©Pb Kiv n‡e| GQvov M‡elYvi cÖ‡qvRb Abymv‡i Avcbvi GB evox †Kvb B›Uvi‡fbkb bvI †c‡Z cv‡i| Avgiv Avkv KiwQ ZviciI Avcwb GB M‡elYvq AskMÖn‡b ivRx n‡eb|

hw` Avcbvi evox GB M‡elYvq AskMÖn‡Y ivRx nq, Zvn‡j M‡elYv cÖwZwbwaiv Avcbvi cwiev‡ii m`m¨‡`i KvQ †\_‡K mv¶vrKvi I ch©‡e¶‡Yi gva¨‡g wKQz Z\_¨ msMÖn Ki‡e Ges cÖ‡hvR¨ †¶‡Î wkï‡`i wKQz cwigvc wb‡e| cÖv\_wgKfv‡e Avgiv Avcbvi Lvbvi cÖviw¤¢K Z\_¨ Ges Lvbv m`m¨‡`i cÖwZw`‡bi ¯^v¯’¨m¤§Z Af¨vm, cvwb cwi‡kvab Ges cqtwb®‹vkb m¤ú©KxZ Z\_¨ msMÖn Kie| Avcbvi AbygwZµ‡g, Avgiv Avcbvi cqtwb®‹vkb e¨e¯’v ev myweav mg~n cwi`©kb Kie| GQvov M‡elYv Kg©xiv wkïi wUKv I wkïi e„w× m¤ú‡K© wKQz cÖkœ Ki‡e Ges wkï \_vK‡j ev hLb Rb¥MÖnb Ki‡e, ZLb Zvi IRb mn wKQz cwigvc MÖnb Ki‡e| GQvovI Zviv gv/cwiPh©vKvix‡K wkïi Lv`¨vfvm Ges wkïi Amy¯’Zv RwbZ cÖkœ Ki‡e| M‡elYv Kg©xiv 2 eQ‡ii g‡a¨ GB KvRwU †gvU 3 evi Ki‡e| Avgiv msM„nxZ Z‡\_¨i gva¨‡g eySvi †Póv Kie †h, GB B›Uvi‡fbkb wkïi Dci wK iKg cÖfve †d‡j‡Q|

Su~wK Ges myweavw`:

Kvh©Z GLv‡b †Zgb †Kvb Su~wK †bB| ¯^v¯’¨MZ fv‡e DcK„Z nevi Rb¨ D‡j­wLZ B›Uvi‡fbkb †hgb: DbœZ cvqLvbv, wkïi cwU, nvZ †avqvi ¯’vb Ges GKy¨qvU¨vem we¯Í…Zfv‡e †`Iqv n‡q‡Q| †K¬vwib e¨envi K‡i Lvevi cvwb cwi‡kvab Kiv Lye cwiwPZ GKwU c×wZ| M‡elYvq AskMÖnY Kivi Rb¨ Avcbv‡K †Kvb Avw\_©K myweavw` †`qv n‡e bv| wjwc‡Wi ˆZix m¤ú~iK Lvevi hv GB M‡elYvq e¨envi Kiv n‡e Zv evsjv‡`‡k I `w¶Y Avwd«Kvq cix¶v Kiv n‡q‡Q Ges Gi †Kvb iKg Lvivc cÖfve ‡Kv\_vI cvIqv hvq bvB| AvgivI GB M‡elYvq †Kvb ai‡bi Lvivc cÖfve Avkv KiwQ bv| Avgv‡`i †`Iqv B›Uvi‡fbkb Øviv Avcbvi evoxi Lvbv DcK…Z n‡Z cv‡i |

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv:

GB †`‡ki AvBb Abyhvqx Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z‡\_¨i †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| msM„nxZ Z\_¨ Ges Gi djvdj †MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| †iKW©K„Z mKj mv¶vZKvi †MvcbxqZvi mv‡\_ msi¶Y Kiv n‡e Ges Avcbv‡`i †`Iqv Ab¨vb¨ Z\_¨ we‡k­l‡Yi ci gy‡Q †djv n‡e| Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elbv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡j­L Kiv n‡e bv|

fwel¨‡Z Z‡\_¨i e¨envi:

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kiv n‡e|Avcbvi AbygwZµ‡g, GB M‡elYvi †k‡l fwel¨‡Z Avcbvi mv‡\_ †hvMv‡hvM Kivi Rb¨ Avgiv Avcbvi bvg Ges Lvbvi wVKvbv e¨envi Ki‡Z cvwi| ‡mRb¨ GB M‡elYvi †k‡l (AvR †\_‡K `yB eQi c‡i) Avgiv AveviI Avcbvi AbygwZ ‡be|

‡¯^”Qv AskMÖnY :

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wbf©i K‡i| Avcbvi Lvbvi ZvwjKvf~³ m`m¨iv †h †Kvb cÖkœ A\_ev me cÖ‡kœi DËi bvI w`‡Z cv‡ib| Avcbvi wjwLZ AbygwZ †`qvi cieZ©x‡ZI Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q GgbwK mv¶vrKvi MÖn‡Yi ev `jxq Av‡jvPbvi gvSLv‡bI Avcbvi AbygwZ wdwi‡q wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb mvwbqv Avkivd (wcAvBwWwfGm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8819419-20 (G·-120) †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523 (G·- 3206) †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

GB M‡elYvq AskMÖn†Y ivRx n‡q‡Q: n¨uv \_\_\_\_\_\_ bv \_\_\_\_\_\_

........................................... .................................

DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2b: Bengali consent for household enrollment

†¯^”Qv m¤§wZcÎt evwo ÷vwW Gb‡ivj‡g›U

Iqvm †ewbwdUm †eRjvBb mv‡f©

AvšÍR©vwZK D`ivgq M‡elYv †K›`ª evsjv‡`k (AvB wm wW wW Avi, we )

M‡elYvi wk‡ivbvg:

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb Ges m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve

cÖavb M‡el‡Ki bvg: W. w÷‡db wc jywe

M‡elYvi D‡Ïk¨:

Avm&mvjvgyAvjvBKzg| Avgvi bvg ( \_\_\_\_\_\_\_\_\_ ) Ges Avwg AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx| Avgiv GB M‡elYvi gva¨‡g wKQy mvavib B›Uvi‡fbkb †hgb- cvqLvbvi Dbœqb, cvwbi ¸bMZgvb Ges ¯^v¯’¨m¤§Z Af¨vm ev wZb eQ‡ii †QvU ev”Pv‡`i cywóMZ Ae¯’v BZ¨vw`i Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q| wkï‡`i Acywó A‡š¿i msµg‡bi mv‡\_ m¤úK©xZ hv Avgv‡`i cywó Dcv`v‡bi e¨envi e`‡j w`‡Z cv‡i| Avgv‡`i †`‡ni wWGbG-i wR‡bi Kvi‡Y wKQz wKQz wkï‡`i Ab¨‡`i Zzjbvq Acywói SzuwK †ekx \_v‡K| GB wWGbG Avgiv DËivwaKvi m~‡Î evev-gvi KvQ †\_‡K cvB Ges GQvovI Avgiv Avgv‡`i †`‡n emevmKvix A‡bK ÿwZKi bq Ggb Rxevbyi wRb enb Kwi|

Avgiv eySvi †Póv KiwQ KLb wkïi kvixwiK I gvbwmK e„w× †ekx nq, GB B›Uvi‡fbkb¸‡jv c„\_K fv‡e ‡`Iqv n‡j bvwK GKmv‡\_ †`qv n‡j| G‡Z K‡i Avgiv fwel¨‡Z ¯^í Li‡Pi B›Uvi‡fbk‡bi K\_v ej‡Z cvie| wkï‡`i Rxe‡bi GB `yB eQi Zv‡`i kvixwiK I gvbwmK e„w×i Rb¨ LyeB ¸iæZ¡c~Y©|

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡b Avgš¿Y Rvbvw”Q?

Avgiv Avcbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcwb cieZ©x 8 gv‡mi g‡a¨ GKwU wkïi Rb¥ †`‡eb Ges Avgiv wkï‡`i Rxe‡bi ïi“ †\_‡KB Zv‡`i e„w× ch©‡e¶Y Ki‡Z AvMÖnx|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx?

GB M‡elYv 2 eQi a‡i Pj‡e| Avcbvi AbygwZµ‡g Avgiv GB Lvbv‡K GB M‡elYvq AšÍ©f~³ Kie| Avgiv wewfbœ MÖ“‡c fvM K‡i evox¸‡jv‡Z mvevb cvwb mn nvZ †avqvi Wªvg, cvwb cwi‡kva‡bi Rb¨ cvÎmn GKy¨qvU¨vem, wkï‡`i cvqLvbv †djvi Rb¨ cwU I †mwb¯‹zc, cvwbi mxjmn cvqLvbv A\_ev 24 gv‡mi Kg eq‡mi wkï‡`i Rb¨ cywóKi Lvevi w`e| G¸‡jv m¤ú‡K© wewfbœ Z\_¨ †`Iqvi Rb¨ ¯’vbxq KwgDwbwU †nj\_ cÖ‡gvUi Avcbv‡`i Lvbv cwi`©kb Ki‡e Ges DVvb ˆeVK Ki‡e| mKj nvW©Iqv‡ii mv‡\_ G¸‡jvi e¨envi DrmvwnZ Kivi Rb¨ wewfbœ wb‡`©wkKv †`qv n‡e| Avcwb ev Avcbvi evoxi †Kvb m`m¨ GB B›Uvi‡fbkb wb‡R‡`i cQ›` Abyhvqx wb‡Z cvi‡eb bv, Bnv jUvwii gva¨‡g wbev©Pb Kiv n‡e| GQvov M‡elYvi cÖ‡qvRb Abymv‡i Avcbvi GB evox †Kvb B›Uvi‡fbkb bvI †c‡Z cv‡i| Avgiv Avkv KiwQ ZviciI Avcwb GB M‡elYvq AskMÖn‡b ivRx n‡eb|

hw` Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y ivRx nq, Zvn‡j Avgiv Avcbvi i‡³i MÖæc I wRb (wWGbG) Avjv`v Kivi Rb¨ Avcbvi KvQ †\_‡K mvgvb¨ cwigvb (`yB Pv Pvg‡Pi mgvb) i‡³i bgybv ‡be| GQvovI Avcbvi mn‡hvMxZvq cvqLvbv I cÖmªv‡ei bgyYv msMÖn Kie| GUv M‡elYvi ïiæ‡Z GKeviB Kiv n‡e| (GB As‡k Avcbvi AskMÖn‡bi wm×všÍ ‡¯^”Qvg~jK Ges GUv Avcbvi wkïi Ask MÖn‡Yi Dci †Kvb cÖfvZ †dj‡e bv)

Avcbvi wkïi Rb¥MÖn‡Yi ci, M‡elYvq AšÍ©f~³ nevi cÖvq GK eQi c‡i, hLb Avcbvi wkïi eqm n‡e cÖvq 8-15 gvm, ZLb Avgiv Avcbvi wkïi wRb (wWGbG) Avjv`v Kivi Rb¨ Ges Zvi kix‡i †Kvb ciRxexi Dcw¯’wZ Av‡Q wKbv Zv Rvbvi Rb¨ mvgvb¨ cwigvb (GK Pv Pvg‡Pi mgvb) i‡³i bgybv ‡be| GB mgq Avgiv Avcbvi wkïi KvQ †\_‡K cÖmªv‡ei bgyYvI msMÖn Kie|

M‡elbvi wØZxq eQ‡ii mgq hLb Avcbvi wkïi eqm n‡e 20-27 gvm ZLb Avgiv Dc‡i D‡jøwLZ bgyYv¸‡jv c~Yivq wbe|

M‡elYv cÖwZwbwaiv Avcbvi cwiev‡ii m`m¨‡`i KvQ †\_‡K mv¶vrKvi I ch©‡e¶‡Yi gva¨‡g wKQz Z\_¨ msMÖn Ki‡e Ges cÖ‡hvR¨ †¶‡Î wkï‡`i wKQz cwigvc wb‡e| cÖv\_wgKfv‡e Avgiv Avcbvi Lvbvi cÖviw¤¢K Z\_¨ Ges Lvbv m`m¨‡`i cÖwZw`‡bi ¯^v¯’¨m¤§Z Af¨vm, cvwb cwi‡kvab Ges cqtwb®‹vkb m¤ú©KxZ Z\_¨ msMÖn Kie| Avcbvi AbygwZµ‡g, Avgiv Avcbvi cqtwb®‹vkb e¨e¯’v ev myweav mg~n cwi`©kb Kie| GQvov M‡elYv Kg©xiv wkïi wUKv I wkïi e„w× m¤ú‡K© wKQz cÖkœ Ki‡e Ges wkï \_vK‡j ev hLb Rb¥MÖnb Ki‡e, ZLb Zvi IRb mn wKQz cwigvc MÖnb Ki‡e| GQvovI Zviv gv/cwiPh©vKvix‡K wkïi Lv`¨vfvm Ges wkïi Amy¯’Zv RwbZ cÖkœ Ki‡e| M‡elYv Kg©xiv 2 eQ‡i g‡a¨ GB KvRwU †gvU 3 evi Ki‡e| Avgiv msM„nxZ Z‡\_¨i gva¨‡g eySvi †Póv Kie †h, GB B›Uvi‡fbkb wkïi Dci wK iKg cÖfve †d‡j‡Q|

Su~wK Ges myweavw`:

Kvh©Z GLv‡b †Zgb †Kvb Su~wK †bB| ¯^v¯’¨MZ fv‡e DcK„Z nevi Rb¨ D‡j­wLZ B›Uvi‡fbkb †hgb: DbœZ cvqLvbv, wkïi cwU, nvZ †avqvi ¯’vb Ges GKy¨qvU¨vem we¯Í…Zfv‡e †`Iqv n‡q‡Q| †K¬vwib e¨envi K‡i Lvevi cvwb cwi‡kvab Kiv Lye cwiwPZ GKwU c×wZ| M‡elYvq AskMÖnY Kivi Rb¨ Avcbv‡K †Kvb Avw\_©K myweavw` †`qv n‡e bv| wjwc‡Wi ˆZix m¤ú~iK Lvevi hv GB M‡elYvq e¨envi Kiv n‡e Zv evsjv‡`‡k I `w¶Y Avwd«Kvq cix¶v Kiv n‡q‡Q Ges Gi †Kvb iKg Lvivc cÖfve ‡Kv\_vI cvIqv hvq bvB| AvgivI GB M‡elYvq †Kvb ai‡bi Lvivc cÖfve Avkv KiwQ bv| †MvcYxqZv f½ nIqvi wKQzUv SzuwK Av‡QZ‡e Avgiv Avcbvi e¨w³MZ Z‡\_¨i †MvcbxqZv iÿvi e¨cv‡i h‡\_ó hZœevb ne| Avgv‡`i †`Iqv wewfbœ B›Uvi‡fbkb Øviv Avcbvi evoxi Lvbv DcK…Z n‡Z cv‡i| Avgiv AvR‡K Avcbvi kixi n‡Z †h mvgvb¨ cwigvb i³ ‡be, Zv Avcbvi wkïi †Kvb ¶wZ Ki‡e bv| Avcbvi KvQ †\_‡K Ges M‡elYv PjvKvjxb mg‡q Avcbvi wkïi KvQ †\_‡K msMÖnK…Z mvgvb¨ cwigvb i³, cvqLvbv ev cÖmªv‡ei bgyYv Avcbvi ev Avcbvi wkïi †Kvb ÿwZ Ki‡e bv|

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv:

GB †`‡ki AvBb Abyhvqx Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z\_¨ I bgybvi †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| msM„nxZ Z\_¨ Ges cix¶vi djvdj †MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| †iKW©K„Z mKj mv¶vZKvi †MvcbxqZvi mv‡\_ msi¶Y Kiv n‡e Ges Avcbv‡`i †`Iqv Ab¨vb¨ Z\_¨ we‡k­l‡Yi ci gy‡Q †djv n‡e| Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elYv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡j­L Kiv n‡e bv|

Avcbvi bvg I e¨w³MZ Z\_¨ Qvov GB bgyYv Ges cixÿxZ djvdj †KvW Kiv n‡e Ges M‡elYvKg©x Øviv Avjv`vfv‡e msiÿY K‡i ivLv n‡e| †Kvb M‡elYvKg©x Avcbvi ev Avcbvi wkïi bgyYv Avjv`vfv‡e mbv³ Ki‡Z cvi‡e bv|

GQvov Õ†Kwj‡dvwb©qv wek¦we`¨vjqÕ, evi‡Kwj Gi Ôwej Ges †gwjbWv †Mum dvD‡ÛkbÕ Gi M‡elYv`j Ges hviv GB M‡elYvi wbivcËvi `vwq‡Z¡ Av‡Q Zviv Avcbvi cixÿxZ djvdj †`L‡Z cv‡i| †h‡nZz Avgv‡`i‡K msiÿxZ Z\_¨ Zv‡`i w`‡Z n‡Z cv‡i Ges †R‡bwUK Z\_¨ w`‡q †hKvD‡K mbv³ Kiv hvq, ZvB Avgiv m¤ú~Y© †MvcYxZv iÿvi wbðqZv w`‡Z cviwQ bv|

m‡e©vcwi, Avcbvi †MvcbxqZv iÿvi e¨cv‡i Avgiv m‡e©v”P †Póv Kie| Avcwb hw` GB KvM‡R ¯^vÿi †`b, Zvn‡j Avgiv Da©Zb M‡elbvKg©x Ges wbivcËv KwgwUi Kv‡Q GB Z\_¨¸‡jv w`e| GB AbygwZ †gqv` †kl nIqvi †Kvb ZvwiL bvB| GB Z\_¨ †KvW Kiv n‡e Ges m¤¢vebv LyeB Kg †h †KD Avcbv‡K ev Avcbvi wkï‡K Avjv`vfv‡e wPb‡Z cvi‡e|

fwel¨‡Z Z‡\_¨i e¨envi:

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kiv n‡e|

fwel¨‡Z, msMÖnK„Z i³ &Ies cvqLvbvi bgyYvi AwZwi³ †Kvb cixÿv Ki‡Z cvwi| GB bgyYv AvBwmwWwWAvi,we †Z msiÿY Kiv n‡e| Gi Rb¨ cieZ©x‡Z Avcbvi KvQ †\_‡K †Kvb AbygwZ †bIqv n‡e bv| GB bgybv fwel¨‡Z cixÿvi Rb¨ †i‡L †`Iqvi e¨cv‡i hw` Avcwb KLbI Avcbvi gZvgZ cwieZ©b K‡ib Zvn‡j Avcwb Avgv‡`i mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib Ges Avgiv Avcbvi bgyYv †d‡j w`e|

‡¯^”Qv AskMÖnY :

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wbf©i K‡i| Avcbvi Lvbvi ZvwjKvf~³ m`m¨iv †h †Kvb cÖkœ A\_ev me cÖ‡kœi DËi bvI w`‡Z cv‡ib| Avcbvi wjwLZ AbygwZ †`qvi cieZ©x‡ZI Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q GgbwK mv¶vrKvi MÖn‡Yi ev `jxq Av‡jvPbvi gvSLv‡bI Avcbvi AbygwZ wdwi‡q wb‡Z cv‡ib| Avcwb Avcbvi AbygwZ wdwi‡q †bIqvi cvkvcvwk Avcwb B‡”Q Ki‡j Avcbvi I Avcbvi wkïi KvQ †\_‡K †bIqv bgyYv bó K‡i †dj‡Z cv‡ib Ges Z\_¨ gy‡Q †dj‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb mvwbqv Avkivd (wcAvBwWwfGm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8819419-20 (G·-120) †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elbvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523 (G·- 3206) †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

GB M‡elYvq AskMÖn†Y ivRx n‡q‡Q: n¨uv \_\_\_\_\_\_ bv \_\_\_\_\_\_

gv bgyYv w`‡Z ivRx n‡q‡Q: n¨uv \_\_\_\_\_\_ bv \_\_\_\_\_\_

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DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

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¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

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wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2c: Bengali consent for household enrollment for water intervention

†¯^”Qv m¤§wZcÎt Lvbv Gb‡ivj‡g›U

cvwb cwi‡kva‡bi Rb¨ B›Uvi‡fbkb- cvwbi cvÎ mn AvKzq¨vU¨vem

AvšÍR©vwZK D`ivgq M‡elYv †K›`ª evsjv‡`k (AvB wm wW wW Avi, we )

M‡elYvi wk‡ivbvg:

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb Ges m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve

cÖavb M‡el‡Ki bvg: W. w÷‡db wc jywe

M‡elYvi D‡Ïk¨:

Avm&mvjvgyAvjvBKzg| Avgvi bvg ( \_\_\_\_\_\_\_\_\_ ) Ges Avwg AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx| Avgiv GB M‡elYvi gva¨‡g wKQy mvavib B›Uvi‡fbkb †hgb- cvqLvbvi Dbœqb, cvwbi ¸bMZgvb Ges ¯^v¯’¨m¤§Z Af¨vm ev wZb eQ‡ii †QvU ev”Pv‡`i cywóMZ Ae¯’v BZ¨vw`i Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q| Avgiv eySvi †Póv KiwQ KLb wkïi kvixwiK I gvbwmK e„w× †ekx nq, GB B›Uvi‡fbkb¸‡jv c„\_K fv‡e ‡`Iqv n‡j bvwK GKmv‡\_ †`qv n‡j| G‡Z K‡i Avgiv fwel¨‡Z ¯^í Li‡Pi B›Uvi‡fbk‡bi K\_v ej‡Z cvie|

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡b Avgš¿Y Rvbvw”Q?

Avgiv Avcbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcwb cieZ©x 8 gv‡mi g‡a¨ GKwU wkïi Rb¥ †`‡eb Ges Avgiv wkï‡`i Rxe‡bi ïi“ †\_‡KB Zv‡`i e„w× ch©‡e¶Y Ki‡Z AvMÖnx|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx ?

GB M‡elYv 2 eQi a‡i Pj‡e| Avcbvi AbygwZµ‡g Avgiv GB Lvbv‡K GB M‡elYvq AšÍ©f~³ Kie| jUvwii gva¨‡g Avcbvi Lvbv AvKzq¨v‡Uem Gi Rb¨ wbe©vwPZ n‡q‡Q hv cvwb weï× Kivi Rb¨ e¨envi Kiv nq| GQvovI cvwb msi¶‡Yi Rb¨ Avcbv‡K GKwU Kjm w`e| G¸‡jv m¤ú‡K© wewfbœ Z\_¨ †`Iqvi Rb¨ ¯’vbxq KwgDwbwU †nj\_ cÖ‡gvUi Avcbv‡`i Lvbv cwi`©kb Ki‡e Ges DVvb ˆeVK Ki‡e, †hLv‡b wZwb wKfv‡e GB AvKzq¨v‡Uem e¨envi K‡i cvwb weï× Ki‡Z nq †m m¤ú‡K© K\_v ej‡eb|

hw` Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y ivRx nq, Zvn‡j M‡elYv cÖwZwbwaiv Avcbvi cwiev‡ii m`m¨‡`i KvQ †\_‡K mv¶vrKvi I ch©‡e¶†Yi gva¨‡g wKQz Z\_¨ msMÖn Ki‡e Ges wkï‡`i wKQz cwigvc wb‡e| cÖv\_wgKfv‡e Avgiv Avcbvi Lvbvi cÖviw¤¢K Z\_¨ Ges Lvbv m`m¨‡`i cÖwZw`‡bi ¯^v¯’¨m¤§Z Af¨vm, cvwb cwi‡kvab Ges cqtwb®‹vkb m¤ú©KxZ Z\_¨ msMÖn Kie| Avcbvi AbygwZµ‡g, Avgiv Avcbvi cqtwb®‹vkb e¨e¯’v ev myweav mg~n cwi`©kb Kie| GQvov M‡elYv Kg©xiv wkïi wUKv I wkïi e„w× m¤ú‡K© wKQz cÖkœ Ki‡e Ges wkï \_vK‡j ev hLb Rb¥MÖnb Ki‡e, ZLb Zvi IRb mn wKQz cwigvc MÖnb Ki‡e| GQvovI Zviv gv/cwiPh©vKvix‡K wkïi Lv`¨vfvm Ges wkïi Amy¯’Zv RwbZ cÖkœ Ki‡e| M‡elYv Kg©xiv 2 eQ‡i g‡a¨ GB KvRwU †gvU 3 evi Ki‡e- M‡elYvi ïi“‡Z, 1g eQ‡i I 2q eQ‡i| Avgiv msM„nxZ Z‡\_¨i gva¨‡g eySvi †Póv Kie †h GB B›Uvi‡fbkb wkïi Dci wK iKg cÖfve †d‡j‡Q|

Su~wK Ges myweavw`:

Kvh©Z GLv‡b †Zgb †Kvb Su~wK †bB| ‡K¬vwib w`‡q cvwb weï×KiY GKwU eûj cwiwPZ c×wZ| GB M‡elYvq AskMÖn‡bi Kvi‡Y Avcwb †Kvb cÖKvi A\_©‰bwZK myweav cv‡eb bv| GB mKj B›Uvi‡fbkb e¨env‡ii gva¨‡g weï× cvwb cvb K‡i Avcbvi Lvbvi m`m¨iv ¯^v¯’¨MZfv‡e DcK…Z n‡Z cv‡ib |

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv:

GB †`‡ki AvBb Abyhvqx Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z\_¨ I bgybvi †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| msM„nxZ Z\_¨ Ges cix¶vi djvdj †MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| †iKW©K„Z mKj mv¶vZKvi †MvcbxqZvi mv‡\_ msi¶Y Kiv n‡e Ges Avcbv‡`i †`Iqv Ab¨vb¨ Z\_¨ we‡k­l‡Yi ci gy‡Q †djv n‡e| Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elYv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡j­L Kiv n‡e bv|

fwel¨‡Z Z‡\_¨i e¨envi:

GB M‡elYvq msM„wnZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kiv n‡e|

‡¯^”Qv AskMÖnY :

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wbf©i K‡i| Avcbvi Lvbvi ZvwjKvf~³ m`m¨iv †h †Kvb cÖkœ A\_ev me cÖ‡kœi DËi bvI w`‡Z cv‡ib| Avcbvi wjwLZ AbygwZ †`qvi cieZ©x‡ZI Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q GgbwK mv¶vrKvi MÖn‡Yi ev `jxq Av‡jvPbvi gvSLv‡bI Avcbvi AbygwZ wdwi‡q wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb mvwbqv Avkivd (wcAvBwWwfGm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8819419-20 (G·-120) †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elbvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523 (G·- 3206) †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

GB M‡elYvq AskMÖn†Y ivRx n‡q‡Q: n¨uv \_\_\_\_\_\_ bv \_\_\_\_\_\_

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DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

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¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

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wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2d: Bengali consent for household enrollment for handwashing interventions

†¯^”Qv m¤§wZcÎt Lvbv Gb‡ivj‡g›U

nvZ †avqvi B›Uvi‡fbkb- mvevb cvwbmn nvZ †avqvi ¯’vb

AvšÍR©vwZK D`ivgq M‡elYv †K›`ª evsjv‡`k (AvB wm wW wW Avi, we )

M‡elYvi wk‡ivbvg:

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb Ges m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve

cÖavb M‡el‡Ki bvg: W. w÷‡db wc jywe

M‡elYvi D‡Ïk¨:

Avm&mvjvgyAvjvBKzg| Avgvi bvg ( \_\_\_\_\_\_\_\_\_ ) Ges Avwg AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx| Avgiv GB M‡elYvi gva¨‡g wKQy mvavib B›Uvi‡fbkb †hgb- cvqLvbvi Dbœqb, cvwbi ¸bMZgvb Ges ¯^v¯’¨m¤§Z Af¨vm ev wZb eQ‡ii †QvU ev”Pv‡`i cywóMZ Ae¯’v BZ¨vw`i Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q| Avgiv eySvi †Póv KiwQ KLb wkïi kvixwiK I gvbwmK e„w× †ekx nq, GB B›Uvi‡fbkb¸‡jv c„\_K fv‡e ‡`Iqv n‡j bvwK GKmv‡\_ †`qv n‡j| G‡Z K‡i Avgiv fwel¨‡Z ¯^í Li‡Pi B›Uvi‡fbk‡bi K\_v ej‡Z cvie|

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡b Avgš¿Y Rvbvw”Q?

Avgiv Avcbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcwb cieZ©x 8 gv‡mi g‡a¨ GKwU wkïi Rb¥ †`‡eb Ges Avgiv wkï‡`i Rxe‡bi ïi“ †\_‡KB Zv‡`i e„w× ch©‡e¶Y Ki‡Z AvMÖnx|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx ?

GB M‡elYv 2 eQi a‡i Pj‡e| Avcbvi AbygwZµ‡g Avgiv GB Lvbv‡K GB M‡elYvq AšÍ©f~³ Kie| jUvwii gva¨‡g Avcbvi Lvbv nvZ †avqvi ¯’v†bi Rb¨ wbe©vwPZ n‡q‡Q| cvqLvbvi ci Ges Lvevi ˆZix Kivi Av‡M nvZ †avqvi Rb¨ Avcbv‡`i‡K DrmvwnZ Kivi Rb¨ Avcbvi Lvbvq cvqLvbv ev ivbœvN‡ii cv‡k nvZ †avqvi ¯’vb ¯’vcb Ki‡Z Pvw”Q| G¸‡jv m¤ú‡K© wewfbœ Z\_¨ †`Iqvi Rb¨ ¯’vbxq KwgDwbwU †nj\_ cÖ‡gvUi Avcbv‡`i Lvbv cwi`©kb Ki‡e Ges DVvb ˆeVK Ki‡e †hLv‡b †m Gme B›Uvi‡fbkb e¨env‡ii K\_v ej‡e| GQvov wWUvi‡R›U cvDWvi I cvwb w`‡q wKfv‡e nvZ †avqvi DcKib mvevb cvwb ˆZix Kiv hvq Zv Avcbv‡`i‡K wkwL‡q w`‡e|

hw` Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y ivRx nq, Zvn‡j M‡elYv cÖwZwbwaiv Avcbvi cwiev‡ii m`m¨‡`i KvQ †\_‡K mv¶vrKvi I ch©‡e¶†Yi gva¨‡g wKQz Z\_¨ msMÖn Ki‡e Ges wkï‡`i wKQz cwigvc wb‡e| cÖv\_wgKfv‡e Avgiv Avcbvi Lvbvi cÖviw¤¢K Z\_¨ Ges Lvbv m`m¨‡`i cÖwZw`‡bi ¯^v¯’¨m¤§Z Af¨vm, cvwb cwi‡kvab Ges cqtwb®‹vkb m¤ú©KxZ Z\_¨ msMÖn Kie| Avcbvi AbygwZµ‡g, Avgiv Avcbvi cqtwb®‹vkb e¨e¯’v ev myweav mg~n cwi`©kb Kie| GQvov M‡elYv Kg©xiv wkïi wUKv I wkïi e„w× m¤ú‡K© wKQz cÖkœ Ki‡e Ges wkï \_vK‡j ev hLb Rb¥MÖnb Ki‡e, ZLb Zvi IRb mn wKQz cwigvc MÖnb Ki‡e| GQvovI Zviv gv/cwiPh©vKvix‡K wkïi Lv`¨vfvm Ges wkïi Amy¯’Zv RwbZ cÖkœ Ki‡e| M‡elYv Kg©xiv 2 eQ‡ii g‡a¨ GB KvRwU †gvU 3 evi Ki‡e- M‡elYvi ïi“‡Z, 1g eQ‡i I 2q eQ‡i | Avgiv msM„nxZ Z‡\_¨i gva¨‡g eySvi †Póv Kie †h GB B›Uvi‡fbkb wkïi Dci wK iKg cÖfve †d‡j‡Q|

Su~wK Ges myweavw`:

Kvh©Z GLv‡b †Zgb †Kvb Su~wK †bB| mvevb-cvwbi †Kvb cv©k¦cÖwZwµqv †bB| GB M‡elYvq AskMÖn‡bi Kvi‡Y Avcwb †Kvb cÖKvi A\_©‰bwZK myweav cv‡eb bv| GB mKj B›Uvi‡fbkb cvIqvi Kvi‡Y Avcbvi Lvbvi m`m¨iv ¯^v¯’¨MZfv‡e DcK…Z n‡Z cv‡ib |

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv:

GB †`‡ki AvBb Abyhvqx Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z\_¨ I bgybvi †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| msM„nxZ Z\_¨ Ges cix¶vi djvdj †MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| †iKW©K„Z mKj mv¶vZKvi †MvcbxqZvi mv‡\_ msi¶Y Kiv n‡e Ges Avcbv‡`i †`Iqv Ab¨vb¨ Z\_¨ we‡k­l‡Yi ci gy‡Q †djv n‡e| Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elYv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡j­L Kiv n‡e bv|

fwel¨‡Z Z‡\_¨i e¨envi:

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kiv n‡e|

‡¯^”Qv AskMÖnY :

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wbf©i K‡i| Avcbvi Lvbvi ZvwjKvf~³ m`m¨iv †h †Kvb cÖkœ A\_ev me cÖ‡kœi DËi bvI w`‡Z cv‡ib| Avcbvi wjwLZ AbygwZ †`qvi cieZ©x‡ZI Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q GgbwK mv¶vrKvi MÖn‡Yi ev `jxq Av‡jvPbvi gvSLv‡bI Avcbvi AbygwZ wdwi‡q wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb mvwbqv Avkivd (wcAvBwWwfGm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8819419-20 (G·-120) †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523 (G·- 3206) †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

GB M‡elYvq AskMÖn†Y ivRx n‡q‡Q: n¨uv \_\_\_\_\_\_ bv \_\_\_\_\_\_

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DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

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¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

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wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2e: Bengali consent for household enrollment for sanitation interventions

†¯^”Qv m¤§wZcÎt Lvbv Gb‡ivj‡g›U

m¨vwb‡Ukb B›Uvi‡fbkb- cwU, m¨vwb¯‹zc Ges 2 wc‡Ui cvqLvbv cÖ`vb

AvšÍR©vwZK D`ivgq M‡elYv †K›`ª evsjv‡`k (AvB wm wW wW Avi, we )

M‡elYvi wk‡ivbvg:

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb Ges m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve

cÖavb M‡el‡Ki bvg: W. w÷‡db wc jywe

M‡elYvi D‡Ïk¨:

Avm&mvjvgyAvjvBKzg| Avgvi bvg ( \_\_\_\_\_\_\_\_\_ ) Ges Avwg AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx| Avgiv GB M‡elYvi gva¨‡g wKQy mvavib B›Uvi‡fbkb †hgb- cvqLvbvi Dbœqb, cvwbi ¸bMZgvb Ges ¯^v¯’¨m¤§Z Af¨vm ev wZb eQ‡ii †QvU ev”Pv‡`i cywóMZ Ae¯’v BZ¨vw`i Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q| Avgiv eySvi †Póv KiwQ KLb wkïi kvixwiK I gvbwmK e„w× †ekx nq, GB B›Uvi‡fbkb¸‡jv c„\_K fv‡e ‡`Iqv n‡j bvwK GKmv‡\_ †`qv n‡j| G‡Z K‡i Avgiv fwel¨‡Z ¯^í Li‡Pi B›Uvi‡fbk‡bi K\_v ej‡Z cvie|

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡Y Avgš¿Y Rvbvw”Q?

Avgiv Avcbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcwb cieZ©x 8 gv‡mi g‡a¨ GKwU wkïi Rb¥ †`‡eb Ges Avgiv wkï‡`i Rxe‡bi ïi“ †\_‡KB Zv‡`i e„w× ch©‡e¶Y Ki‡Z AvMÖnx|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx ?

GB M‡elYv 2 eQi a‡i Pj‡e| Avcbvi AbygwZµ‡g Avgiv GB Lvbv‡K GB M‡elYvq AšÍ©f~³ Kie| jUvwii gva¨‡g Avcbvi Lvbv wkïi cvqLvbv Kivi Rb¨ cwU, wkï Ges cïcvwLi cvqLvbv †djvi Rb¨ m¨vwb¯‹zc Ges 2 wc‡Ui cvqLvbvi Rb¨ wbe©vwPZ n‡q‡Q| Avgiv Avcbvi wkï‡K cvqLvbv Kivi Rb¨ cwU, wkï Ges cïcvwLi cvqLvbv ¯^v¯’¨m¤§Zfv‡e wc‡U ev cvqLvbv‡Z †djvi Rb¨ m¨vwb¯‹zc w`e| GQvovI mKj Lvbvq m¨vwb¯‹zc †`Iqv n‡e Ges cÖwZwU Lvbvi cvqLvbv‡K 2 wc‡Ui cvqLvbvq cwieZ©b Kiv n‡e| GQvovI GB evox‡Z hZ¸‡jv cvqLvbv ˆZix K‡i †`Iqv n‡e †m¸‡jv ¯^v¯’¨m¤§Z Ae¯’v eRvq ivL‡Q wKbv Zv †`Lvi Rb¨ M‡elYvKg©xiv Avcbvi Lvbv cwi`k©b Ki‡e| hw` ¯^v¯’¨m¤§Z Ae¯’v eRvq bv iv‡L Zvn‡j cÖ‡qvR‡b cvwbi mxj, 2wU wcU ˆZix ev †givgZ Kiv n‡e| G¸‡jv m¤ú‡K© wewfbœ Z\_¨ †`Iqvi Rb¨ ¯’vbxq KwgDwbwU †nj\_ cÖ‡gvUi Avcbv‡`i Lvbv cwi`©kb Ki‡e Ges DVvb ˆeVK Ki‡e †hLv‡b †m Gme B›Uvi‡fbkb e¨env‡ii K\_v ej‡e|

hw` Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y ivRx nq, Zvn‡j M‡elYv cÖwZwbwaiv Avcbvi cwiev‡ii m`m¨‡`i KvQ †\_‡K mv¶vrKvi I ch©‡e¶†Yi gva¨‡g wKQz Z\_¨ msMÖn Ki‡e Ges wkï‡`i wKQz cwigvc wb‡e| cÖv\_wgKfv‡e Avgiv Avcbvi Lvbvi cÖviw¤¢K Z\_¨ Ges Lvbv m`m¨‡`i cÖwZw`‡bi ¯^v¯’¨m¤§Z Af¨vm, cvwb cwi‡kvab Ges cqtwb®‹vkb m¤ú©KxZ Z\_¨ msMÖn Kie| Avcbvi AbygwZµ‡g, Avgiv Avcbvi cqtwb®‹vkb e¨e¯’v ev myweav mg~n cwi`©kb Kie| GQvov M‡elYv Kg©xiv wkïi wUKv I wkïi e„w× m¤ú‡K© wKQz cÖkœ Ki‡e Ges wkï \_vK‡j ev hLb Rb¥MÖnb Ki‡e, ZLb Zvi IRb mn wKQz cwigvc MÖnb Ki‡e| GQvovI Zviv gv/cwiPh©vKvix‡K wkïi Lv`¨vfvm Ges wkïi Amy¯’Zv RwbZ cÖkœ Ki‡e| M‡elYv Kg©xiv 2 eQ‡ii g‡a¨ GB KvRwU †gvU 3 evi Ki‡e- M‡elYvi ïi“‡Z, 1g eQ‡i I 2q eQ‡i| Avgiv msM„nxZ Z‡\_¨i gva¨‡g eySvi †Póv Kie †h GB B›Uvi‡fbkb wkïi Dci wK iKg cÖfve †d‡j‡Q|

Su~wK Ges myweavw`:

Kvh©Z GLv‡b †Zgb †Kvb Su~wK †bB| GB M‡elYvq AskMÖn‡Yi Kvi‡Y Avcwb †Kvb cÖKvi A\_©‰bwZK myweav cv‡eb bv|GB mKj `ªe¨ Ges cvqLvbv B›Uvi‡fbkb cvIqvi Kvi‡Y Avcbvi Lvbvi m`m¨iv ¯^v¯’¨MZfv‡e DcK…Z n‡Z cv‡ib |

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv :

GB †`‡ki AvBb Abyhvqx Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z‡\_¨i †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| msM„nxZ Z\_¨ Ges Gi djvdj †MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| †iKW©K„Z mKj mv¶vZKvi †MvcbxqZvi mv‡\_ msi¶Y Kiv n‡e Ges Avcbv‡`i †`Iqv Ab¨vb¨ Z\_¨ we‡k­l‡Yi ci gy‡Q †djv n‡e| Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elbv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡jøL Kiv n‡e bv|

fwel¨‡Z Z‡\_¨i e¨envi:

GB M‡elYvq msM„wnZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kiv n‡e|

‡¯^”Qv AskMÖnY :

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wb©fi K‡i| Avcbvi Lvbvi ZvwjKvf~³ m`m¨iv †h †Kvb cÖkœ A\_ev me cÖ‡kœi DËi bvI w`‡Z cv‡ib| Avcbvi wjwLZ AbygwZ †`qvi cieZ©x‡ZI Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q GgbwK mv¶vrKvi MÖn‡bi ev `jxq Av‡jvPbvi gvSLv‡bI Avcbvi AbygwZ wdwi‡q wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡bi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb mvwbqv Avkivd (wcAvBwWwfGm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8819419-20 (G·-120) †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523 (G·- 3206) †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

GB M‡elYvq AskMÖn†Y ivRx n‡q‡Q: n¨uv \_\_\_\_\_\_ bv \_\_\_\_\_\_

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DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2f: Bengali consent for household enrollment for nutritional supplements

†¯^”Qv m¤§wZcÎt 6-24 gvm eq‡mi ev”Pv‡`i cywó c¨v‡KU cÖ`vb

AvšÍR©vwZK D`ivgq M‡elYv †K›`ª evsjv‡`k (AvB wm wW wW Avi, we )

M‡elYvi wk‡ivbvg:

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb Ges m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve

cÖavb M‡el‡Ki bvg: W. w÷‡db wc jywe

M‡elYvi D‡Ïk¨:

Avm&mvjvgyAvjvBKzg| Avgvi bvg ( \_\_\_\_\_\_\_\_\_ ) Ges Avwg AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx| Avgiv GB M‡elYvi gva¨‡g wKQy mvavib B›Uvi‡fbkb †hgb- cvqLvbvi Dbœqb, cvwbi ¸bMZgvb Ges ¯^v¯’¨m¤§Z Af¨vm ev wZb eQ‡ii †QvU ev”Pv‡`i cywóMZ Ae¯’v BZ¨vw`i Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q| Avgiv eySvi †Póv KiwQ KLb wkïi kvixwiK I gvbwmK e„w× †ekx nq, GB B›Uvi‡fbkb¸‡jv c„\_K fv‡e ‡`Iqv n‡j bvwK GKmv‡\_ †`qv n‡j| G‡Z K‡i Avgiv fwel¨‡Z ¯^í Li‡Pi B›Uvi‡fbk‡bi K\_v ej‡Z cvie|

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡Y Avgš¿Y Rvbvw”Q?

Avgiv Avcbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcwb cieZ©x 8 gv‡mi g‡a¨ GKwU wkïi Rb¥ †`‡eb Ges Avgiv wkï‡`i Rxe‡bi ïi“ †\_‡KB Zv‡`i e„w× ch©‡e¶Y Ki‡Z AvMÖnx|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx ?

GB M‡elYv 2 eQi a‡i Pj‡e| Avcbvi AbygwZµ‡g Avgiv GB Lvbv‡K GB M‡elYvq AšÍ©f~³ Kie| Avgiv jUvwii gva¨‡g 6-21 gv‡mi Kg eq‡mi wkï‡`i Rb¨ cywó c¨v‡KU w`e| Avcbvi Lvbvq GB g~û‡Z© cywó c¨v‡KU cvIqvi eqmx †Kvb wkï bvI \_vK‡Z cv‡i| †m‡ÿ‡Î Avcbvi wkï hLb GB eqmmxgvi g‡a¨ Avm‡e ZLb †m cywó c¨v‡KU cv‡e| G¸‡jv m¤ú‡K© wewfbœ Z\_¨ †`Iqvi Rb¨ ¯’vbxq KwgDwbwU †nj\_ cÖ‡gvUi Avcbv‡`i Lvbv cwi`©kb Ki‡e Ges DVvb ˆeVK Ki‡e †hLv‡b †m cÖwZw`b `yB c¨v‡KU K‡i cywó c¨v‡KU LvIqv‡bvi K\_v ej‡e| GQvovI †m Avcbvi Lvbvq cÖ‡qvRb Abymv‡i cÖwZ gv‡mi Rb¨ cywó c¨v‡KU w`‡e|

m¤ú~iK LveviwU wfUvwgb I LwbR c`v\_© mg„× hv ˆZix n‡q‡Q `ya I ev`v‡gi wgkª‡b| wkï‡K Zvi ¯^vfvweK Lvevi LvIqv‡bvi Av‡M 2-3 PvgP ¯^vfvweK Lvev†ii mv‡\_ (†hgb: wLPzix) GKwU cywó c¨v‡K†Ui meUzKz Lvevi wgwk‡q LvIqv‡eb Ges cÖwZw`b 2wU K‡i cywó c¨v‡KU LvIqv‡eb| GB m¤ú~iK Lvevi ivbœv Ki‡eb bv ev †iwd«Rv‡iUv‡i/ wdª‡R ivL‡eb bv; N‡ii mvaviY ZvcgvÎvq ivL‡eb|

hw` Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y ivRx nq, Zvn‡j M‡elYv cÖwZwbwaiv Avcbvi cwiev‡ii m`m¨‡`i KvQ †\_‡K mv¶vrKvi I ch©‡e¶†Yi gva¨‡g wKQz Z\_¨ msMÖn Ki‡e Ges wkï‡`i wKQz cwigvc wb‡e| cÖv\_wgKfv‡e Avgiv Avcbvi Lvbvi cÖviw¤¢K Z\_¨ Ges Lvbv m`m¨‡`i cÖwZw`‡bi ¯^v¯’¨m¤§Z Af¨vm, cvwb cwi‡kvab Ges cqtwb®‹vkb m¤ú©KxZ Z\_¨ msMÖn Kie| Avcbvi AbygwZµ‡g, Avgiv Avcbvi cqtwb®‹vkb e¨e¯’v ev myweav mg~n cwi`©kb Kie| GQvov M‡elYv Kg©xiv wkïi wUKv I wkïi e„w× m¤ú‡K© wKQz cÖkœ Ki‡e Ges wkï \_vK‡j ev hLb Rb¥MÖnb Ki‡e, ZLb Zvi IRb mn wKQz cwigvc MÖnb Ki‡e| GQvovI Zviv gv/cwiPh©vKvix‡K wkïi Lv`¨vfvm Ges wkïi Amy¯’Zv RwbZ cÖkœ Ki‡e| M‡elYv Kg©xiv 2 eQ‡ii g‡a¨ GB KvRwU †gvU 3 evi Ki‡e- M‡elYvi ïi“‡Z, 1g eQ‡i I 2q eQ‡i| Avgiv msM„nxZ Z‡\_¨i gva¨‡g eySvi †Póv Kie †h GB B›Uvi‡fbkb wkïi Dci wK iKg cÖfve †d‡j‡Q|

Su~wK Ges myweavw`:

Kvh©Z GLv‡b †Zgb †Kvb Su~wK †bB| GB M‡elYvq AskMÖn‡Yi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

wjwc‡Wi ˆZix m¤ú~iK Lvevi hv GB M‡elYvq e¨envi Kiv n‡e Zv evsjv‡`‡k I `w¶Y Avwd«Kvq cix¶v Kiv n‡q‡Q Ges Gi †Kvb iKg Lvivc cÖfve ‡Kv\_vI cvIqv hvq bvB| AvgivI †Kvb ai‡bi Lvivc cÖfve Avkv KiwQ bv| ZviciI G Lvevi MÖn‡Y hw` Avcbvi wkïi †Kvb iKg Amyweav †`Lv †`q (‡hgb ewg, ‡cU e¨v\_v, i¨vk, k¦vmKó) Z‡e †m‡¶‡Î Zvr¶wbK fv‡e D³ m¤ú~iK Lvevi MÖnY n‡Z weiZ \_vK‡eb Ges M‡elYvKgx©†K Zv Rvbv‡eb|

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv :

GB †`‡ki AvBb Abyhvqx Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z\_¨ I bgybvi †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| msM„nxZ Z\_¨ Ges Gi djvdj †MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| †iKW©K„Z mKj mv¶vZKvi †MvcbxqZvi mv‡\_ msi¶Y Kiv n‡e Ges Avcbv‡`i †`Iqv Ab¨vb¨ Z\_¨ we‡k­l‡Yi ci gy‡Q †djv n‡e| Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elYv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡jøL Kiv n‡e bv|

fwel¨‡Z Z‡\_¨i e¨envi:

GB M‡elYvq msM„wnZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kiv n‡e|

‡¯^”Qv AskMÖnY :

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wb©fi K‡i| Avcbvi Lvbvi ZvwjKvf~³ m`m¨iv †h †Kvb cÖkœ A\_ev me cÖ‡kœi DËi bvI w`‡Z cv‡ib| Avcbvi wjwLZ AbygwZ †`qvi cieZ©x‡ZI Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q GgbwK mv¶vrKvi MÖn‡bi ev `jxq Av‡jvPbvi gvSLv‡bI Avcbvi AbygwZ wdwi‡q wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb mvwbqv Avkivd (wcAvBwWwfGm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8819419-20 (G·-120) †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523 (G·- 3206) †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

GB M‡elYvq AskMÖn†Y ivRx n‡q‡Q: n¨uv \_\_\_\_\_\_ bv \_\_\_\_\_\_

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DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2g: Bengali consent for household enrollment for water + sanitation + hygiene

M‡elYvi wk‡ivbvg:

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb Ges m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve

cÖavb M‡el‡Ki bvg: W. w÷‡db wc jywe

M‡elYvi D‡Ïk¨:

Avm&mvjvgyAvjvBKzg| Avgvi bvg ( \_\_\_\_\_\_\_\_\_ ) Ges Avwg AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx| Avgiv GB M‡elYvi gva¨‡g wKQy mvavib B›Uvi‡fbkb †hgb- cvqLvbvi Dbœqb, cvwbi ¸bMZgvb Ges ¯^v¯’¨m¤§Z Af¨vm ev wZb eQ‡ii †QvU ev”Pv‡`i cywóMZ Ae¯’v BZ¨vw`i Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q| Avgiv eySvi †Póv KiwQ KLb wkïi kvixwiK I gvbwmK e„w× †ekx nq, GB B›Uvi‡fbkb¸‡jv c„\_K fv‡e ‡`Iqv n‡j bvwK GKmv‡\_ †`qv n‡j| G‡Z K‡i Avgiv fwel¨‡Z ¯^í Li‡Pi B›Uvi‡fbk‡bi K\_v ej‡Z cvie|

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡Y Avgš¿Y Rvbvw”Q?

Avgiv Avcbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcwb cieZ©x 8 gv‡mi g‡a¨ GKwU wkïi Rb¥ †`‡eb Ges Avgiv wkï‡`i Rxe‡bi ïi“ †\_‡KB Zv‡`i e„w× ch©‡e¶Y Ki‡Z AvMÖnx|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx ?

GB M‡elYv 2 eQi a‡i Pj‡e| Avcbvi AbygwZµ‡g Avgiv GB Lvbv‡K GB M‡elYvq AšÍ©f~³ Kie| Avgiv jUvwii gva¨‡g mvevb cvwb mn nvZ †avqvi Wªvg, cvwb cwi‡kva‡bi Rb¨ cvÎmn GKy¨qvU¨vem, wkï‡`i cvqLvbv †djvi Rb¨ cwU I †mwb¯‹zc, cÖ‡hvR¨ n‡j cvwbi mxjmn `yB wc‡Ui cvqLvbv ‰Zix K‡i ev wVK K‡i w`e| G¸‡jv m¤ú‡K© wewfbœ Z\_¨ †`Iqvi Rb¨ ¯’vbxq KwgDwbwU †nj\_ cÖ‡gvUi Avcbv‡`i Lvbv cwi`©kb Ki‡e Ges DVvb ˆeVK Ki‡e †hLv‡b †m Gme B›Uvi‡fbkb e¨env‡ii K\_v ej‡e| mKj Lvbvq m¨vwb¯‹zcI †`Iqv n‡e| GQvovI GB evox‡Z hZ¸‡jv cvqLvbv ˆZix K‡i †`Iqv n‡e †m¸‡jv ¯^v¯’¨m¤§Z Ae¯’v eRvq ivL‡Q wKbv Zv †`Lvi Rb¨ M‡elYvKg©xiv Avcbvi Lvbv cwi`k©b Ki‡e| hw` ¯^v¯’¨m¤§Z Ae¯’v eRvq bv iv‡L Zvn‡j cÖ‡qvR‡b cvwbi mxj, 2wU wcU ˆZix ev †givgZ Kiv n‡e|

hw` Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y ivRx nq, Zvn‡j M‡elYv cÖwZwbwaiv Avcbvi cwiev‡ii m`m¨‡`i KvQ †\_‡K mv¶vrKvi I ch©‡e¶†Yi gva¨‡g wKQz Z\_¨ msMÖn Ki‡e Ges wkï‡`i wKQz cwigvc wb‡e| cÖv\_wgKfv‡e Avgiv Avcbvi Lvbvi cÖviw¤¢K Z\_¨ Ges Lvbv m`m¨‡`i cÖwZw`‡bi ¯^v¯’¨m¤§Z Af¨vm, cvwb cwi‡kvab Ges cqtwb®‹vkb m¤ú©KxZ Z\_¨ msMÖn Kie| Avcbvi AbygwZµ‡g, Avgiv Avcbvi cqtwb®‹vkb e¨e¯’v ev myweav mg~n cwi`©kb Kie| GQvov M‡elYv Kg©xiv wkïi wUKv I wkïi e„w× m¤ú‡K© wKQz cÖkœ Ki‡e Ges wkï \_vK‡j ev hLb Rb¥MÖnb Ki‡e, ZLb Zvi IRb mn wKQz cwigvc MÖnY Ki‡e| GQvovI Zviv gv/cwiPh©vKvix‡K wkïi Lv`¨vfvm Ges wkïi Amy¯’Zv RwbZ cÖkœ Ki‡e| M‡elYv Kg©xiv 2 eQ‡ii g‡a¨ GB KvRwU †gvU 3 evi Ki‡e- M‡elYvi ïi“‡Z, 1g eQ‡i I 2q eQ‡i| Avgiv msM„nxZ Z‡\_¨i gva¨‡g eySvi †Póv Kie †h GB B›Uvi‡fbkb wkïi Dci wK iKg cÖfve †d‡j‡Q|

Su~wK Ges myweavw`:

Kvh©Z GLv‡b †Zgb †Kvb Su~wK †bB| mvevb-cvwbi †Kvb cv©k¦cÖwZwµqv †bB| GB M‡elYvq AskMÖn‡Yi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv| GB M‡elYv Kv‡R hy³ n‡q Avcwb I Avcbvi Lvbvi m`m¨iv wewfbœ B›Uvi‡fbkb cvIqvi Kvi‡Y ¯^v¯’¨MZfv‡e DcK…Z n‡Z cv‡ib| Lvbv DcK…Z n‡Z cv‡i †h‡nZz M‡elYvi Kvh© wnmv‡e cq:wb®‹vkb e¨e¯’v, nvZ †avqv I cvwbi ¸bMZ gvb Dbœq‡bi myweav cv‡e Ges m¤ú~iK Lvevi mieivn Kiv n‡e|

wjwc‡Wi ˆZix m¤ú~iK Lvevi hv GB M‡elYvq e¨envi Kiv n‡e Zv evsjv‡`‡k I `w¶Y Avwd«Kvq cix¶v Kiv n‡q‡Q Ges Gi †Kvb iKg Lvivc cÖfve ‡Kv\_vI cvIqv hvq bvB| AvgivI †Kvb ai‡bi Lvivc cÖfve Avkv KiwQ bv| ZviciI G Lvevi MÖn‡Y hw` Avcbvi wkïi †Kvb iKg Amyweav †`Lv †`q (‡hgb ewg, ‡cU e¨v\_v, i¨vk, k¦vmKó) Z‡e †m‡¶‡Î Zvr¶wbK fv‡e D³ m¤ú~iK Lvevi MÖnY n‡Z weiZ \_vK‡eb Ges M‡elYvKgx©†K Zv Rvbv‡eb|

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv :

GB †`‡ki AvBb Abyhvqx Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z\_¨ I bgybvi †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| msM„nxZ Z\_¨ Ges Gi djvdj †MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| †iKW©K„Z mKj mv¶vZKvi †MvcbxqZvi mv‡\_ msi¶Y Kiv n‡e Ges Avcbv‡`i †`Iqv Ab¨vb¨ Z\_¨ we‡k­l‡Yi ci gy‡Q †djv n‡e| Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elYv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡jøL Kiv n‡e bv|

fwel¨‡Z Z‡\_¨i e¨envi:

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kiv n‡e|

‡¯^”Qv AskMÖnY :

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wb©fi K‡i| Avcbvi Lvbvi ZvwjKvf~³ m`m¨iv †h †Kvb cÖkœ A\_ev me cÖ‡kœi DËi bvI w`‡Z cv‡ib| Avcbvi wjwLZ AbygwZ †`qvi cieZ©x‡ZI Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q GgbwK mv¶vrKvi MÖn‡bi ev `jxq Av‡jvPbvi gvSLv‡bI Avcbvi AbygwZ wdwi‡q wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡bi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb mvwbqv Avkivd (wcAvBwWwfGm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8819419-20 (G·-120) †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523 (G·- 3206) †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

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DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2h: Bengali consent for household enrollment for water + sanitation + hygiene + nutritional supplements

†¯^”Qv m¤§wZcÎt Iqvk I cywó †cªvMÖvg

AvšÍR©vwZK D`vivgq M‡elYv †K›`ª evsjv‡`k (AvB wm wW wW Avi, we )

M‡elYvi wk‡ivbvg:

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb Ges m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve

cÖavb M‡el‡Ki bvg: W. w÷‡db wc jywe

M‡elYvi D‡Ïk¨:

Avm&mvjvgyAvjvBKzg| Avgvi bvg ( \_\_\_\_\_\_\_\_\_ ) Ges Avwg AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx| Avgiv GB M‡elYvi gva¨‡g wKQy mvavib B›Uvi‡fbkb †hgb- cvqLvbvi Dbœqb, cvwbi ¸bMZgvb Ges ¯^v¯’¨m¤§Z Af¨vm ev wZb eQ‡ii †QvU ev”Pv‡`i cywóMZ Ae¯’v BZ¨vw`i Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q| Avgiv eySvi †Póv KiwQ KLb wkïi kvixwiK I gvbwmK e„w× †ekx nq, GB B›Uvi‡fbkb¸‡jv c„\_K fv‡e ‡`Iqv n‡j bvwK GKmv‡\_ †`qv n‡j| G‡Z K‡i Avgiv fwel¨‡Z ¯^í Li‡Pi B›Uvi‡fbk‡bi K\_v ej‡Z cvie|

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡b Avgš¿Y Rvbvw”Q?

Avgiv Avcbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcwb cieZ©x 8 gv‡mi g‡a¨ GKwU wkïi Rb¥ †`‡eb Ges Avgiv wkï‡`i Rxe‡bi ïi“ †\_‡KB Zv‡`i e„w× ch©‡e¶Y Ki‡Z AvMÖnx|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx ?

GB M‡elYv 2 eQi a‡i Pj‡e| Avcbvi AbygwZµ‡g Avgiv GB Lvbv‡K GB M‡elYvq AšÍ©f~³ Kie| Avgiv jUvwii gva¨‡g mvevb cvwb mn nvZ †avqvi Wªvg, cvwb cwi‡kva‡bi Rb¨ cvÎmn GKy¨qvU¨vem, wkï‡`i cvqLvbv †djvi Rb¨ cwU I †mwb¯‹zc, cÖ‡hvR¨ n‡j cvwbi mxjmn `yB wc‡Ui cvqLvbv ‰Zix K‡i ev wVK K‡i w`e Ges 24 gv‡mi Kg eq‡mi wkï‡`i Rb¨ cywó c¨v‡KU w`e| Avcbvi Lvbvq GB g~û‡Z© cywó c¨v‡KU cvIqvi eqmx †Kvb wkï bvI \_vK‡Z cv‡i| †m‡ÿ‡Î Avcbvi wkï hLb GB eqmmxgvi g‡a¨ Avm‡e ZLb †m cywó c¨v‡KU cv‡e| G¸‡jv m¤ú‡K© wewfbœ Z\_¨ †`Iqvi Rb¨ ¯’vbxq KwgDwbwU †nj\_ cÖ‡gvUi Avcbv‡`i Lvbv cwi`©kb Ki‡e Ges DVvb ˆeVK Ki‡e †hLv‡b †m Gme B›Uvi‡fbkb e¨env‡ii K\_v ej‡e| GQvovI †m Avcbvi Lvbvq cÖ‡qvRb Abymv‡i cÖwZ gv‡mi Rb¨ cywó c¨v‡KU w`‡e| mKj Lvbvq m¨vwb¯‹zcI †`Iqv n‡e| GQvovI GB evox‡Z hZ¸‡jv cvqLvbv ˆZix K‡i †`Iqv n‡e †m¸‡jv ¯^v¯’¨m¤§Z Ae¯’v eRvq ivL‡Q wKbv Zv †`Lvi Rb¨ M‡elYvKg©xiv Avcbvi Lvbv cwi`k©b Ki‡e| hw` ¯^v¯’¨m¤§Z Ae¯’v eRvq bv iv‡L Zvn‡j cÖ‡qvR‡b cvwbi mxj, 2wU wcU ˆZix ev †givgZ Kiv n‡e|

m¤ú~iK LveviwU wfUvwgb I LwbR c`v\_© mg„× hv ˆZix n‡q‡Q `ya I ev`v‡gi wgkª‡b| wkï‡K Zvi ¯^vfvweK Lvevi LvIqv‡bvi Av‡M 2-3 PvgP ¯^vfvweK Lvev†ii mv‡\_ (†hgb: wLPzix) GKwU cywó c¨v‡K†Ui meUzKz Lvevi wgwk‡q LvIqv‡eb Ges cÖwZw`b 2wU K‡i cywó c¨v‡KU LvIqv‡eb| GB m¤ú~iK Lvevi ivbœv Ki‡eb bv ev †iwd«Rv‡iUv‡i/ wdª‡R ivL‡eb bv; N‡ii mvaviY ZvcgvÎvq ivL‡eb|

hw` Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y ivRx nq, Zvn‡j M‡elYv cÖwZwbwaiv Avcbvi cwiev‡ii m`m¨‡`i KvQ †\_‡K mv¶vrKvi I ch©‡e¶†Yi gva¨‡g wKQz Z\_¨ msMÖn Ki‡e Ges wkï‡`i wKQz cwigvc wb‡e| cÖv\_wgKfv‡e Avgiv Avcbvi Lvbvi cÖviw¤¢K Z\_¨ Ges Lvbv m`m¨‡`i cÖwZw`‡bi ¯^v¯’¨m¤§Z Af¨vm, cvwb cwi‡kvab Ges cqtwb®‹vkb m¤ú©KxZ Z\_¨ msMÖn Kie| Avcbvi AbygwZµ‡g, Avgiv Avcbvi cqtwb®‹vkb e¨e¯’v ev myweav mg~n cwi`©kb Kie| GQvov M‡elYv Kg©xiv wkïi wUKv I wkïi e„w× m¤ú‡K© wKQz cÖkœ Ki‡e Ges wkï \_vK‡j ev hLb Rb¥MÖnb Ki‡e, ZLb Zvi IRb mn wKQz cwigvc MÖnb Ki‡e| GQvovI Zviv gv/cwiPh©vKvix‡K wkïi Lv`¨vfvm Ges wkïi Amy¯’Zv RwbZ cÖkœ Ki‡e| M‡elYv Kg©xiv 2 eQ‡ii g‡a¨ GB KvRwU †gvU 3 evi Ki‡e- M‡elYvi ïi“‡Z, 1g eQ‡i I 2q eQ‡i| Avgiv msM„nxZ Z‡\_¨i gva¨‡g eySvi †Póv Kie †h GB B›Uvi‡fbkb wkïi Dci wK iKg cÖfve †d‡j‡Q|

Su~wK Ges myweavw`:

Kvh©Z GLv‡b †Zgb †Kvb Su~wK †bB| mvevb-cvwbi †Kvb cv©k¦cÖwZwµqv †bB| GB M‡elYvq AskMÖn‡Yi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv| GB M‡elYv Kv‡R hy³ n‡q Avcwb I Avcbvi Lvbvi m`m¨iv wewfbœ B›Uvi‡fbkb cvIqvi Kvi‡Y ¯^v¯’¨MZfv‡e DcK…Z n‡Z cv‡ib| Lvbv DcK…Z n‡Z cv‡i †h‡nZz M‡elYvi Kvh© wnmv‡e cq:wb®‹vkb e¨e¯’v,nvZ †avqv I cvwbi ¸bMZ gvb Dbœq‡bi myweav cv‡e Ges m¤ú~iK Lvevi mieivn Kiv n‡e|

wjwc‡Wi ˆZix m¤ú~iK Lvevi hv GB M‡elYvq e¨envi Kiv n‡e Zv evsjv‡`‡k I `w¶Y Avwd«Kvq cix¶v Kiv n‡q‡Q Ges Gi †Kvb iKg Lvivc cÖfve ‡Kv\_vI cvIqv hvq bvB| AvgivI †Kvb ai‡bi Lvivc cÖfve Avkv KiwQ bv| ZviciI G Lvevi MÖn‡b hw` Avcbvi wkïi †Kvb iKg Amyweav †`Lv †`q (‡hgb ewg, ‡cU e¨v\_v, i¨vk, k¦vmKó) Z‡e †m‡¶‡Î Zvr¶wbK fv‡e D³ m¤ú~iK Lvevi MÖnY n‡Z weiZ \_vK‡eb Ges M‡elYvKgx©†K Zv Rvbv‡eb|

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv :

GB †`‡ki AvBb Abyhvqx Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z\_¨ I bgybvi †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| msM„nxZ Z\_¨ Ges Gi djvdj †MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| †iKW©K„Z mKj mv¶vZKvi †MvcbxqZvi mv‡\_ msi¶Y Kiv n‡e Ges Avcbv‡`i †`Iqv Ab¨vb¨ Z\_¨ we‡k­l‡Yi ci gy‡Q †djv n‡e| Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elYv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡jøL Kiv n‡e bv|

fwel¨‡Z Z‡\_¨i e¨envi:

GB M‡elYvq msM„wnZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kiv n‡e|

‡¯^”Qv AskMÖnY :

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wb©fi K‡i| Avcbvi Lvbvi ZvwjKvf~³ m`m¨iv †h †Kvb cÖkœ A\_ev me cÖ‡kœi DËi bvI w`‡Z cv‡ib| Avcbvi wjwLZ AbygwZ †`qvi cieZ©x‡ZI Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q GgbwK mv¶vrKvi MÖn‡bi ev `jxq Av‡jvPbvi gvSLv‡bI Avcbvi AbygwZ wdwi‡q wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb mvwbqv Avkivd (wcAvBwWwfGm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8819419-20 (G·-120) †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523 (G·- 3206) †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

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DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2i: Bengali consent for parasitic assessment of children (target child, children aged18-27 months at baseline or 5-12 years at endline) in the same compound

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

cÖavb M‡elK: W: wj‡qb BDwbK¤^

**M‡elYvi D‡Ïk¨**

AvmmvjvgyAvjvBKzg/ bg¯‹vi| Avgvi bvg---------------- | Avwg XvKvi AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv Wvqwiqv †ivM wb‡q M‡elYv KiwQ Ges GB M‡elYvi gva¨‡g Avgiv wkky‡`i ¯^v‡¯’¨i Dci Wvqwiqv †iv‡Mi cÖfve m¤ú‡K© Rvb‡Z Pvw”Q| wkï‡`i Wvqwiqv ‡iv‡Mi **SuywK**i †Kvb `xN©‡gqvw` cÖfve i‡q‡Q wKbv, Zv Rvb‡Z Avgiv AvMÖnx|Avgiv Av‡gwiKvi ev‡K©jxi K¨v‡j‡dvwb©qv wek¦we`¨vj‡qi M‡elKM‡Yi mv‡\_ GB M‡elYv cwiPvjbv KiwQ|

**Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡Y Avgš¿Y Rvbvw”Q?**

Avgiv Avcbvi wkï‡K GB M‡elYvq AšÍ©f~³ Ki‡Z Pvw”Q KviY Zvi eqm 12eQ‡ii bx‡P| GB eqmx ev”Pv‡`i g‡a¨ Wvqwiqv †ekx ‡`Lv hvq| Avgiv GB evoxi ev”Pv‡`i ciRxexi SuywK m¤ú‡K© Rvb‡Z AvMªnx| Avgiv Avkv KiwQ AskMÖnY m¤ú‡K© we¯ÍvwiZ Rvbvi ci Avcwb Avcbvi wkï‡K GB M‡elYvq AskMÖnb Ki‡Z w`‡Z ivRx n‡eb|

**M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx?**

GB M‡elYvq AskMÖnY Ki‡j K‡qK N›Uv mgq e¨q n‡e| GB M‡elYvi D‡Ïk¨ mdj Ki‡Z n‡j Avcbvi wkïi kixi †\_‡K K‡qK †dvUv i³ Ges wKQz cvqLvbvi bgybv msMÖn Ki‡Z n‡e| bgybv `ywU cix¶vMv‡i cix¶vi gva¨‡g Avgiv eyS‡Z m¶g ne †h, Avcbviwkïi Wvqwiqv nevi SzwK †Kgb|

Avcwb AskMÖnY Ki‡Z ivRx n‡j, GKRb gvV M‡elKAvcbvi wkkymn (Uv‡M©U)GB DVv‡bi m‡e©v”P AviI `yBRb wkïicvqLvbv Ges i‡³ibgybv msMÖnKi‡Z `yBevi Avcbvi Lvbvq Avm‡e| bgybv msMÖn Kivi Av‡Mi w`b GKRb gvVKgx© Avcbv‡K cvqLvbv msMÖn Kivi mvgMÖx w`‡q hv‡e Ges wKfv‡e Avcbvi wkïi cvqLvbv msMÖn Ki‡Z n‡e Zv †`wL‡q ‡`‡e| c‡ii w`b mKv‡j hw` gvVKgx© ‡cŠQv‡bvi c~‡e© wkï cvqLvbv K‡i, Z‡e Avcwb Avcbvi wkïi cvqLvbv msMªn Ki‡eb| cvqLvbv msMªn Kivi Rb¨ Avcbv‡K GKwU cøvwóKwkU †`qv n‡e, †hLv‡b wkï cvqLvbv Ki‡e Ges Avcwb GKwU cøvwóK (‡Qwb) ¯‹zc e¨envi K‡i Dci †\_‡K Aí GKUy m`¨ (GBgvÎ Kiv) cvqLvbv †evZ‡j fi‡eb| Avgv‡`i gvVKgx© hLb Ab¨vb¨ bgybv msMÖn Kivi Rb¨ Avm‡e, ZLb GB †evZjwU Avcbvi KvQ †\_‡K wb‡q †b‡e| Avgiv cixÿvi gva¨‡g ‡`L‡ev ‡h Avcbvi wkïi kix‡i ‡Kvb K„wgi msµvgb Av‡Q wKbv, wKš‘ GB cixÿvwU XvKvq Kiv n‡e Ges Gi djvdj Avcbv‡K Rvbv‡bv n‡e bv| Avgiv Avcbvi wkïi cvqLvbv cixÿvi djvdj hvB‡nvK bv †KbAvcbvi DVv‡bi mKj m`m¨‡K K„wgi Jla w`‡ev|

Avcbvi wkïi kixi †\_‡K m~Puv‡jv m~‡Pui gva¨‡g i³ msMÖn Kiv n‡e| Avgv‡`i cÖwk¶YcÖvß gvVKgx©i gva¨‡g K‡qK †dvUv i³ msMªn Kiv n‡e| Avcbvi wkïi i³ msMÖn Kivi gyn~‡Z© GKUz †LuvPv jvM‡e|i‡³i GK‡duvUv w`‡q Avcbvi wkïi G¨vwbwgqv cixÿv Kiv n‡e| G¨vwbwgqv n‡jv i‡³i g‡a¨ ‡jvwnZ KwYKv m¦vfvwe‡Ki Zyjbvq Kg \_vKv|gvV M‡elK hLb GB cixÿvi Rb¨ Avcbvi Lvbvq Avm‡e, ZLb ‡m GB cixÿvi djvdj Avcbv‡K w`‡q w`‡e|

GQvovI, hw` Avcwb m¨wb‡Ukb ev K‡›Uªvj M‡elYvq ZvwjKvfy³ n‡q \_v‡Kb Z‡e Avgiv K„wgi wWg Av‡Q wKbv Zv †`Lvi Rb¨ Avcbv Lvbvi cÖ‡ek ¯’j †\_‡K gvwUi bgybv msMÖn Kie|

**SuywK Ges myweav**

hw`I Avgiv Avcbvi cwiPq †Mvcb ivLvi †Póv Kie Zey Zv cÖKvwkZ nIqvi m¤¢vebv Av‡Q| cÖwk¶YcÖvß Ges †ckv`vi †jv‡Ki gva¨‡gi³ msMÖn Kiv n‡e| Avcbvi wkï i³ msMÖn Kivi mgq mvgwqK mg‡qi Rb¨ wKQyUv e¨\_v †c‡Z cv‡i| Avcwb M‡elYvq AskMÖn‡Yi Rb¨ mivmwi †Kvb ai‡Yi mnvqZvI cv‡eb bv| wKš‘ Avcbvi wkïi AskMÖnY, wkï‡`i Wvqwiqv †ivM m¤ú‡K© Ávbjv‡f Avgv‡`i‡K mnvqZv Ki‡e|

**†MvcbxqZv**

mKj Z\_¨ Ges msM„nxZ bgybv GB †`‡ki AvBb Abyhvqx †MvcbxqZvi mv‡\_ ivLv n‡e| Z\_¨ Ges bgybvi djvd‡ji †MvcbxqZv K‡Vvifv‡e cvjb Kiv n‡e|

Avgiv ïay M‡elYvi cÖ‡qvR‡b GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elYv msµvšÍ†Kvb wi‡cv©U/ cÖKvkbvq D‡jøL Kiv n‡e bv|

**fwel¨‡Z Z‡\_¨i e¨envi**

GKB mg‡q j¨v‡e cix¶v Kivi Rb¨ GB i³ Ges cvqLvbvi bgybv M‡elYvi †kl mgq ch©šÍ msi¶Y Kiv n‡Z cv‡i| hw` Avcwb ivwR \_v‡Kb, Z‡eGB i³ Ges cvqLvbvi bgybvi cvkvcvwk msMÖnK…Z Z\_¨I M‡elYvi †kl mgq ch©šÍ msi¶Y Kiv n‡Z cv‡i| Gi d‡j fwel¨‡Z bZzb j¨ve‡iUix c×wZ wkï‡`i ¯^v‡¯’¨i Dci Wvqwiqv †iv‡Mi cÖfve fvjfv‡e eyS‡Z mvnvh¨ Ki‡e| GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Z‡\_¨i †MvcYxqZv K‡Vvifv‡e cvjb Kiv n‡e|

**‡¯^”Qv AskMÖnY**

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wb©fi K‡i| GB M‡elYvq Avcbvi wkï‡K AskMÖnY bv Ki‡Z ‡`Iqvi m¤ú~b© AwaKvi Avcbvi Av‡Q Ges Avcwb PvB‡j ‡h †Kvb mg‡q, †Kvb ai‡bi ÿwZc~iY QvovBAvcbvi wkïi AskMÖn‡bi AbygwZ cÖZ¨vL¨vb K‡i wb‡Z cvi‡eb |GB M‡elYvq Avcbv‡K †hmg¯Í cÖkœ wRÁvmv Kiv n‡e Avcwb PvB‡j Zvi †h‡KvbwUi DËi A\_ev me KqwUiB DËi bvI w`‡Z cv‡ib| Avcbvi wjwLZ AbygwZ †`qvi cieZ©x‡ZI Avcwb PvB‡jM‡elYv PjvKvjxb ‡h †Kvb mg‡q, GgbwK B›UviwfD‡qi gvSLv‡bI Avcbvi AbygwZ cÖZ¨vL¨vb K‡i wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi m¤ú~b© AwaKvi Avcbvi Av‡Q Ges GRb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i AvBwmwWwWAvi,we-i ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

**¶wZc~iY**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡Yi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡Yi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

**‡hvMv‡hvM**

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb gvmy` cvi‡fR (wmwmwW, AvBwmwWwWAvi,we, gnvLvwj, XvKv-1212) Gi mv‡\_ 8860523-32 (G·- 120) †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib|

GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb †Uwj‡dvb b¤^‡i A\_ev mivmwi AvBAviwe †m‡µUvwi‡qU, Gg G mvjvg Lvb Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Gg G mvjvg Lvb, AvBAviwe †m‡µUvwi‡qU,9886498 A\_ev wcGweG· 8860523-32 (G·- 3206)

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Ges Avcbvi wkï‡K GB M‡elYvq AskMÖnb Kivi AbygwZ †`bZvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avwg `xN© mgq a‡i Avgvi wkïi i³ Ges cvqLvbv msi¶‡Yi AbygwZ w`jvg.........[]

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

........................................... .................................

Awffve‡Ki ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

mv¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2i-2: English assent for parasitic assessment of children aged 7-12 years at endline in the same compound

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

**†¯^”Qv m¤§wZcÎt 7-12 eQi eq‡mi ev”Pv‡`i Rb¨**

AvšÍR©vwZK D`ivgq M‡elYv †K›`ª evsjv‡`k (AvB wm wW wW Avi, we )

Avmmvjvgy AvjvBKyg/bg¯‹vi| Avgvi bvg----------- Ges Avwg XvKvq AvBwmwWwWAvi,we ‡Z (K‡jiv nvmcvZvj) KvR Kwi| Avgiv ciRxex msµg‡bi Dci KvR KiwQ| Avgiv gvwK©b hy³ivóª K¨vwj‡dvwb©qv, evK©‡j wek¦we`¨vj‡qi weÁvbx‡`i mv‡\_ GB KvR KiwQ| Avgiv Avcbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcbvi evox AvBwmwWwWAvi, we cwiPvwjZ Av‡iKwU M‡elYvq AskMÖnY K‡i‡Q|

**M‡elYv mgxÿv Kx?**

gvbyl hLb †Kvb GKwU wbw`©ó welq m¤^‡Ü Av‡ivI †ekx wKQ„ Rvbvi Rb¨ Z\_¨ msMªn K‡i ZLb Zv‡K M‡elbv mgxÿv e‡j|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z Rvb Zvn‡j GB m¤§wZ c‡Îi gva¨‡g Avcwb GB M‡elYv m¤^‡Ü Rvb‡Z cvi‡eb| Z‡e wm×všÍ MªnY Kivi c~‡e© Avcwb wcZvgvZv ev Ab¨ Kv‡iv mv‡\_ GB wel‡q Av‡jvPbv Ki‡Z cv‡ib| M‡elYv m¤^‡Ü Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib|

**‡Kb Avgiv GB M‡elYv KiwQ?**

GB M‡elYvi D‡Ïk¨ n‡”Q Kxfv‡e wbw`©ó ¯^v¯’¨, m¨vwb‡Ukb Ges cywói e¨envi I Abykxjb cÖvßeq¯‹ Ges wkï‡`i ciRxexi msµgb‡K cÖfvweZ K‡i Zv Rvbv| MÖvgxb evsjv‡`‡k, we‡kl K‡i wkï‡`i g‡a¨ ciRxexi msµgb LyeB mvavib|

**‡Kb Avgiv GB M‡elYv m¤^‡Ü Avcbvi mv‡\_ K\_v ejwQ?**

Avgiv GB M‡elYvq Avcbvi wkïi eqmx Av‡iv nvRv‡iv wkï‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q | Avcbv‡KI GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcbvi MÖv‡gi g‡a¨ Avcbvi evox BwZg‡a¨ AvBwmwWwWAvi, we cwiPvwjZ Av‡iKwU M‡elYvq AskMÖnY K‡i‡Q|

**hw` Avcwb GB M‡elYvq AskMªnY K‡ib Zvn‡j Kx NU‡e?**

Avcwb Ges Avcbvi wcZvgvZvi AbygwZµ‡g, Avgiv Avcbvi Kv‡Q Rvb‡Z PvB‡ev:

* Avgiv Avcbvi Av½yj †\_‡K i‡³i bgybv ‡b‡ev|

Avgiv Avcbvi Av½y‡ji WMv dy‡Uv K‡i i‡³i bgybv msMªn Ki‡ev| i³ msMÖn Kivi mgq Avcwb mvgvb¨ wPgwU Abyfe Ki‡eb Ges Avgv‡`i cÖwk¶YcÖvß gvVKgx©i gva¨‡g K‡qK †dvUv i³ msMªn Kiv n‡e | Avgiv msµg‡bi Dcw¯’wZ Rvbvi Rb¨ Qq †duvUv i³ msMÖn Ki‡ev|

Avcwb hw` bv Pvb i‡³i bgybv bvI w`‡Z cv‡ib| GB Rb¨ `k wgwbU mgq jvM‡e|

* cvqLvbvi bgybv msMÖn|

cvqLvbvi bgybv msMÖn Kivi Rb¨ AvR‡K Avcbv‡K cvqLvbv msMÖn Kivi mvgMÖx w`‡q hv‡e Ges AvMvgxKvj Zv msMÖn Kiv n‡i| Avgiv Avmvi c~‡e© hw` Avcwb cvqLvbv K‡ib, Z‡e Avcwb Avcbvi cvqLvbv msMªn Kivi Rb¨ Avcbv‡K GKwU cøvwóK wkU †`qv n‡e, †hLv‡b Avcwb cvqLvbv Ki‡eb Ges Avcwb GKwU cøvwóK (‡Qwb) ¯‹zc e¨envi K‡i Dci †\_‡K Aí GKUy m`¨ (GBgvÎ Kiv) cvqLvbv †evZ‡j fi‡eb| cÖ‡qvR‡b Avcbvi wcZvgvZv Avcbv‡K mvnvh¨ Ki‡eb| AvMvgxKvj GKRb gvVKgx© GB bgybv msMÖn Ki‡eb| GB Rb¨ `k wgwbU mgq jvM‡e|

Avcwb hw` bv Pvb cvqLvbvi bgybv bvI w`‡Z cv‡ib|

* K…wgbvkK Jla |

Avgiv Avcbv‡K K…wgbvkK Jla LvIqvi Rb¨ cÖ¯Íve Ki‡ev| GB Rb¨ cuvP wgwbU mgq jvM‡e|

Z‡e Avcwb bv PvB‡j K…wgbvkK Jla bvI †L‡Z cv‡ib|

‡gvU mgq: me wg‡j †gvU cuwPk mgq jvM‡e|

bgybv msMÖ‡ni ¯’vb: me bgybv Avgiv Avcbvi evox †\_‡K msM¨n Ki‡ev|

**Avcwb hw` M‡elbvq AskMÖnY K‡ib Avcwb Kx ¯^v¯’¨evb n‡eb?**

GB M‡elYvq Avgiv Avcbv‡K K…wgbvkK Jla LvIqvi Rb¨ cÖ¯Íve Ki‡ev| hw` Avcbvi kix‡i ciRxexi Dcw¯’wZ \_v‡K Zvn‡j GB Jla Avcbv‡K my¯’ n‡Z mvnvh¨ Ki‡e|

**GB M‡elYvi †Kvb Ask A¯^w¯ÍKi ev Kó`vqK n‡Z cv‡i?**

* i‡³i bgybv msMªn:

i‡³i bgybv msMÖn Kivi mgq wKQzÿ‡Yi Rb¨ mvgvb¨ e¨\_v Abyfe Ki‡Z cv‡ib, A‡bKUv Wv³v‡ii Kv‡Q i‡³i bgybv †`Iqvi gZ| c‡i Kvjwk‡U `vM co‡Z cv‡i| A‡bK mgq ‡mLv‡b msµgY †`Lv w`‡Z cv‡i wKš‘ †mUv Lye Kg †ÿ‡Î †`Lv w`‡Z cv‡i||

* K…wgbvkK Jla:

K…wgbvkK Jla LvIqvi d‡j ¯^í mg‡qi Rb¨ Avcwb wKQzUv Amy¯’ †eva Ki‡Z cv‡ib| †c‡Ue¨\_v, Wvqwiqv, ewg ewgfve, NygNyg fve, PzjKvwb ev Pvgovq dzmKzwoi gZ †Kvb cÖwZwµqv †`Lv †`qvi mvgvb¨ m¤¢vebv i‡q‡Q|

**A\_© cÖ`vb?**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbv‡K ‡Kvb A\_© cÖ`vb Kiv n‡ebv|

**Avcwb hw` M‡elYvq AskMÖnb K‡ib?**

bv, Avcwb M‡elYvq AskMÖnb bvI Ki‡Z cv‡ib| Avcwb PvB‡jB ïaygvÎ GB M‡elYvq AskMÖnb Ki‡Z cv‡ib| Avcwb hw` GB M‡elYvq AskMÖnb bvI K‡ib ÿwZKi †Kvb cÖfvi co‡e bv| cieZ©x‡ZI Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q Avcbvi AbygwZ cÖZ¨vL¨vb Ki‡Z cv‡ib|

**cÖkœ:**

Avcbvi †Kv‡bv cÖkœ \_vK‡j GLb ev c‡i †h †Kvb mgq wRÁvmv Ki‡Z cv‡ib| Avcwb Avgv‡K ev Avcbvi wcZvgvZv ev Avcwb Ab¨ Kv‡iv mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` Pvb, Avcwb Rbve gvmy` cvi‡fR Gi mv‡\_ †gvevBj b¤^i:01817 541872, †m›Uvi di KwgDwb‡Kej wWwRR, AvBwmwWwWAvi,we gnvLvwj,XvKv 1212 †hvMv‡hvM Ki‡Z cv‡ib|

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**wkïi Rb¨ m¤§wZcÎ (7-12eQi eqm)**

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Ges Avcbvi wcZvgvZv m¤§wZ †`b Zvn‡j GB m¤§wZ c‡Îi GKwU Kwc Avcbv‡K †`qv n‡e| hv‡Z hw` Avcwb Pvb c‡i GUv †`L‡Z cv‡ib|

**Avcwb Kx GB M‡elYvq AskMÖn‡b AvMÖnx?**

....................................................... .................................

wkïi bvg/¯^v¶i(wkïi KZ…©K Qvcv‡bv ev wjwLZ)\* ZvwiL

A\_ev wkï hw` wjL‡Z bv cv‡i Z\_¨ msMÖnKvix wjL‡e

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

*\*hw` †gŠwLK m¤§wZ †bqv nq:*

Z\_¨ msMÖnKvix m¤§wZcÎ wb‡q Av‡jvPbv Ki‡eb: wkï hw` wjL‡Z bv cv‡ib, GLv‡b Bwbwkqvj/cÖv\_wgK ¯^vÿi w`‡eb, hv cªgvwbZ Ki‡e †h wkï GB m¤§wZcÎ m¤^‡Ü Rv‡bb Ges †gŠwLK m¤§wZ w`‡q‡Qb:-------------------

Appendix 2j: Bengali consent form for environmental enteropathy and parastic assessment

M‡elYvi wk‡ivbvg:

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb Ges m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve

cÖavb M‡el‡Ki bvg:W: wj‡qb BDwbK¤^

M‡elYvi D‡Ïk¨:

Avm&mvjvgyAvjvBKzg/bg¯‹vi| Avgvi bvg ( \_\_\_\_\_\_\_\_\_ ) Ges Avwg AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx| Avgiv GB M‡elYvi gva¨‡g wKQy mvavib B›Uvi‡fbkb †hgb- cvqLvbvi Dbœqb, cvwbi ¸bMZgvb Ges ¯^v¯’¨m¤§Z Af¨vm ev wZb eQ‡ii †QvU ev”Pv‡`i cywóMZ Ae¯’v BZ¨vw`i Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q| wkï‡`i Acywó A‡š¿i msµg‡bi mv‡\_ m¤úK©xZ hv Avgv‡`i cywó Dcv`v‡bi e¨envi e`‡j w`‡Z cv‡i| Avgv‡`i †`‡ni wWGbG-i wR‡bi Kvi‡Y wKQz wKQz wkï‡`i Ab¨‡`i Zzjbvq Acywói SzuwK †ekx \_v‡K| GB wWGbG Avgiv DËivwaKvi m~‡Î evev-gvi KvQ †\_‡K cvB Ges GQvovI Avgiv Avgv‡`i †`‡n emevmKvix A‡bK ÿwZKi bq Ggb Rxevbyi wRb enb Kwi|wkï‡`i Wvqwiqv ‡iv‡Mi SuywKi †Kvb `xN©‡gqvw` cÖfve i‡q‡Q wKbv, Zv Rvb‡Z Avgiv AvMÖnx| GQvovI AvgivRvb‡Z AvMªnx ‡h wKQz wbwÏ©ó Lvevi, cywó, A\_ev mvaviYfv‡eRxeb hvcbwKfv‡e Wvqwiqv ev Ab¨vb¨ ‡ivM‡K cÖfvweZ K‡i|

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡Y Avgš¿Y Rvbvw”Q?

Avgiv GB evox‡K M‡elYvq AšÍ©f~³ Ki‡Z Pvw”Q KviY Avgiv Gi Av‡M Avcbvi Lvbv m¤úKx©Z Z\_¨ msMÖn K‡iwQ Ges Avgiv Avcbvi wkïi AviI wKQy cix¶vi gva¨‡g wkïwUi cwicvK bvjx m¤ú©‡K Rvb‡Z AvMÖnx|Avgiv Avcbvi wkïi i³, cvqLvbv, jvjv, Pzj Ges cÖmªve cixÿvi gva¨‡g wkïi cywóMZ, msµgb I ¯^v¯’¨ m¤ú‡©K Rvb‡Z AvMÖnx| GQvov Avgiv Avcbvi jvjv, Pzj, i³, Ges cÖmªve cixÿvi gva¨‡g msµgb, gvbwmKPvc I ¯^v¯’¨ m¤ú‡©K Rvb‡Z AvMÖnx|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx?

M‡elYvq AskMÖnY Ki‡j K‡qK N›Uv mgq e¨q n‡e| GB M‡elYvi D‡Ïk¨ mdj Ki‡Z n‡jGes Avcwb GB M‡elYvq AskMÖnY Ki‡Z ivRx n‡j Avcbvi wkïi kixi †\_‡K K‡qK †dvUv i³,mvgvb¨ cvqLvbvi bgybv,wKQz cÖmªv‡ei bgybvmsMÖn Ki‡ev| Avcbvi AbygwZ wb‡q Avgiv Avcbvi wkïi gy‡Li 5 wUjvjv Ges 3-4 wU Py‡ji bgybv msMÖn Ki‡ev| GQvov Avcbvi kixi †\_‡K K‡qK †dvUv i³,wKQz cÖmªv‡ei bgybv, Avcbvi gy‡Li 4 wU jvjv Ges 3-4 wU Py‡ji bgybv msMÖn Ki‡ev| i‡³i bgybv Øviv Avgiv wkïicywóMZ Ae¯’v, **wkïiv hv** DËivwaKvi m~‡Î evev-gvi KvQ ‡\_‡K ‡c‡q \_v‡KZv cwigvc Ki‡ev Ges eyS‡Z mÿg ne †h, wkïwUi msµg‡bi SuzwK †Kgb | cÖmve cixÿvi gva¨‡g wkïwUi Wvqwiqvi Rb¨ `vqx Ggb `xN©‡gqvw` †Kvb kvixwiK mgm¨v (AmyL) Av‡Q wKbv Zv eySv hv‡e| GQvov Avgiv Avcbvi mvnvh¨ wb‡q Avcbvi wkïi cvqLvbvi bgybvI msMÖn Kie|

Avcwb AskMÖnY Ki‡Z ivRx n‡j, GKRb M‡elYv Kg©x GB Kv‡R `yBevi Avcbvi Lvbvq Avm‡e| AvR‡K GKRb M‡elYvKgx© IRb gvcvi h‡š¿i mvnv‡h¨ Avcbvi wkïi IRb cwigvc Ki‡e, D”PZv gvcvi †ev‡W©i mvnv‡h¨ Zvi D”PZv cwigvc Ki‡e, †U‡ci mvnv‡h¨ Zvi gv\_vi cwiwa,I evnyi cwiwa cwigvc Ki‡eGes Avcbvi wkïi i³Pvc, Nvg Ges ü`¯ú›`b msMÖn Kiv n‡e| Avcbvi wkïi i³Pvc Ges ü`¯ú›`b cixÿvi djvdj Avcbv‡K ‡`Iqvn‡e| GQvov Avcbvi i³Pvc, Nvg Ges ü`¯ú›`b msMÖn Kiv n‡e| Avcbvi i³Pvc Ges ü`¯ú›`b cixÿvi djvdj Avcbv‡K ‡`Iqv n‡e| GQvov Avcbvi I Avcbvi wkïi 3-4 wU Py‡ji bgybv KvU‡e Ges Zv msMÖn Ki‡evAvcbvi AbygwZ mv‡c‡ÿ, Avcbvi wkïi i‡³i MÖæc Ges wRb (wWGbG) m¤ú‡K© Rvbvi Rb¨ Ges c~‡e© Zvi i‡³ †Kvb ai‡bi msµgb wQj wKbv Ges wkïi cywóMZ Ae¯’v Rvbvi Rb¨ wkïi nv‡Zi wkiv †\_‡K mvgvb¨ cwigvb ( Pv Pvg‡Pi **‡`o**PvgPmgcwigvb) i‡³i bgybv msMÖn Ki‡e| i‡³i GK‡duvUv w`‡q Avcbvi wkïi G¨vwbwgqv cixÿv Kiv n‡e| G¨vwbwgqv n‡jv i‡³i g‡a¨ ‡jvwnZ KwYKv m¦vfvwe‡Ki Zyjbvq Kg \_vKv| gvV M‡elK hLb GB cixÿvi Rb¨ Avcbvi Lvbvq Avm‡e, ZLbB ‡m GB cixÿvi djvdj Avcbv‡K w`‡q w`‡e| Avcwb hw` AbygwZ ‡`b Zvn‡j Avcbvi wkïi i³ †bqvi cªwµqvwU wfwWI Ki‡Z PvB| Gi gva¨‡g Avgiv wkïi AvPiYMZ cwieZ©b m¤ú‡K© Av‡iv fv‡jvfv‡e eyS‡Z cvi‡ev | Avgiv Avcbvi Kv‡Q Rvb‡Z PvB‡ev bZzb cwiw¯’wZ‡Z Avcbvi wkï wKiKg AvPiY K‡i Ges GB cwiw¯’wZ‡Z wkï†K Avi I ¯^vfvweK ivLvi Rb¨ wK Kiv †h‡Z cv‡i| Avgiv 10/15 wgwbU wfwWI Ki‡ev hv wkïi AvPiYMZ cªwZwµqv eyS‡‡Z mvnvh¨ Ki‡e | GQvov Avcbvi kix‡iiwkiv †\_‡K mvgvb¨ cwigvb i‡³i bgybv (10 wgwj) msMÖn Kiv n‡e|GQvov Avgiv Avcbvi I Avcbvi wkïi gy‡Li 3 wU jvjvibgybv msMÖn Ki‡ev| big ¯ú‡Ái mvnv‡h¨ wRnŸvi wbP ‡\_‡K jvjvi bgybv¸‡jvi GKwU i³ msMÖ‡ni Av‡M, i³ msMÖ‡ni mgq Ges i³ msMÖ‡ni c‡i ‡bIqv n‡e|bgybv msMÖn Kivi Av‡Mi w`b GKRb gvVKgx© Avcbv‡K cvqLvbv msMÖn Kivi mvgMÖx w`‡q hv‡e Ges wKfv‡e Avcbvi wkïi cvqLvbv msMÖn Ki‡Z n‡e Zv †`wL‡q ‡`‡e| c‡ii w`b mKv‡j hw` gvVKgx© ‡cŠQv‡bvi c~‡e© wkï cvqLvbv K‡i, Z‡e Avcwb Avcbvi wkïi cvqLvbv msMªn Ki‡eb| cvqLvbv msMªn Kivi Rb¨ Avcbv‡K GKwU cwi¯‹vi Wvqcvi †`qv n‡e, †hLv‡b wkï cvqLvbv Ki‡e Ges Avcwb GKwU cøvwóK m¨vwb¯‹zc e¨envi K‡i Dci †\_‡K Aí GKUy m`¨ (GBgvÎ Kiv) cvqLvbv †evZ‡j fi‡eb| Avgv‡`i gvVKgx© c‡ii w`b hLb Ab¨vb¨ bgybv msMÖn Kivi Rb¨ Avm‡e, ZLb GB †evZjwU Avcbvi KvQ †\_‡K wb‡q †b‡e| GB me KvR Ki‡Z Avgv‡`i m‡ev©”P 3 N›Uv 15 wgwbU mgq jvM‡e|

AvMvgxKvj, Avgiv Avcbvi Nyg ‡\_‡K IVvi ci Avcbvi cÖ\_g cÖ¯ªve msMÖn Kivi Rb¨ Aby‡iva Ki‡ev|bgybv msMÖ‡ni mgq, cÖavb Kvh© cÖwµqv n‡jv Avcbvi wkïi KvQ †\_‡K gy‡Li jvjv msMÖn Kiv I GK N›Uv a‡i Zvi cÖmªve msMÖn Kiv, wmivc LvIqv‡bv Ges Gici cuvP N›Uv a‡i Zvi cÖmªve msMÖn Kiv| Avgiv cÖmªv‡e wmivc cix¶vi Rb¨ gbw¯’i K‡iwQ hv Avgv‡`i†K wkï‡`i ¯^v‡¯’¨i Dci Wvqwiqvi cÖfve eyS‡Z mvnvh¨ Ki‡e| Avcbvi wkïi eq‡mi wfwË‡Z, Avcbvi wkïi cÖmªve msMÖ‡ni Rb¨ Avgiv GKwU we‡kl cÖmªve msMÖ‡ni e¨vM e¨envi Kie Ges GUv wKfv‡e e¨envi Ki‡Z nq Zv Avgiv †`wL‡q w`e|

Avgiv wkï‡K wmivc LvIqv‡bvi Av‡M Kgc‡¶ 1 N›Uv wkï‡K Ab¨ †Kvb wKQy bv LvIqv‡bvi Rb¨ Avcbv‡K/ wkïi gv †K Aby‡iva Kie| | ‡m mgq Avgiv Avcbvi wkïi kix‡i GKwU we‡kl cÖmªve msMÖ‡ni e¨vM hv‡Z GKwU wb®‹vlb cvBc Av‡Q Zv e¨envi K‡iGK N›Uv a‡i Zvi cÖmªve msMÖn Ki‡ev|GQvovAvgiv Avcbvi I Avcbvi wkïi gy‡Li 3 wU jvjvibgybv msMÖn Ki‡ev| big ¯ú‡Äi mvnv‡h¨ Avcbvi wkïi 2 wU Ges Avcbvi 1 wU evowZ jvjvi bgybv msMÖn Ki‡ev| ZLbAvgiv wkï‡KwPwbi wmivc LvIqv‡bvi c‡iB Zvi kix‡i cÖmªve msMÖnKvix e¨vM jvwM‡q w`e| cÖmªve nIqvi Rb¨ wmivc LvIqvi 30 wgwbU c‡i Avgiv wkï‡K cvwb LvIqvi Rb¨ DrmvwnZ Kie| hLbB wkï cÖmªve Ki‡e, ZLb gvV cÖwZwbwa e¨vM †\_‡K cÖmªve mwi‡q †dj‡e| 6 N›Uv a‡i Gfv‡e cÖmªve msMÖn Pj‡e Ges Gici wkïi kixi †\_‡K e¨vM Ly‡j †bIqv n‡e| 6 N›Uve¨cx wkïi cÖ¯ªve msMÖ‡ni mg‡q, wkï‡K Av‡Mi w`b ev iv‡Z †hme Lvevi LvIqv n‡q‡Q Zvi cwigvb m¤ú‡K© Avcbvi Kv‡Q Rvb‡Z PvIqv n‡e| GQvov Avgiv Avcbvi Rxe‡bi e¨w³MZ AwfÁZv I ¯^v¯’¨ m¤ú‡K© Rvb‡Z PvB‡ev| mvgvwRK ixwZ m¤ú‡K© Avcbvi Abyf‚wZ Rvb‡Z PvIqv n‡e †h ‡m¸‡jv wkïi ¯^v‡¯’¨i Dci †Kvb cªfve †d‡j wKbv | cvqLvbvi bgybv cixÿvi gva¨‡g Avgiv ‡`L‡ev ‡h Avcbvi wkïi kix‡i ‡Kvb K„wgi msµvgb Av‡Q wKbv, wKš‘ GB cixÿvwU XvKvq Kiv n‡e | Avgiv Avcbvi wkïi cvqLvbv cixÿvi djvdj Gi cwie‡Z© Zv‡K K„wgi Jla w`‡ev| AvMvgxKvj GB me KvR Ki‡Z Avgv‡`i AvbygvwbK m‡ev©”P 7 N›Uv mgq jvM‡e|

Gici cixÿvMv‡i Avgiv Avcbvi i³, jvjv, Pzj Ges cÖmªve cixÿvi gva¨‡g I Avcbvi wkïi i³, cvqLvbv, jvjv, Pzj Ges cÖmªve cixÿvi gva¨‡g cywóMZ, msµgb I ¯^v¯’¨ m¤ú‡©K Rvb‡Z AvMÖnx|†Kvb cix¶vi djvdj Avcbv‡`i‡K Rvbv‡bv n‡e bv|

M‡elYvi †gvU mgq Kvj : Avcbvi Lvbvq Avgiv m‡ev©”P 10 N›Uv 15 wgwbU mgq e¨q Ki‡ev|

SuywK Ges myweav:

hw`I Avgiv Avcbvi cwiPq †Mvcb ivLvi †Póv Kie Zey Zv cÖKvwkZ nIqvim¤¢vebv Av‡Q| wmivcwU GKwU cÖvK…wZK wPwbi Mjv‡bv `ªeY hvi ¯^v` fvj| cÖwk¶YcÖvß Ges †ckv`vi †jv‡Ki gva¨‡g i³ msMÖn Kiv n‡e|i³ msMÖn Kivi mgq Avcwb GesAvcbvi wkï mvgwqK mg‡qi Rb¨ wKQyUv e¨\_v †c‡Z cv‡ib| 6 N›Uv a‡i cÖmªvemsMÖnKvix e¨vM \_vKvi Kvi‡Y Avcbvi wkï wKQyUv A¯^v”Q›`¨ †eva Ki‡Z cv‡i |Avwg Avcbv‡K GLb wKQz cÖkœ Ki‡ev hv Avcbvi e¨w³MZ ev Rxeb msµvšÍ Ges G‡Z Avcwb wKQyUv A¯^v”Q›`¨ †eva Ki‡Z cv‡ib|GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wbf©i K‡i| Avcwb GB M‡elYvq AskMÖnY bv Ki‡Z Pvb A\_ev †Kvb cÖ‡kœi DËi w`‡Z bv Pvb †mRb¨ Avcbv‡K †Kvb KviY †`Lv‡Z n‡e bv|Avcbvi mKj DËi¸‡jv h\_vm¤¢e ‡Mvcb ivLv n‡e Ges Avgiv Abygvb KiwQ †h GB M‡elYvq AskMÖn‡bi d‡j Avcbvi Lye mvgvb¨ SzuwK\_vK‡Z cv‡i|Avcwb M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi mnvqZvI cv‡eb bv| wKš‘ Avcbvi wkïi AskMÖnY, wkï‡`i kix‡ii DciWvqwiqv †iv‡Mi cÖfve Ges wKfv‡e wKQz wbwÏ©ó Lvevi, cywó, A\_ev mvaviYfv‡e Rxeb hvcb wKfv‡e Wvqwiqv ev Ab¨vb¨ ‡ivM‡K cÖfvweZ K‡i †m m¤ú‡K© Ávbjv‡f Avgv‡`i‡K mnvqZv Ki‡e|

†MvcbxqZv:

GB †`‡ki AvBb Abyhvqx Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z\_¨ I bgybvi †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie|Avcbvi bvg, Avcbvi wkïi bvg I e¨w³MZ Z\_¨ Qvov GB bgyYv Ges cixÿxZ djvdj †KvW Kiv n‡e Ges M‡elYvKg©x Øviv Avjv`vfv‡e msiÿY K‡i ivLv n‡e| †Kvb M‡elYvKg©x Avcbvi ev Avcbvi wkïi bgyYv †\_‡K Avcbv‡`i‡K Avjv`vfv‡e mbv³ Ki‡Z cvi‡e bv|

GQvov Õ†Kwj‡dvwb©qv wek¦we`¨vjqÕ, evi‡Kwj Gi Ôwej Ges †gwjbWv †MuUm dvD‡ÛkbÕ Gi M‡elYv`j Ges hviv GB M‡elYvi wbivcËvi `vwq‡Z¡ Av‡Q Zviv Avcbvi cixÿxZ djvdj †`L‡Z cv‡i| †h‡nZz Avgv‡`i‡K msiÿxZ Z\_¨ Zv‡`i w`‡Z n‡Z cv‡i Ges †R‡bwUK Z\_¨ w`‡q †hKvD‡K mbv³ Kiv hvq, ZvB Avgiv m¤ú~Y© †MvcYxZv iÿvi wbðqZv w`‡Z cviwQ bv|

m‡e©vcwi, Avcbvi †MvcbxqZv iÿvi e¨cv‡i Avgiv m‡e©v”P †Póv Kie| Avcwb hw` GB KvM‡R ¯^vÿi †`b, Zvn‡j Avgiv DaŸ©ZbM‡elbvKg©x Ges wbivcËv KwgwUi Kv‡Q GB Z\_¨¸‡jv w`e| GB AbygwZ †gqv` †kl nIqvi †Kvb ZvwiL bvB| GB Z\_¨ †KvW Kiv n‡e Ges m¤¢vebv LyeB Kg †h †KD Avcbv‡K ev Avcbvi wkï‡K Avjv`vfv‡e wPb‡Z cvi‡e, hv Avcbvi Ges Avcbvi wkïi †MvcYxZv iÿv Ki‡e|

GB me wfwWI mbv³ Kivi Rb¨ bv¤^vi e¨venvi Kiv n‡e, Avcbvi ev Avcbvi wkïi bvg `¦viv Avcbv‡`i‡K Avjv`vfv‡e mbv³ Ki‡Z cvi‡e bv| ïaygvÎ cÖwkwÿZ Kgx©†`i Øviv GB wfwWI‡Uc †KvwWs Kiv n‡e| GB wfwWIwU Ab¨ ‡KD ‡`L‡Z cvi‡e bv | GB wfwWI ¸‡jv Zvjve× ivLv n‡e Ges M‡elYv `‡ji Kgx Zv †`L‡Z cv‡i| GB wfwWI‡Uc msiÿY K‡i ivLvi †Kvb †gqv` bvB|

fwel¨‡Z Z‡\_¨i e¨envi:

GKB mg‡q j¨v‡e cixÿv Kivi Rb¨ GB i³, cÖmªve, jvjv, Pzj Ges cvqLvbvi bgyYv M‡elYvi †kl mgq ch©šÍ msiÿY Kiv n‡Z cv‡i| hw` Avcwb ivwR \_v‡Kb, Z‡eGB i³, cÖmªve, jvjv, Pzj Ges cvqLvbvi bgyYvi cvkvcvwk msMÖnK…Z Z\_¨I M‡elYv †kl nevi ciI wKQy mgq ch©šÍ msiÿY Kiv n‡Z cv‡i| GB bgyYv AvBwmwWwWAvi,we †Z 20 eQi ch©šÍ msiÿY Kiv n‡Zcv‡i hv‡Z K‡i Avgiv Avcbvi †Kvb msµgb wQj wKbv Zv Rvbvi Rb¨ Ges Avcbvi kix‡i †Kvb ‡Kvb RxevYy emevm KiZ Zv †ei Kivi Rb¨DbœZ ai‡bi cix¶v Ki‡Z cvwi| Gi Rb¨ cieZ©x‡Z Avcbvi KvQ †\_‡K †Kvb AbygwZ †bIqv n‡e bv Ges Avcwb GB cix¶vi †Kvb djvdjI cv‡eb bv| AvBwmwWwWAvi,we GKRb wmwbqi weÁvbx wVK Ki‡eb †K msi¶YK…Z bg~Yv e¨envi Ki‡Z cvi‡e Ges †Kvb †Kvb cix¶v Ki‡Z cvi‡e| GB bgybv fwel¨‡Z cixÿvi Rb¨ †i‡L †`Iqvi e¨cv‡i hw` Avcwb KLbI Avcbvi gZvgZ cwieZ©b K‡ib Zvn‡j Avcwb Avgv‡`i mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib Ges Avgiv Avcbvi bgyYv †d‡j w`e|

‡¯^”Qv AskMÖnY :

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wb©fi K‡i| Avcwb GB M‡elYvq Avcbvi wkï‡K AskMÖnY bvI Ki‡Z w`‡Z cv‡ib| Avcbvi wjwLZ AbygwZ †`qvi cieZ©x‡ZI Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q GgbwK bgyYv/ cÖmªve msMÖ‡ni gvSLv‡bI Avcbvi AbygwZ cÖZ¨vL¨vb Ki‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges GRb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡bi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mvimwi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb \_v‡K Zvn‡j Avcwb

**Rbve gvmy` cvi‡fR Gi mv‡\_ 01817541872 †gvevBj b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib|**

GB M‡elYvq Avcbvi AwaKvi- msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elbvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb †Uwj‡dvb b¤^‡i A\_ev mivmwiAvBAviwe †m‡µUvwi‡qUGg G mvjvg Lvb Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Gg G mvjvg Lvb, AvBAviwe †m‡µUvwi‡qU,9886498 A\_ev wcGweG· 8860523-32 (G·- 3206)

hw` AvcwbAskMÖn‡b AvMÖnx nb Avcbvi wkï‡K AskMÖn‡biAbygwZ †`b Z‡e wb‡Pi ev·¸‡jv‡Z wUK wPý w`b †h Avcwb †Kvb †Kvb wel‡q AvMÖnx:

cÖmªv‡ei bgybv: |\_\_| gv‡qi |\_\_| wkïi

wkiv †\_‡K i‡³i bgybv: |\_\_| gv‡qi |\_\_| wkïi

cvqLvbvi bgybv: |\_\_| gv‡qi |\_\_| wkïi

jvjvi bgybv: |\_\_| gv‡qi |\_\_| wkïi

Pz‡ji bgybv: |\_\_| gv‡qi |\_\_| wkïi

wØgZ:

cÖmªv‡ei bgybv: |\_\_| gv‡qi |\_\_| wkïi

wkiv †\_‡K i‡³i bgybv: |\_\_| gv‡qi |\_\_| wkïi

cvqLvbvi bgybv: |\_\_| gv‡qi |\_\_| wkïi

jvjvi bgybv: |\_\_| gv‡qi |\_\_| wkïi

Pz‡ji bgybv: |\_\_| gv‡qi |\_\_| wkïi

Avcwb hw` Avcbvi Lvbv‡K GB M‡elYvq Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

........................................... .................................

Awffve‡Ki ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

mv¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2k-1: Bengali consent for environmental assessment (drinking water, hand rinse, sentinel toy, food sampling and fly density measurements)

cwi‡ekMZ cÖfve g~j¨vq‡bi Rb¨ m¤§wZcÎ (Lvevi cvwb, nvZ †avqv, ‡Ljbv Ges gvwQi NbZ¡ cwigvc)

M‡elYvi wk‡ivbvg:evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb IcywóKi m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve|

**cÖavb M‡elK**:W: wj‡qb BDwbK¤^

**M‡elYvi D‡Ïk¨:**

AvmjvgyAvjvBKzg/Av`ve| Avgvi bvg ----------------------------| Avgiv XvKv (gnvLvjx) K‡jiv nvmcvZv‡j KvR Kwi|Avgiv wkï‡`i WvqwiqvRwbZ †ivM-evjvB wb‡q M‡elYv KiwQ| KwZcq m¨vwb‡Ukb e¨e¯’v, cvwbi ¸bv¸b Ges ¯^v¯’¨m¤§Z Af¨vmmg~n ¯^v‡¯’¨i Dci wKfv‡e cÖfve ‡d‡j GB M‡elYvi gva¨‡g Avgiv Zv †evSvi †Póv KiwQ|Avgiv Av‡gwiKvi ev‡K©jxi K¨v‡j‡dvwb©qv wek¦we`¨vj‡qi M‡elKM‡Yi mv‡\_ GB M‡elYv cwiPvjbv KiwQ|

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡b Avgš¿Y Rvbvw”Q?

Avgiv Avcbv‡K/Avcbvi Lvbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcbvi 3 eQ‡ii Kg eq‡mi GKwU wkï Av‡Q Ges Avcwb/Avcbvi Lvbv B‡Zvg‡a¨B Avgv‡`i M‡elYvi Ab¨vb¨ Kg©Kv‡Û AskMÖnb K‡i‡Qb| Avgiv Avcbv‡K/Avcbv‡`i‡K GB M‡elYvi wel‡q Av‡iv we¯ÍvwiZfv‡e Rvbv‡Z PvB| Avgiv Avkv KiwQ Avcwb Ges Avcbvi wkï ‡¯^”Qvq GB M‡elYvq AskMÖnb Ki‡eb|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx?

hw` Avcwb/Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y m¤§Z \_v‡Kb, Zvn‡j 2 evi Avgiv Avcbvi Lvbv cwi`k©b Kie Ges Gmgq wbwÏ©ó wKQz Kg©KvÛ cwiPvjbv Kie| cÖ\_g cwi`k©‡bi Ask wnmv‡e AvR‡K Avgiv Avcbv‡K Avcbvi evwo I evwoi Pvicv‡ki cwi‡ek, Ges Avcbvi evwo‡Z cÖPwjZ Af¨vm m¤ú‡K© wKQz cÖkœ wRÁvmv Kie| Avgiv Avcbvi wkï‡K 1Uv †Ljbvi ej w`e Ges Avcbvi evwoi cvqLvbv I ivbœvN‡ii Av‡kcv‡k gvwQ aivi dvu` evaue/†mU Kie| Avgiv Avcbvi me‡P‡q †QvU wkïi nvZ¸‡jv cwi¯‹vi cvwb w`‡q †ave/‡aŠZ Kie Ges nvZ‡avqv cvwbUyKzI msiÿb Kie| Avgiv Avcbvi Lvbvi msiÿYK…Z Lvevi hv Avcbvi †QvU wkï Lvq Zv †\_‡K mvgvb¨ wKQy cwigvb †b‡ev|Avcwb Avcbvi wkï‡K LvIqvi Rb¨ †h cvwb †`b, †mB cvwb †\_‡K Avgv‡`i‡K GKMøvm cvwb w`‡Z Aby‡iva Kie| Avcbvi †`Iqv GB cvwb †\_‡K Avgiv bgybv wnmv‡e mvgvb¨ cvwb msMÖn Kie|

wØZxqevi cwi`k©‡bi Rb¨ Avgiv AvMvgxKvj Avevi Avcbvi evwo‡Z Avme| Avgiv cvwb w`‡q Avcbvi wkï‡K †`Iqv ‡Ljbv ej¸‡jv †ave/‡aŠZ Kie Ges ej cvwbUyKz msiÿb Kie| Avcbvi wkï †Ljbv ej¸‡jv w`‡q †Lj‡ZI cv‡i Avevi bvI †Lj‡Z cv‡i| GUv m¤ú~b© Zvi B”Qvi Dci wbf©i K‡i| wØZxq cwi`k©‡bi mgq Avgiv Avcbvi evwoi cvqLvbv I ivbœvN‡ii Av‡kcv‡k ‡e‡au ivLv dvu‡`/ d¬vB †Uª‡c AvUKv cov gvwQi msL¨v Mbbv Kie| Avgiv Avcbv‡K wKQz cÖkœI wRÁvmv Kie| cÖ‡Z¨Kevi cwi`k©bKv‡j Avgiv Avcbvi Lvbv‡Z cÖvq 1 N›Uv mgq KvUve|

Su~wK Ges myweavmg~n:

GB M‡elYvq AskMÖn‡b Avcbvi †Kvb SzuwK †bB| GB M‡elYvq AskMÖn‡bi Rb¨ Avcwb †Kvb ai‡Yi Avw\_©K mnvqZvI cv‡eb bv| wKš‘ Dcnvi wnmv‡e Avcbvi wkï 1Uv †Ljbvi ej cv‡e|GB M‡elYvq AskMÖn‡bi Rb¨ Avcwb †Kvb ai‡Yi cÖZ¨ÿ mnvqZvI cv‡eb bv wKš‘ GB AskMÖnY cvqLvbvi `~l‡Yi mv‡\_ Wvqwiqvi †hvMm~Î m¤^‡Ü Avgv‡`i Rvb‡Z mvnvh¨ Ki‡e|

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv:

GB †`‡ki AvBb Abyhvqx Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z\_¨†MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| Avgiv Avgv‡`i M‡elYvi †Kvb ‡jLvq/djvd‡j Avcbvi cÖK…Z bvg e¨envi Kie bv| Avgv‡`i msM„nxZ mKj Z\_¨ Zvjve× \_vK‡e| Avgiv †KejgvÎ Avgv‡`i M‡elYvi Kv‡R Gme Z\_¨ e¨envi Kie| Avgiv GB M‡elYvi djvdj wewbgq I cÖKvkbvi ‡ÿ‡Î Avcbvi bvg e¨envi Kie bv| Avgiv Avcbvi †`Iqv Z\_¨mg~n †Mvcb ivLvi Rb¨ m¤¢ve¨ meai‡bi †Póv Kie| Zv m‡Ë¡I fyjekZt AbvKvw•LZ †Kvb NUbv NU‡j ‡mRb¨ gvR©bv cÖv\_©bv KiwQ|

fwel¨‡Z Z‡\_¨i e¨envi:

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Avgiv Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq Ki‡Z cvwi| Ges Kv‡iv mv‡\_ Z\_¨ wewbgq Kiv n‡j Avgiv †mLv‡b Avcbvi cÖK…Z bvg e¨envi Kie bv Ges Avcbvi †`Iqv Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kie| Avcbvi KvQ †\_‡K msM„wnZ mKj Z\_¨ GB M‡elYv †kl n‡q hvIqvi c‡iI `xN©w`b msiÿY Ki‡ev|

M‡elYvq AskMÖnb bv Kiv ev bvg cÖZ¨vnv‡ii AwaKvit

GB M‡elYvq AskMÖnb Kiv m¤ú~b©fv‡e Avcbvi B”Qvi Dci wbf©i Ki‡Q| GB M‡elYvq Avcbv‡K †hme cÖkœ wRÁvmv Kiv n‡e Zvi †h‡KvbwUi DËi Avcwb PvB‡j bvI w`‡Z cv‡ib| GB M‡elYvq AskMÖn‡b m¤§Z nevi c‡iI M‡elYv PjvKvjxb †h‡Kvb mgq Avcwb Avcbvi bvg cÖZ¨vnvi K‡i wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q enb Ki‡Z n‡e bv Ges GKBfv‡e Avcbv‡KI Avgiv †Kvb ai‡bi A\_© cÖ`vb Kie bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j ‡h‡Kvb mgq Avcwb Zv Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb Rbve gvmy` cvi‡fR (‡cÖvMÖvg Ab Bb‡d·vm wWwR‡RR GÛ f¨vKwmb mvB‡Ým, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 0187541872 †gvevBj b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi A\_©‰bwZK †Kvb ¶wZ mvwaZ n‡q‡Q e‡j g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523-32 G·- 3206 †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Ges Avcbvi wkï‡K GB M‡elYvq AskMÖnb Kivi AbygwZ †`bZvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

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DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2k-2: Bengliconsent form for environmental assessment (drinking water and foodmeasurements in water arm)

cwi‡ekMZ cÖfve g~j¨vq‡bi Rb¨ m¤§wZcÎ (Lvevi cvwb cwigvc)

M‡elYvi wk‡ivbvg: evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb IcywóKi m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve|

**cÖavb M‡elK**:W: wj‡qb BDwbK¤^

**M‡elYvi D‡Ïk¨:**

AvmjvgyAvjvBKzg/Av`ve| Avgvi bvg ----------------------------| Avgiv XvKv (gnvLvjx) K‡jiv nvmcvZv‡j KvR Kwi|Avgiv wkï‡`i WvqwiqvRwbZ †ivM-evjvB wb‡q M‡elYv KiwQ| KwZcq m¨vwb‡Ukb e¨e¯’v, cvwbi ¸bv¸b Ges ¯^v¯’¨m¤§Z Af¨vmmg~n ¯^v‡¯’¨i Dci wKfv‡e cÖfve ‡d‡j GB M‡elYvi gva¨‡g Avgiv Zv †evSvi †Póv KiwQ|Avgiv Av‡gwiKvi ev‡K©jxi K¨v‡j‡dvwb©qv wek¦we`¨vj‡qi M‡elKM‡Yi mv‡\_ GB M‡elYv cwiPvjbv KiwQ|

**Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡b Avgš¿Y Rvbvw”Q?**

Avgiv Avcbv‡K/Avcbvi Lvbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcbvi 3 eQ‡ii Kg eq‡mi GKwU wkï Av‡Q Ges Avcwb/Avcbvi Lvbv B‡Zvg‡a¨B Avgv‡`i M‡elYvi Ab¨vb¨ Kg©Kv‡Û AskMÖnb K‡i‡Qb| Avgiv Avcbv‡K/Avcbv‡`i‡K GB M‡elYvi wel‡q Av‡iv we¯ÍvwiZfv‡e Rvbv‡Z PvB| Avgiv Avkv KiwQ Avcwb Ges Avcbvi wkï ‡¯^”Qvq GB M‡elYvq AskMÖnb Ki‡eb|

**M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx?**

hw` Avcwb/Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y m¤§Z \_v‡Kb, Zvn‡j Avgiv Avcbvi Lvbv‡Z wbwÏ©ó wKQz Kg©KvÛ cwiPvjbv Kie| AvR‡K cwi`k©bKv‡j Avgiv Avcbv‡K Avcbvi evwo I evwoi Pvicv‡ki cwi‡ek, Ges Avcbvi evwo‡Z cÖPwjZ Af¨vm m¤ú‡K© wKQz cÖkœ wRÁvmv Kie| Avgiv Avcbvi Lvbvi msiÿYK…Z Lvevi hv Avcbvi †QvU wkï Lvq Zv †\_‡K mvgvb¨ wKQy cwigvb †b‡ev|Avcwb Avcbvi wkï‡K LvIqvi Rb¨ †h cvwb †`b, †mB cvwb †\_‡K Avgv‡`i‡K GK Møvm cvwb w`‡Z Aby‡iva Kie| Avcbvi †`Iqv GB cvwb †\_‡K Avgiv bgybv wnmv‡e mvgvb¨ cvwb msMÖn Kie| cwi`k©bKv‡j Avgiv Avcbvi Lvbv‡Z cÖvq 1 N›Uv mgq KvUve|

**Su~wK Ges myweavmg~n:**

GB M‡elYvq Avcbvi Ges Avcbvi wkïi SyuwKi m¤¢vebv byb¨Zg| Avcbvi cwiPqmsµvšÍ Z\_¨mg~n †Mvcb bv \_vKvi mvgvb¨ m¤¢vebv i‡q‡Q wKš‘ Avgiv Avcbvi cwiPqmsµvšÍ Z\_¨mg~n †Mvcb ivLvi Rb¨ m¤¢ve¨ meai‡bi †Póv Kie| wKš‘ Avcbvi wkïi AskMÖnY, wkï‡`i Wvqwiqv †ivM m¤ú‡K© Ávbjv‡f Avgv‡`i‡K mnvqZv Ki‡e|GB M‡elYvq AskMÖn‡bi Rb¨ Avcwb †Kvb ai‡Yi cÖZ¨ÿ mnvqZvI cv‡eb bv wKš‘ GB AskMÖnY cvqLvbvi `~l‡Yi mv‡\_ Wvqwiqvi †hvMm~Î m¤^‡Ü Avgv‡`i Rvb‡Z mvnvh¨ Ki‡e|

**wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv:**

Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z‡\_¨i †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| Avcbv‡`i †`Iqv **w**KQyZ\_¨ AvBwmwWwWAvi,we i M‡elK‡†`i Kv‡Q \_vK‡e hvi d‡j Avcbv‡K mbv³ Kiv m¤¢e, ‡hgb Avcbvi bvg Ges ‡dvb b¤^i | Zviv Avcbv‡`i †`Iqv Z\_¨ ‡\_‡K Avcbvi mbv³KiY gyjK Z\_¨ mgyn ev` **w**`†q Ab¨vb¨ M‡elK‡†`i mv‡\_ ‡kqvi Ki‡e (‡hgb Av‡gwiKvi K¨vwj‡dvwb©qv evK©‡j wek¦we`¨vj‡qi M‡elK), hvi d‡j‡Kvb M‡elKB Avcbv‡K wPwýZ Ki‡Z cvi‡e bv | M‡elYvi me †iKW© Zvjve× K‡i ivLv n‡e I KgwcDUv‡i Z\_¨vejx cvmIAviW **w**`†q msi¶b Kiv n‡e|

Ab¨vb¨ e¨w³ A\_ev M‡elYvi mv‡\_ mswk­ó `j Avcbvi Z\_¨ ‡`L‡Z cvi‡e hw` M‡elYvi Kvi‡Y cÖ‡qvRb g‡b K‡i| Giv n‡jb- Av‡gwiKvi K¨vwj‡dvwb©qv evK©‡j wek¦we`¨vj‡qi M‡elK I M‡elYvi ¯úÝi (wej I ‡gwjÛv ‡MUm dvD‡Ûkb) | AvBwmwWwWAvi,we i M‡elK‡†`i Qvov †KD Avcbv‡K Ges Avcbvi wkï‡K mbv³ Ki‡Z cvi‡e bv | Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elbv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡j­L Kiv n‡e bv| Avcbvi KvQ ‡\_‡K cÖvß mKj Z\_¨ I bgybvi m‡e©v”P ‡MvcbxqZv i¶vi Rb¨ Avgiv me©vZ¥K ‡Póv Kie, ZeyI fyjekZt AbvKvw•LZ †Kvb NUbvi Kvi‡b ‡MvcbxqZv i¶v wbwðZ Ki‡Z bv cvi‡j ‡mRb¨ gvR©bv cÖv\_©bv KiwQ|

**fwel¨‡Z Z‡\_¨i e¨envi:**

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Avgiv Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq Ki‡Z cvwi| Ges Kv‡iv mv‡\_ Z\_¨ wewbgq Kiv n‡j Avgiv †mLv‡b Avcbvi cÖK…Z bvg e¨envi Kie bv Ges Avcbvi †`Iqv Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kie|Avcbvi KvQ †\_‡K msM„wnZ mKj Z\_¨ GB M‡elYv †kl n‡q hvIqvi c‡iI `xN©w`b msiÿY Ki‡ev|

**M‡elYvq AskMÖnb bv Kiv ev bvg cÖZ¨vnv‡ii AwaKvit**

G M‡elYvq Avcbvi wkïi AskMªnY ‡m”Qvg~jK Ges Avcbvi wkïi AskMªnY Kiv ev bv Kiv m¯ú~Y©fv‡e Avcbvi B”Qvi Dci wbf©i Ki‡Q| GB M‡elYvq Avcbv‡K †hme cÖkœ wRÁvmv Kiv n‡e Zvi †h‡KvbwUi DËi Avcwb PvB‡j bvI w`‡Z cv‡ib| GB M‡elYvq AskMÖn‡b m¤§Z nevi c‡iI M‡elYv PjvKvjxb †h‡Kvb mgq Avcwb Avcbvi bvg cÖZ¨vnvi K‡i wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

**¶wZc~iY :**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q enb Ki‡Z n‡e bv Ges GKBfv‡e Avcbv‡KI Avgiv †Kvb ai‡bi A\_© cÖ`vb Kie bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j ‡h‡Kvb mgq Avcwb Zv Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb Rbve gvmy` cvi‡fR (‡cÖvMÖvg Ab Bb‡d·vm wWwR‡RR GÛ f¨vKwmb mvB‡Ým, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 01817541872 †gvevBj b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi A\_©‰bwZK †Kvb ¶wZ mvwaZ n‡q‡Q e‡j g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523-32 G·- 3206 †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Ges Avcbvi wkï‡K GB M‡elYvq AskMÖnb Kivi AbygwZ †`bZvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

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DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

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¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2k-3: Bengli consent form for environmental assessment (hand rinse and foodmeasurements in hygiene arm)

cwi‡ekMZ cÖfve g~j¨vq‡bi Rb¨ m¤§wZcÎ (nvZ †avqv cwigvc)

M‡elYvi wk‡ivbvg: evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb I cywóKi m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve|

**cÖavb M‡elK**:W: wj‡qb BDwbK¤^

**M‡elYvi D‡Ïk¨:**

AvmjvgyAvjvBKzg/Av`ve| Avgvi bvg ----------------------------| Avgiv XvKv (gnvLvjx) K‡jiv nvmcvZv‡j KvR Kwi| Avgiv wkï‡`i WvqwiqvRwbZ †ivM-evjvB wb‡q M‡elYv KiwQ| KwZcq m¨vwb‡Ukb e¨e¯’v, cvwbi ¸bv¸b Ges ¯^v¯’¨m¤§Z Af¨vmmg~n ¯^v‡¯’¨i Dci wKfv‡e cÖfve ‡d‡j GB M‡elYvi gva¨‡g Avgiv Zv †evSvi †Póv KiwQ|Avgiv Av‡gwiKvi ev‡K©jxi K¨v‡j‡dvwb©qv wek¦we`¨vj‡qi M‡elKM‡Yi mv‡\_ GB M‡elYv cwiPvjbv KiwQ|

**Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡b Avgš¿Y Rvbvw”Q?**

Avgiv Avcbv‡K/Avcbvi Lvbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcbvi 3 eQ‡ii Kg eq‡mi GKwU wkï Av‡Q Ges Avcwb/Avcbvi Lvbv B‡Zvg‡a¨B Avgv‡`i M‡elYvi Ab¨vb¨ Kg©Kv‡Û AskMÖnb K‡i‡Qb| Avgiv Avcbv‡K/Avcbv‡`i‡K GB M‡elYvi wel‡q Av‡iv we¯ÍvwiZfv‡e Rvbv‡Z PvB| Avgiv Avkv KiwQ Avcwb Ges Avcbvi wkï ‡¯^”Qvq GB M‡elYvq AskMÖnb Ki‡eb|

**M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx?**

hw` Avcwb/Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y m¤§Z \_v‡Kb, Zvn‡j Avgiv Avcbvi Lvbv‡Z wbwÏ©ó wKQz Kg©KvÛ cwiPvjbv Kie| AvR‡K cwi`k©bKv‡j Avgiv Avcbv‡K Avcbvi evwo I evwoi Pvicv‡ki cwi‡ek, Ges Avcbvi evwo‡Z cÖPwjZ Af¨vm m¤ú‡K© wKQz cÖkœ wRÁvmv Kie| Avgiv Avcbvi Lvbvi msiÿYK…Z Lvevi hv Avcbvi †QvU wkï Lvq Zv †\_‡K mvgvb¨ wKQy cwigvb †b‡ev| Avgiv cwi®‹vi cvwb w`‡q Avcbvi †QvU wkïi nvZ¸‡jv †avqve Ges nvZ‡avqv ‡mB cvwbUv bgybv wnmv‡e msMÖn Kie| cwi`k©bKv‡j Avgiv Avcbvi Lvbv‡Z cÖvq 1 N›Uv mgq KvUve|

**Su~wK Ges myweavmg~n:**

GB M‡elYvq Avcbvi Ges Avcbvi wkïi SyuwKi m¤¢vebv byb¨Zg| Avcbvi cwiPqmsµvšÍ Z\_¨mg~n †Mvcb bv \_vKvi mvgvb¨ m¤¢vebv i‡q‡Q wKš‘ Avgiv Avcbvi cwiPqmsµvšÍ Z\_¨mg~n †Mvcb ivLvi Rb¨ m¤¢ve¨ meai‡bi †Póv Kie| wKš‘ Avcbvi wkïi AskMÖnY, wkï‡`i Wvqwiqv †ivM m¤ú‡K© Ávbjv‡f Avgv‡`i‡K mnvqZv Ki‡e|GB M‡elYvq AskMÖn‡bi Rb¨ Avcwb †Kvb ai‡Yi cÖZ¨ÿ mnvqZvI cv‡eb bv wKš‘ GB AskMÖnY cvqLvbvi `~l‡Yi mv‡\_ Wvqwiqvi †hvMm~Î m¤^‡Ü Avgv‡`i Rvb‡Z mvnvh¨ Ki‡e|

**wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv:**

Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z‡\_¨i †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| Avcbv‡`i †`Iqv **w**KQyZ\_¨ AvBwmwWwWAvi,we i M‡elK‡†`i Kv‡Q \_vK‡e hvi d‡j Avcbv‡K mbv³ Kiv m¤¢e, ‡hgb Avcbvi bvg Ges ‡dvb b¤^i | Zviv Avcbv‡`i †`Iqv Z\_¨ ‡\_‡K Avcbvi mbv³KiY gyjK Z\_¨ mgyn ev` **w**`†q Ab¨vb¨ M‡elK‡†`i mv‡\_ ‡kqvi Ki‡e (‡hgb Av‡gwiKvi K¨vwj‡dvwb©qv evK©‡j wek¦we`¨vj‡qi M‡elK), hvi d‡j‡Kvb M‡elKB Avcbv‡K wPwýZ Ki‡Z cvi‡e bv | M‡elYvi me †iKW© Zvjve× K‡i ivLv n‡e I KgwcDUv‡i Z\_¨vejx cvmIAviW **w**`†q msi¶b Kiv n‡e|

Ab¨vb¨ e¨w³ A\_ev M‡elYvi mv‡\_ mswk­ó `j Avcbvi Z\_¨ ‡`L‡Z cvi‡e hw` M‡elYvi Kvi‡Y cÖ‡qvRb g‡b K‡i| Giv n‡jb- Av‡gwiKvi K¨vwj‡dvwb©qv evK©‡j wek¦we`¨vj‡qi M‡elK I M‡elYvi ¯úÝi (wej I ‡gwjÛv ‡MUm dvD‡Ûkb) | AvBwmwWwWAvi,we i M‡elK‡†`i Qvov †KD Avcbv‡K Ges Avcbvi wkï‡K mbv³ Ki‡Z cvi‡e bv | Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elbv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡j­L Kiv n‡e bv| Avcbvi KvQ ‡\_‡K cÖvß mKj Z\_¨ I bgybvi m‡e©v”P ‡MvcbxqZv i¶vi Rb¨ Avgiv me©vZ¥K ‡Póv Kie, ZeyI fyjekZt AbvKvw•LZ †Kvb NUbvi Kvi‡b ‡MvcbxqZv i¶v wbwðZ Ki‡Z bv cvi‡j ‡mRb¨ gvR©bv cÖv\_©bv KiwQ|

**fwel¨‡Z Z‡\_¨i e¨envi:**

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Avgiv Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq Ki‡Z cvwi| Ges Kv‡iv mv‡\_ Z\_¨ wewbgq Kiv n‡j Avgiv †mLv‡b Avcbvi cÖK…Z bvg e¨envi Kie bv Ges Avcbvi †`Iqv Z‡\_¨i †MvcYxqZv K‡Vvifv‡e i¶v Kie|Avcbvi KvQ †\_‡K msM„wnZ mKj Z\_¨ GB M‡elYv †kl n‡q hvIqvi c‡iI `xN©w`b msiÿY Ki‡ev|

**M‡elYvq AskMÖnb bv Kiv ev bvg cÖZ¨vnv‡ii AwaKvit**

G M‡elYvq Avcbvi wkïi AskMªnY ‡m”Qvg~jK Ges Avcbvi wkïi AskMªnY Kiv ev bv Kiv m¯ú~Y©fv‡e Avcbvi B”Qvi Dci wbf©i Ki‡Q| GB M‡elYvq Avcbv‡K †hme cÖkœ wRÁvmv Kiv n‡e Zvi †h‡KvbwUi DËi Avcwb PvB‡j bvI w`‡Z cv‡ib| GB M‡elYvq AskMÖn‡b m¤§Z nevi c‡iI M‡elYv PjvKvjxb †h‡Kvb mgq Avcwb Avcbvi bvg cÖZ¨vnvi K‡i wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

**¶wZc~iY :**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q enb Ki‡Z n‡e bv Ges GKBfv‡e Avcbv‡KI Avgiv †Kvb ai‡bi A\_© cÖ`vb Kie bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j ‡h‡Kvb mgq Avcwb Zv Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb Rbve gvmy` cvi‡fR (‡cÖvMÖvg Ab Bb‡d·vm wWwR‡RR GÛ f¨vKwmb mvB‡Ým, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 01817541872 †gvevBj b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi A\_©‰bwZK †Kvb ¶wZ mvwaZ n‡q‡Q e‡j g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523-32 G·- 3206 †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Ges Avcbvi wkï‡K GB M‡elYvq AskMÖnb Kivi AbygwZ †`bZvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

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DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2L: Bengali consent for 5-hour structured observation

**†¯^”Qv m¤§wZcÎt cvuP N›Uv e¨vwc ch©‡e¶Y**

AvšÍR©vwZK D`ivgq M‡elYv †K›`ª evsjv‡`k (AvB wm wW wW Avi, we )

M‡elYvi wk‡ivbvg:

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb Ges m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve

cÖavb M‡el‡Ki bvg: W: wj‡qb BDwbK¤^

M‡elbvi D‡Ïk¨:

Avm&mvjvgyAvjvBKzg| Avgvi bvg ( \_\_\_\_\_\_\_\_\_ ) Ges Avwg AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx| Avgiv GB M‡elYvi gva¨‡g wZb eQ‡ii †QvU ev”Pv‡`i ¯^v¯’¨ Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q|

Avgiv †Kb Avcbv‡K GB M‡elbvq AskMÖn‡b Avgš¿Y Rvbvw”Q?

Avgiv Avcbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcwb cieZ©x 8 gv‡mi g‡a¨ GKwU wkïi Rb¥ †`‡eb ev Avcbvi evoxi 3 eQ‡ii Kg eq‡mi wkï Av‡Q Ges Avgiv wkï‡`i Rxe‡bi ïi“ †\_‡KB Zv‡`i e„w× ch©‡e¶Y Ki‡Z AvMÖnx|

M‡elbvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx ?

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z Pvb, Zvn‡j Avwg Avcbvi N‡i ev DVv‡b ev AvwObvq Ggb GKwU RvqMvq eme †hLvb †\_‡K Avcwb Ges Avcbvi Lvbvi Ab¨vb¨ m`m¨MY KLb †Kv\_vq wK Ki‡Qb Zv †`L‡Z cvwi wKš‘ Zv‡Z †hb Avcbv‡`i ‰`bw›`b Kv‡R †Kvb mgm¨vi m„wó bv nq| Avwg Avcbvi evwoi ‰`bw›`b KvRK©g c©h‡e¶Y Kivi Rb¨ Avcbvi N‡ii wfZi Ges evwn‡ii Pvicvk GKUz Ny‡i †`Le Ges ch©‡e¶b †k‡l Avcbv‡K wKQy cÖkœ Kie| GQvov Avwg wKQy Z\_¨ wj‡L ivLe| cÖvq cvuP NÈv a‡i ch©‡e¶‡Yi Rb¨ Avcbvi AbygwZ mv‡c‡¶ Avwg Avcbvi Lvbv‡Z \_vKe|

SuywK Ges myweav:

GB M‡elYvq AskMÖn‡Y Avcbvi †Kv‡bv SuzwK †bB| GB M‡elYvq AskMÖn‡Yi Rb¨ Avcwb Zvr¶wYK †Kvb myweav cv‡eb bv| Avgiv ïaygvÎ Lvbv‡Z ‰`bw›`b ¯^v¯’¨MZ AvPiY m¯úwK©Z Z\_¨ msMÖn Kie| Z‡e M‡elYvi Kv‡R c©uvP N›Uv mg‡qi Rb¨ Avcbvi Lvbv‡Z/ evwo‡Z \_vKvUv nq‡Zvev Avcbv‡`i Rb¨ wKQyUv Amw¯Í`vqK n‡Z cv‡i| Z‡e ch©‡e¶‡Yi gva¨‡g DËi msMÖ‡n Avcbvi ev Avcbvi cwiev‡ii Rb¨ †Kvb Amyweav n‡e bv e‡j Avkv KiwQ| Z‡e Avgiv Avkv KiwQ GB M‡elYvq cÖvß djvdj evsjv‡`‡ki Rbmvavi‡Yi cvwb, cqte¨e¯’v Ges ¯^v¯’¨m¤§Z Ae¯’v eyS‡Z mnvqZv Ki‡e Ges GB Ae¯’vi DbœwZ mva‡bi j‡¶¨ KvR Kivi my‡hvM m„wó n‡e|

LiP Ges ¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mvimwi †Kvb ai‡bi A\_©‰bwZK LiP n‡e bv Ges Avcwb M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK ev Ab¨ †Kvb mnvqZvI cv‡eb bv|

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv :

GB †`‡ki AvBb Abyhvqx Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z‡\_¨i †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| msM„nxZ Z\_¨ Ges Gi djvdj †MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elbv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡jøL Kiv n‡e bv|

‡¯^”Qv AskMÖnY :

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wb©fi K‡i| Avcbvi wjwLZ AbygwZ †`qvi cieZ©x‡ZI Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q Avcbvi AbygwZ cÖZ¨vL¨vb Ki‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi Rb¨ A\_ev AskMÖ†Yi cieZ©x‡Z ‡Kvb GK ch©v‡q AskMÖn‡Y Am¤§wZ cÖKvk Kivi Rb¨ Avcbvi cwievi †Kvb ai‡bi ¯^vfvweK ev cÖvc¨ my‡hvM †\_‡K KLbB ewÂZ n‡eb bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb Wvt Avey bv†Qi,(wcAvBwWwfGm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8819419-20 (G·- 120) †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elbvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523 (G·- 3206) †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

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DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

mv¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

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wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2m: Bengali consent for maternal sample collection

†¯^”Qv m¤§wZcÎt wbe©vwPZ Lvbvq gv‡qi KvQ †\_‡K bg~Yv msMÖn

Iqvm †ewbwdUm †eRjvBb mv‡f©

AvšÍR©vwZK D`ivgq M‡elYv †K›`ª evsjv‡`k (AvB wm wW wW Avi, we )

M‡elYvi wk‡ivbvg:

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb Ges m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve

cÖavb M‡el‡Ki bvg: W. w÷‡db wc jywe

M‡elYvi D‡Ïk¨:

Avm&mvjvgyAvjvBKzg/bg¯‹vi| Avgvi bvg ( \_\_\_\_\_\_\_\_\_ ) Ges Avwg AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx| Avgiv GB M‡elYvi gva¨‡g wKQy mvavib B›Uvi‡fbkb †hgb- cvqLvbvi Dbœqb, cvwbi ¸bMZgvb Ges ¯^v¯’¨m¤§Z Af¨vm ev wZb eQ‡ii †QvU ev”Pv‡`i cywóMZ Ae¯’v BZ¨vw`i Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q| wkï‡`i Acywó A‡š¿i msµg‡bi mv‡\_ m¤úK©xZ hv Avgv‡`i cywó Dcv`v‡bi e¨envi e`‡j w`‡Z cv‡i| Avgv‡`i †`‡ni wWGbG-i wR‡bi Kvi‡Y wKQz wKQz wkï‡`i Ab¨‡`i Zzjbvq Acywói SzuwK †ekx \_v‡K| GB wWGbG Avgiv DËivwaKvi m~‡Î evev-gvi KvQ †\_‡K cvB Ges GQvovI Avgiv Avgv‡`i †`‡n emevmKvix A‡bK ÿwZKi bq Ggb Rxevbyi wRb enb Kwi|

Avgiv eySvi †Póv KiwQ KLb wkïi kvixwiK I gvbwmK e„w× †ekx nq, GB B›Uvi‡fbkb¸‡jv c„\_K fv‡e ‡`Iqv n‡j bvwK GKmv‡\_ †`qv n‡j| G‡Z K‡i Avgiv fwel¨‡Z ¯^í Li‡Pi B›Uvi‡fbk‡bi K\_v ej‡Z cvie| wkï‡`i Rxe‡bi GB `yB eQi Zv‡`i kvixwiK I gvbwmK e„w×i Rb¨ LyeB ¸iæZ¡c~Y©|

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡b Avgš¿Y Rvbvw”Q?

Avgiv Avcbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcwb cieZ©x 8 gv‡mi g‡a¨ GKwU wkïi Rb¥ †`‡eb Ges Avgiv wkï‡`i Rxe‡bi ïi“ †\_‡KB Zv‡`i e„w× ch©‡e¶Y Ki‡Z AvMÖnx|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx?

hw` Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y ivRx nq, Zvn‡j Avgiv Avcbvi i‡³i MÖæc I wRb (wWGbG) Avjv`v Kivi Rb¨ Avcbvi KvQ †\_‡K mvgvb¨ cwigvb (`yB Pv Pvg‡Pi mgvb) i‡³i bgybv ‡be| GQvovI Avcbvi mn‡hvMxZvq cvqLvbv I cÖmªv‡ei bgyYv msMÖn Kie| Avgiv cvqLvbvi bg~Yv †\_‡K ciRxex Ges cÖmªv‡ei bg~Yv †\_‡K cywóMZ Ae¯’v eySvi Rb¨ cixÿv Kie| GUv M‡elYvi ïiæ‡Z GKeviB Kiv n‡e| Avcwb †Kvb cixÿxZ djvdj cv‡eb bv|G‡ÿ‡Î Avcbvi AskMÖn‡bi wm×všÍ ‡¯^”Qvg~jK Ges GUv Avcbvi wkïi Ask MÖn‡Yi Dci †Kvb cÖfvZ †dj‡e bv

Su~wK Ges myweavw`:

cÖwkÿYcÖvß Ges `ÿ Kg©xØviv KvQ †\_‡K mvgvb¨ cwigvb i³, cvqLvbv ev cÖmªv‡ei bgyYv msMÖn Kiv n‡eGes Bnv Avcbvi †Kvb ÿwZ Ki‡e bv|Avcbvi i³ msMÖn Kivi mgq mvgwqK mg‡qi Rb¨ wKQyUv e¨\_v †c‡Z cv‡ib|

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv:

GB †`‡ki AvBb Abyhvqx Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z\_¨ I bgybvi †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie|Avcbvi bvg I e¨w³MZ Z\_¨ Qvov GB bgyYv Ges cixÿxZ djvdj †KvW Kiv n‡e Ges M‡elYvKg©x Øviv Avjv`vfv‡e msiÿY K‡i ivLv n‡e| †Kvb M‡elYvKg©x Avcbvi ev Avcbvi wkïi bgyYv †\_‡K Avcbv‡`i‡K Avjv`vfv‡e mbv³ Ki‡Z cvi‡e bv|

GQvov Õ†Kwj‡dvwb©qv wek¦we`¨vjqÕ, evi‡Kwj Gi Ôwej Ges †gwjbWv †Mum dvD‡ÛkbÕ Gi M‡elYv`j Ges hviv GB M‡elYvi wbivcËvi `vwq‡Z¡ Av‡Q Zviv Avcbvi cixÿxZ djvdj †`L‡Z cv‡i| †h‡nZz Avgv‡`i‡K msiÿxZ Z\_¨ Zv‡`i w`‡Z n‡Z cv‡i Ges †R‡bwUK Z\_¨ w`‡q †hKvD‡K mbv³ Kiv hvq, ZvB Avgiv m¤ú~Y© †MvcYxZv iÿvi wbðqZv w`‡Z cviwQ bv|

m‡e©vcwi, Avcbvi †MvcbxqZv iÿvi e¨cv‡i Avgiv m‡e©v”P †Póv Kie| Avcwb hw` GB KvM‡R ¯^vÿi †`b, Zvn‡j Avgiv Da©Zb M‡elbvKg©x Ges wbivcËv KwgwUi Kv‡Q GB Z\_¨¸‡jv w`e| GB AbygwZ †gqv` †kl nIqvi †Kvb ZvwiL bvB| GB Z\_¨ †KvW Kiv n‡e Ges m¤¢vebv LyeB Kg †h †KD Avcbv‡K ev Avcbvi wkï‡K Avjv`vfv‡e wPb‡Z cvi‡e|

fwel¨‡Z Z‡\_¨i e¨envi:

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kiv n‡e|fwel¨‡Z, msMÖnK„Z i³ &Ies cvqLvbvi bgyYvi AwZwi³ †Kvb cixÿv Ki‡Z cvwi| GB bgyYv AvBwmwWwWAvi,we †Z 20 eQi ch©šÍ msiÿY Kiv n‡Zcv‡i hv‡Z K‡i Avgiv Avcbvi †Kvb msµgb wQj wKbv Zv Rvbvi Rb¨ Ges Avcbvi kix‡i †Kvb ‡Kvb RxevYy emevm KiZ Zv †ei Kivi Rb¨DbœZ ai‡bi cix¶v Ki‡Z cvwi| Gi Rb¨ cieZ©x‡Z Avcbvi KvQ †\_‡K †Kvb AbygwZ †bIqv n‡e bv Ges Avcwb GB cix¶vi †Kvb djvdjI cv‡eb bv| AvBwmwWwWAvi,we GKRb wmwbqi weÁvbx wVK Ki‡eb †K msi¶YK…Z bg~Yv e¨envi Ki‡Z cvi‡e Ges †Kvb †Kvb cix¶v Ki‡Z cvi‡e| GB bgybv fwel¨‡Z cixÿvi Rb¨ †i‡L †`Iqvi e¨cv‡i hw` Avcwb KLbI Avcbvi gZvgZ cwieZ©b K‡ib Zvn‡j Avcwb Avgv‡`i mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib Ges Avgiv Avcbvi bgyYv †d‡j w`e|

‡¯^”Qv AskMÖnY :

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wbf©i K‡i| Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q Avcbvi AbygwZ wdwi‡q †bIqvi cvkvcvwk Avcbvi I Avcbvi wkïi KvQ †\_‡K †bIqv bgyYv bó K‡i †dj‡Z cv‡ib Ges Z\_¨ gy‡Q †dj‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb Wv: gvneyeyi ingvb (wcAvBwWwfGm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8819419-20 (G·-123) †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elbvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 9840523 (G·- 3206) †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

gv bgyYv w`‡Z ivRx n‡q‡Q: n¨uv \_\_\_\_\_\_ bv \_\_\_\_\_\_

........................................... .................................

DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2n: Bengali consent for for household in-depth lead exposure interview

**G‡cwÛ· 2Gb: mxmvi ms¯c‡k© Avmv Lvbvi wbweo mv¶vrKv‡ii Rb¨ m¤§wZcÎ**

M‡elYvi wk‡ivbvg:evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb IcywóKi m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve|

**cÖavb M‡elKt** W: wj‡qb BDwbK¤^

**M‡elYvi D‡Ïk¨t**

Avmmvjvgy AvjvBKyg/bg¯‹vi| Avgvi bvg----------- Ges Avwg XvKvq AvBwmwWwWAvi,we ‡Z (K‡jiv nvmcvZvj) KvR Kwi| GB GjvKvi gvbylR‡bi mxmvi ms¯ú‡k© Avmvi welqwU wb‡q Avgiv M‡elYv Ki‡Z B”QyK| mxmvi ms¯úk©Zv gv‡S gv‡S Amy¯’¨Zvi KviY n‡Z cv‡i, ZvB Avgiv GB welqwU fvjfv‡e eyS‡Z PvB|

**‡Kb Avcbv‡K Avgiv GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q?**

KviY Avcbvi KvQ ‡\_‡K msM…nxZ i‡³ D”P gvÎvi mxmvi Dcw¯’wZ i‡q‡Q| Avgiv Lyu‡R ‡ei Ki‡Z B”QyK wKfv‡e Avcwb AvµvšÍ n‡q‡Qb Ges Avcbvi cwievi GUv Øviv AvµvšÍ n‡Z cv‡i|

**M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv**

Avcbvi cwievi hw` GB M‡elYvq AskMÖn‡Yi wm×všÍ ‡bb Z‡e Avgiv avivevwnKfv‡e wKQy cÖkœ Kie| hviv K…wlKv‡R ‡ewkifvM mg‡q wb‡qvwRZ \_v‡Kb Avgiv Zv‡`i‡K Av‡iv cÖkœ Kie| Avgiv Avcbvi evox I K…wl Rwg ‡`L‡Z PvBe ‡hLv‡b Avcbvi cwiev‡ii m`m¨iv KvR K‡ib| ‡h‡nZy Avcbvi mv‡\_ K‡\_vcK\_‡bi m¤ú~Y© weeiYwU LvZvq ‡jLv KóKi,ZvB Avcwb hw` ivRx \_v‡Kb, Avgiv Avcbvi mv‡\_ K‡\_vcK\_‡bi welqwU ‡Uc ‡iKW© Ki‡Z PvB| Avgiv GKB mv‡\_ wKQy welq LvZvqI wj‡L ivLe| Gi Rb¨ GK N›Uvi gZ mgq jvM‡e| AviI wKQy cÖkœ Kivi Rb¨ Avgiv fwel¨‡Z ‡Kvb GK mgq AveviI Avm‡Z cvwi| M‡elYvi GB c‡e© AskMÖn‡Y Avcbvi wm×všÍ m¤c~Y©i~‡c Hw”QK Ges GUv Iqvk ‡ewbwdU Kvh©µ‡g Avcbvi cwiev‡ii AskMÖn‡Y ‡Kvb cÖfve ‡dj‡e bv|

**SyuwK Ges myweav**

GB M‡elYvq Avgiv ‡Kvb SyuwKi m¤¢vebv ‡`LwQ bv| Avgiv hw` mxmvi Drm wPwýZ Ki‡Z cvwi, wKfv‡e Avcbvi cwiev‡i mxmv Øviv AvµvšÍ nIqvi gvÎv ‡iva Kiv hvq, †m wel‡qAvgiv civgk© ‡`e |

**‡MvcbxqZv, bvg nxbZv I wek¦¯ÍZv**

Avcbvi KvQ ‡\_‡K cÖvß mKj Z\_¨ I bgybv GB ‡`‡ki AvBb Abyhvqx ‡Mvcb ivLv n‡e| ‡Kvb M‡elKB Avcbv‡K wPwýZ Ki‡Z cvi‡e bv| M‡elYv `j hviv GB M‡elYvi wbivcËvi ZË¡veav‡b i‡q‡Qb Ges Av‡gwiKvi K¨vwj‡dvwb©qv evK©‡j wek¦we`¨vjq Ges wej I ‡gwjÛv ‡MUm dvD‡Ûkb Avcbvi ‡`Iqv Z\_¨ Ges GB AwWI ‡iKwW©s e¨envi Ki‡Z cvi‡eb| ‡h‡nZy GB cÖwZôvbmg~n I e¨w³eM©‡K ‡h ‡Kvb mgq Z\_¨ w`‡Z n‡Z cv‡i ZvB cy‡ivcywi ‡MvcbxqZv i¶vi welqwU Avgiv wbwðZ Ki‡Z cviwQ bv| ZeyI m‡e©v”P ‡MvcbxqZv i¶vi Rb¨ Avgiv me©vZ¥K ‡Póv Kie| G‡`i GB Z\_¨ e¨env‡i AbygwZi Rb¨ ‡Kvb wba©vwiZ mgqmxgv ‡bB| Avcbvi ‡MvcbxqZv i¶v‡\_© GB Z\_¨¸‡jv‡K ‡KvW Kiv n‡e hvi d‡j Kv‡iv c‡¶ Avcbv‡K mbv³ Kiv cÖvq Am¤¢e|

**fwel¨‡Z Z‡\_¨i e¨envi**

GB M‡elYv n‡Z cÖvß Z\_¨ cÖ‡qvR‡b Ab¨ M‡elK‡`i mv‡\_ Av`vb-cÖ`vb Ki‡Z n‡Z cv‡i| Z‡e Avgiv Lye mZK©Zvi mv‡\_ Avcbvi wek¦¯ÍZv I ‡MvcbxqZv i¶v Kie|

**M‡elYvq AskMÖnY bv Kivi I wb‡R‡K cÖZ¨vnv‡ii AwaKvi**

GB M‡elYvq Avcbvi AskMÖnY m¤ú~Y©iƒ‡c ‡¯^”Qv‡mevg~jK| Avcwb Avcbvi AskMÖnY cÖZ¨vnvi Ki‡Z cvi‡eb Ges Avcwb hw` B‡”Q K‡ib Z‡e Avgiv Avcbvi avb I gvwUi bgybvI bó K‡i ‡dje| GB M‡elYv ‡\_‡K wb‡R‡K cÖZ¨vnvi Kivi AwaKvi Avcbvi Av‡Q, GRb¨ K‡jiv nvmcvZv‡j Avcbvi cwiev‡ii wPwKrmv‡¶‡Î ‡Kvb mgm¨v n‡e bv|

**¶wZc~iY bxwZ**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbv‡K ‡Kvb UvKvcqmv w`‡Z n‡e bv GKB fv‡e Avgv‡`i c¶ ‡\_‡KI Avcbv‡K ‡Kvb UvKv cqmv ‡`qv n‡ebv|

**‡hvMv‡hv‡Mi e¨w³eM©**

Avcbvi hw` ‡Kvb cÖkœ \_v‡K, Z‡e Zv ‡h ‡Kvb mg‡q Avgv‡K wRÁvmv Ki‡Z cv‡ib| GB M‡elYv/ Rwic wel‡q Acbvi hw` AwZwi³ ‡Kvb cÖkœ \_v‡K Z‡e Zv Rvbvi Rb¨ ‡hvMv‡hvM Ki‡Z cv‡ib| ‡hvMv‡hv‡Mi wVKvbvt

Wvt gvnveyeyi ingvb, ‡m›Uvi di KwgDwb‡Kej wWwR‡Rm, AvBwmwWwWAvi,we, gnvLvjx, XvKv-1212| ‡dvb: 8860523-32 # 123|

GKRb M‡elYv AskMÖnYKvix wn‡m‡e Avcbvi AwaKvi m¤ú‡K© hw` Rvb‡Z Pvb A\_ev hw` Avcwb g‡b K‡ib ‡h Avcbvi KvQ ‡\_‡K Z\_¨ msMÖ‡ni Kvi‡Y Avcbvi ‡Kvb ¶wZ n‡q‡Q Zv‡e Avcwb wb‡gœv³ wVKvbvq ‡hvMv‡hvM A\_ev mivmwi ‡`Lv Ki‡Z cv‡ib| ‡hvMv‡hv‡Mi wVKvbvt

Gg, G mvjvg Lvb, AvB Avi we ‡m‡µUvwi‡qU, ‡dvbt 9886498 A\_ev PABX, 8860523-32, G·. 3206|

Avcwb hw` Avgv‡`i cÖ¯Íve Abyhvqx Avcbvi Lvbv‡K GB M‡elYvq hy³ Ki‡Z m¤§Z nb Z‡e bx‡P D‡jøwLZ ¯’v‡b Avcbvi ¯^v¶i A\_ev evg nv‡Zi e…×v½yjxi Qvc w`b| Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

bgybv msMÖ‡ni Rb¨ gvÕi m¤§wZ: n¨vu ---------bv--------

---------------------------------------- ----------------------

AskMÖnYKvixi ¯^v¶i/ evg nv‡Zi e…×v½yjxi Qvc ZvwiL

--------------------------------------- ----------------------

cÖavb M‡elK A\_ev Zvi cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2o: Bengali consent for agrochemical in-depth interview

**G‡cwÛ· 2I: K…wl‡¶‡Î e¨eüZ ivmvqwbK wel‡q (G‡MÖv‡KwgK¨vj) wbweo mv¶vrKv‡ii Rb¨ m¤§wZcÎ**

M‡elYvi wk‡ivbvg:evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb IcywóKi m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve|

**cÖavb M‡elKt** W: wj‡qb BDwbK¤^

**M‡elYvi D‡Ïk¨**

Avmmvjvgy AvjvBKyg/bg¯‹vi| Avgvi bvg----------- Ges Avwg XvKvq AvBwmwWwWAvi,we ‡Z (K‡jiv nvmcvZvj) KvR Kwi| GB GjvKvi gvbylR‡bi mxmvi ms¯ú‡k© Avmvi welqwU wb‡q Avgiv M‡elYv Ki‡Z B”QyK| mxmvi ms¯úk©Zv gv‡S gv‡S Amy¯’¨Zvi KviY n‡Z cv‡i, ZvB Avgiv GB welqwU fvjfv‡e eyS‡Z PvB|

**‡Kb Avcbv‡K Avgiv GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q?**

K…wlKv‡R e¨eüZ ivmvqwbK¸‡jvi g‡a¨ KLbI KLbI mxmv \_v‡K| Avgiv Rvb‡Z PvB, GB GjvKvq K…l‡Kiv Kx ai‡Yi ivmvqwbK µq K‡i \_v‡K|

**GB M‡elYvq AskMÖnYKvixi Kv‡Q wK cÖZ¨vkv Kiv n‡”Q?**

Avcwb hw` GB M‡elYvq AskMÖn‡Yi wm×vš— ‡bb Z‡e Avgiv Avcbv‡K wKQy avivevwnK cÖkœ Kie| Avgiv Avcbvi ‡`vKvb ‡`L‡Z PvBe| Avgiv cieZ©x‡Z AveviI K\_v ejvi Rb¨ Avm‡Z cvwi| ‡h‡nZy Avcbvi mv‡\_ K‡\_vcK\_‡bi m¤ú~Y© weeiYwU LvZvq ‡jLv KóKi, ZvB hw` Avcwb ivRx \_v‡Kb, Avgiv Avcbvi mv‡\_ K‡\_vcK\_‡bi GB welqwU ‡Uc ‡iKW© Ki‡Z PvB| Avgiv GKB mv‡\_ wKQy welq LvZvqI wj‡L ivLe| Gi Rb¨ GK N›Uv mgq jvM‡e| AviI wKQy cÖkœ Kivi Rb¨ Avgiv fwel¨‡Z ‡Kvb GK mgq AveviI Avm‡Z cvwi|

**SyuwK Ges myweav**

GB M‡elYvq Avgiv ‡Kvb SyuwKi m¤¢vebv ‡`L‡Z cvw”Q bv| hw` Avgiv mxmvi ‡Kvb Drm wPwýZ Ki‡Z cvwi Z‡e Avgiv miKvi‡K AeMZ Kie Ges Gi Rb¨ wKQy wKQy ivmvqwbK wewµi Dci eva¨evaKZv Avm‡Z cv‡i|

**‡MvcbxqZv, bvg nxbZv I wek¦¯ÍZv**

Avcbvi KvQ ‡\_‡K cÖvß mKj Z\_¨ I bgybv GB ‡`‡ki AvBb Abyhvqx ‡Mvcb ivLv n‡e| ‡Kvb M‡elKB Avcbv‡K wPwýZ Ki‡Z cvi‡e bv| M‡elYv `j hviv GB M‡elYvi wbivcËvi ZË¡veav‡b i‡q‡Qb Ges Av‡gwiKvi K¨vwj‡dvwb©qv evK©‡j wek¦we`¨vjq Ges wej I ‡gwjÛv ‡MUm dvD‡Ûkb Avcbvi ‡`Iqv Z\_¨ Ges GB AwWI ‡iKwW©s e¨envi Ki‡Z cvi‡eb| ‡h‡nZy GB cÖwZôvbmg~n I e¨w³eM©‡K ‡h ‡Kvb mgq Z\_¨ w`‡Z n‡Z cv‡i ZvB cy‡ivcywi ‡MvcbxqZv i¶vi welqwU Avgiv wbwðZ Ki‡Z cviwQ bv| ZeyI m‡e©v”P ‡MvcbxqZv i¶vi Rb¨ Avgiv me©vZ¥K ‡Póv Kie| G‡`i GB Z\_¨ e¨env‡i AbygwZi Rb¨ ‡Kvb wba©vwiZ mgqmxgv ‡bB| Avcbvi ‡MvcbxqZv i¶v‡\_© GB Z\_¨¸‡jv‡K ‡KvW Kiv n‡e hvi d‡j Kv‡iv c‡¶ Avcbv‡K mbv³ Kiv cÖvq Am¤¢e|

**fwel¨‡Z Z‡\_¨i e¨venvi**

GB M‡elYv n‡Z cÖvß Z\_¨ cÖ‡qvR‡b Ab¨ M‡elK‡`i mv‡\_ Av`vb-cÖ`vb Ki‡Z n‡Z cv‡i| Z‡e Avgiv Lye mZK©Zvi mv‡\_ Avcbvi wek¦¯ÍZv I ‡MvcbxqZv i¶v Kie|

**M‡elYvq AskMÖn‡Y A¯^xK…wZ I wb‡R‡K ev` ‡`Iqvi AwaKvi**

GB M‡elYvq Avcbvi AskMÖnY m¤ú~Y©iƒ‡c ‡¯^”Qv‡mevg~jK| Avcwb Avcbvi AskMÖnY cÖZ¨vnvi Ki‡Z cvi‡eb Ges Avcwb hw` B‡”Q K‡ib Z‡e Avgiv Avcbvi avb I gvwUi bgybvI bó K‡i ‡dje| GB M‡elYv ‡\_‡K wb‡R‡K cÖZ¨vnvi Kivi AwaKvi Avcbvi Av‡Q, GRb¨ K‡jiv nvmcvZv‡j Avcbvi cwiev‡ii wPwKrmv‡¶‡Î ‡Kvb mgm¨v n‡e bv|

**¶wZc~iY bxwZ**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbv‡K ‡Kvb UvKvcqmv w`‡Z n‡e bv GKB fv‡e Avgv‡`i c¶ ‡\_‡KI Avcbv‡K ‡Kvb UvKv cqmv ‡`qv n‡ebv|

**‡hvMv‡hv‡Mi e¨w³eM©**

Avcbvi hw` ‡Kvb cÖkœ \_v‡K, Z‡e Zv ‡h ‡Kvb mg‡q Avgv‡K wRÁvmv Ki‡Z cv‡ib| GB M‡elYv/ Rwic wel‡q Acbvi hw` AwZwi³ ‡Kvb cÖkœ \_v‡K Z‡e Zv Rvbvi Rb¨ ‡hvMv‡hvM Ki‡Z cv‡ib| ‡hvMv‡hv‡Mi wVKvbvt

Wvt gvnveyeyi ingvb, ‡m›Uvi di KwgDwb‡Kej wWwR‡Rm, AvBwmwWwWAvi,we, gnvLvjx, XvKv-1212| ‡dvb: 8860523-32 # 123|

GKRb M‡elYv AskMÖnYKvix wn‡m‡e Avcbvi AwaKvi m¤ú‡K© hw` Rvb‡Z Pvb A\_ev hw` Avcwb g‡b K‡ib ‡h Avcbvi KvQ ‡\_‡K Z\_¨ msMÖ‡ni Kvi‡Y Avcbvi ‡Kvb ¶wZ n‡q‡Q Zv‡e Avcwb wb‡gœv³ wVKvbvq ‡hvMv‡hvM A\_ev mivmwi ‡`Lv Ki‡Z cv‡ib|‡hvMv‡hv‡Mi wVKvbvt

Gg, G mvjvg Lvb, AvB Avi we ‡m‡µUvwi‡qU, ‡dvbt 9886498 A\_ev PABX, 8860523-32, G·. 3206|

Avcwb hw` Avgv‡`i cÖ¯Íve Abyhvqx Avcbvi Lvbv‡K GB M‡elYvq hy³ Ki‡Z m¤§Z nb Z‡e bx‡P D‡jøwLZ ¯’v‡b Avcbvi ¯^v¶i A\_ev evg nv‡Zi e…×v½yjxi Qvc w`b| Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

bgybv msMÖ‡ni Rb¨ gvÕi m¤§wZ: n¨vu ---------bv--------

---------------------------------------- ----------------------

AskMÖnYKvixi ¯^v¶i/ evg nv‡Zi e…×v½yjxi Qvc ZvwiL

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cÖavb M‡elK A\_ev Zvi cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2p: Bengali consent for lead case-control study

**G‡cwÛ· 2w**c**:** mxmvi cÖfve m¤úwK©Z †Km-K‡›Uªvj ÷vwWi **Rb¨ m¤§wZcÎ**

M‡elYvi wk‡ivbvg:evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb IcywóKi m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve|

**cÖavb M‡elKt** W: wj‡qb BDwbK¤^

**M‡elYvi D‡Ïk¨**

Avmmvjvgy AvjvBKyg/bg¯‹vi| Avgvi bvg----------- Ges Avwg XvKvq AvBwmwWwWAvi,we ‡Z (K‡jiv nvmcvZvj) KvR Kwi| GB GjvKvi gvbylR‡bi mxmvi ms¯ú‡k© Avmvi welqwU wb‡q Avgiv M‡elYv Ki‡Z B”QyK| mxmvi ms¯úk©Zv gv‡S gv‡S Amy¯’¨Zvi KviY n‡Z cv‡i, ZvB Avgiv GB welqwU fvjfv‡e eyS‡Z PvB|

**‡Kb Avcbv‡K Avgiv GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q?**

wKQz wKQz ivmvqwbK c`v\_© Ges avZz ¯^v¯’¨ I wkï Dbœq‡b cÖfve †dj‡Z cv‡i| Avgiv Avcbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY cwi‡e‡k ivmvqwbK c`v\_© Ges avZzi Dcw¯’wZi Rb¨ wKfv‡e Avcwb Ges Avcbvi cwievi cÖfvweZ n‡”Qb Avgiv Zv Rvb‡Z AvMÖnx|

**GB M‡elYvq AskMÖnYKvixi Kv‡Q wK cÖZ¨vkv Kiv n‡”Q?**

hw` Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y m¤§Z \_v‡Kb, Zvn‡j Avgiv Avcbv‡K KZ¸‡jv cÖkœ wRÁvmv Kie| Avcbvi cwiev‡ii †h e¨w³ AwaKvsk K…wlKvR¸‡jv K‡i \_v‡Kb, Zv‡KI wKQz cÖkœ wRÁvmv Kie| Avcbvi cwievi †h evwo‡Z Ges Rwg‡Z KvR K‡i Avgiv ZvI ‡`L‡Z Pve| Avgiv Avcbvi Rwg †\_‡K mvgvb¨ cwigvb gvwU Ges H Rwg‡Z Drcvw`Z Pvj bgybv wnmv‡e msMÖn Kie| GB Av‡jvPbv ce©wU cÖvq 1 N›Uv mgq e¨vwc Pj‡e| fwel¨‡Z G wel‡q Av‡iv wKQz Rvbvi cÖ‡qvRb n‡j Avgiv AveviI Avcbvi Kv‡Q Avm‡Z cvwi| GB M‡elYvq AskMÖnY Kiv ev bv Kiv m¤ú~b© Avcbvi B”Qvi Dci wbf©i Ki‡Q Ges GB M‡elYvq AskMÖnb bv Kivi Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i Iqvk †ewbwdU ÷vwW‡Z AskMÖn‡bi †ÿ‡Î †Kvb cÖfve co‡e bv|

**SyuwK Ges myweav**

GB M‡elYvq AskMÖn‡b Avcbvi †Kvb SzuwK †bB| hw` Avgv‡`i M‡elYvi gva¨‡g Avcbvi cwi‡e‡ki Dci (ivmvqwbK c`v\_© I avZzi) ÿwZKi cÖfve wPwýZ Ki‡Z cvwi, Zvn‡j wKfv‡e Avcbvi cwiev‡i Gi cÖfve wbqš¿b Kiv hvq Zvi Rb¨ mycvwik/cÖ¯Íve Kie|

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv:

GB †`‡ki AvBb Abyhvqx Avcbvi/ Avcbvi cwiev‡ii ‡Kvb m`m¨Õi †`Iqv mg¯Í Z\_¨ Ges bgybv †MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| Avcbvi/ Avcbvi cwiev‡ii ‡Kvb m`m¨Õi bvg I e¨w³MZ Z\_¨ Qvov GB bgybv Ges cwi¶xZ djvdj †KvW Kiv n‡e hv‡Z bgybv`vZv wn‡m‡e Avcbv‡K/ Avcbvi cwiev‡ii ‡Kvb m`m¨‡K Avjv`vfv‡e †KD wPb‡Z bv cv‡i| Z‡e Ô†Kwj‡d©vwbqv wek¦we`¨vjqÕ, evi‡Kwj Gi Ôwej Ges †gwjbWv †MuUm dvD‡ÛkbÕ Gi M‡elYv`j Ges hviv GB M‡elYvi wbivcËvi `vwq‡Z¡ Av‡Q M‡elYvi cÖ‡qvR‡b Zviv Avcbvi cwi¶xZ djvdj †`L‡Z cvi‡e| GRb¨ Gme Z\_¨ I bgybvi m¤ú~b© †MvcYxqZvi e¨vcv‡i cÖwZkÖæwZ w`‡Z cviwQ bv| Z‡e G e¨vcv‡i Avgiv h\_vh\_ †MvcbxqZv iÿv Ki‡Z †Póv Kie | Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi I Avcbvi wkïi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elYv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡j­L Kiv n‡e bv|

**fwel¨‡Z Z‡\_¨i e¨venvi**

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Avgiv Avcbvi †`Iqv Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kie|

M‡elYvq AskMÖnb bv Kiv ev bvg cÖZ¨vnv‡ii AwaKvit

GB M‡elYvq AskMÖnb Kiv m¤ú~b©iƒ‡c Avcbvi B”Qvi Dci wbf©i Ki‡Q| Avcwb GB M‡elYvq AskMÖnb Ki‡Z bv PvB‡j Avgiv Avcbvi bvg ev` w`e Ges Avcbvi †`Iqv gvwU I Pv‡ji bgybvI bó K‡i w`e| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfveI co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡bi A\_©‰bwZK LiP/e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb Wv. †gv. gvneyeyi ingvb (‡m›Uvi di KwgDwbK¨vej wWwR‡Rm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8860523-23 G·-120 †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523-32 G·- 3206 †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

GB M‡elYvq bgybv w`‡Z gv ivRx n‡q‡Qb: n¨uv \_\_\_\_\_\_ bv \_\_\_\_\_\_

........................................... .................................

DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

.......................................... .................................

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2q: Bengali consent form for in-depth environmental assessment

cwi‡ekMZ cÖfve g~j¨vq‡bi Rb¨ m¤§wZcÎ

M‡elYvi wk‡ivbvg:evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb IcywóKi m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve|

**cÖavb M‡elK**: W: w÷‡db wc. jywe

**Purpose of the research**

**M‡elYvi D‡Ïk¨:**

AvmjvgyAvjvBKzg/Av`ve| Avgvi bvg ----------------------------| Avgiv XvKv (gnvLvjx) K‡jiv nvmcvZv‡j KvR Kwi|Avgiv wkï‡`i WvqwiqvRwbZ †ivM-evjvB wb‡q M‡elYv KiwQ GesRvb‡Z †Póv KiwQ KwZcq m¨vwb‡Ukb e¨e¯’v, cvwbi ¸bv¸b Ges ¯^v¯’¨m¤§Z Af¨vmmg~n ¯^v‡¯’¨i Dci wKfv‡e cÖfve ‡d‡j |

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡b Avgš¿Y Rvbvw”Q?

Avgiv Avcbv‡K/Avcbvi Lvbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcwb/Avcbvi Lvbv BwZg‡a¨B Avgv‡`i M‡elYvi Ab¨vb¨ Kg©Kv‡Û AskMÖnb K‡i‡Qb| Avgiv Avcbv‡K/Avcbv‡`i‡K GB M‡elYvi wel‡q Av‡iv we¯ÍvwiZfv‡e Rvbv‡Z PvB Ges Avgiv Avkv KiwQ Avcwb Ges Avcbvi wkï ‡¯^”Qvq GB M‡elYvq AskMÖnb Ki‡eb| GQvov GB Lvbvq GKRb Mf©eZx gv wQ‡jb Ges eZ©gv‡b GLv‡b †QvU wkïiv i‡q‡Q hv‡`i ¯^v¯’¨ wb‡q Avgiv K\_v ej‡ev|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx?

hw` Avcwb/Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y m¤§Z \_v‡Kb, Zvn‡j 2 evi Avgiv Avcbvi Lvbv cwi`k©b Kie Ges Gmgq wbwÏ©ó wKQz Kg©KvÛ cwiPvjbv Kie| cÖ\_g cwi`k©‡bi Ask wnmv‡e AvR‡K Avgiv Avcbv‡K Avcbvi evwo I evwoi Pvicv‡ki cwi‡ek Ges Avcbvi wkïi ¯^v¯’¨ m¤ú‡K© wKQz cÖkœ wRÁvmv Kie| Gmgq Avgiv Avcbvi evwo ch©‡eÿYI Kie| Avgiv Avcbv‡`i Lvevi cvwbi Drm †\_‡K Lvevi cvwbi bgybv, msiÿbK„Z cvwbi cvÎ †\_‡K Lvevi cvwbi bgybv, ‡h¯’v‡b Avcbvi wkï †Ljvayjv K‡i †m¯’v‡bi gvwUi bgybv Ges Avcbv‡`i evwo‡Z ˆZwi Kiv Lvev‡ii bgybvmn Avcbvi evwoi Pvicv‡ki cwi‡ek †\_‡K wKQz bgybv msMÖn Kie| Avgiv Avcbvi wkïi nvZ‡avqve Ges †mB nvZ‡avqv cvwb bgybv wnmv‡e msMÖn Kie| me‡k‡l Avgiv Avcbvi evwoi Pvicvk †\_‡K wKQz gvwQ msMÖn Kie| Gme msMÖnK…Z bgybv Avgiv cixÿv Kivi/we‡køl‡bi Rb¨ M‡elYvMv‡i wb‡q hve| wK Kvi‡b wkïiv Amy¯’ nq Gme bgybv Avgv‡`i‡K Zv Rvb‡Z mnvqZv Ki‡e| Avgiv Avcbvi AbygwZ mv‡c‡ÿ Avcbvi/Avcbv‡`i cvwb, cvqLvbv Ges nvZ‡avqvi my‡hvM-myweavw` ch©‡eÿY Kie| Avgiv Avcbvi wkïi ¯^v¯’¨ m¤ú‡K© wKQz cÖkœI wRÁvmv Kie| cÖ\_g cwi`k©‡bi mvZ †\_‡K `k w`‡bi g‡a¨ Avgiv Avcbvi/Avcbv‡`i cvwb, cvqLvbv Ges nvZ‡avqvi my‡hvM-myweavw` ch©‡eÿ‡bi Rb¨ Avev‡iv Avcbvi/ Avcbv‡`i Lvbv‡Z Avme Ges Avcbvi wkïi ¯^v¯’¨ m¤ú‡K© wKQz cÖkœ wRÁvmv Kie| cÖ‡Z¨Kevi cwi`k©bKv‡j Avgiv Avcbvi Lvbv‡Z cÖvq 1 N›Uv mgq KvUve|

Su~wK Ges myweavmg~n:

GB M‡elYvq AskMÖn‡b Avcbvi †Kvb SzuwK †bB| GB M‡elYvq AskMÖn‡bi Rb¨ Avcwb †Kvb ai‡Yi Avw\_©K mnvqZvI cv‡eb bv|wKš‘ Avcbvi wkïi AskMÖnY, wkï‡`i Wvqwiqv †ivM m¤ú‡K© Ávbjv‡f Avgv‡`i‡K mnvqZv Ki‡e|

wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv:

GB †`‡ki AvBb Abyhvqx Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z\_¨†MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| Avgiv Avgv‡`i M‡elYvi †Kvb ‡jLvq/djvd‡j Avcbvi cÖK…Z bvg e¨envi Kie bv| Avgv‡`i msM„nxZ mKj Z\_¨ Zvjve× \_vK‡e| Avgiv †KejgvÎ Avgv‡`i M‡elYvi Kv‡R Gme Z\_¨ e¨envi Kie| Avgiv GB M‡elYvi djvdj wewbgq I cÖKvkbvi ‡ÿ‡Î Avcbvi bvg e¨envi Kie bv| Avgiv Avcbvi †`Iqv Z\_¨mg~n †Mvcb ivLvi Rb¨ m¤¢ve¨ meai‡bi †Póv Kie| Zv m‡Ë¡I fyjekZt AbvKvw•LZ †Kvb NUbv NU‡j ‡mRb¨ gvR©bv cÖv\_©bv KiwQ|

fwel¨‡Z Z‡\_¨i e¨envi:

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Avgiv Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq Ki‡Z cvwi| Ges Kv‡iv mv‡\_ Z\_¨ wewbgq Kiv n‡j Avgiv †mLv‡b Avcbvi cÖK…Z bvg e¨envi Kie bv Ges Avcbvi †`Iqv Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kie|

M‡elYvq AskMÖnb bv Kiv ev bvg cÖZ¨vnv‡ii AwaKvit

GB M‡elYvq AskMÖnb Kiv m¤ú~b©fv‡e Avcbvi B”Qvi Dci wbf©i Ki‡Q| GB M‡elYvq Avcbv‡K †hme cÖkœ wRÁvmv Kiv n‡e Zvi †h‡KvbwUi DËi Avcwb PvB‡j bvI w`‡Z cv‡ib| GB M‡elYvq AskMÖn‡b m¤§Z nevi c‡iI M‡elYv PjvKvjxb †h‡Kvb mgq Avcwb Avcbvi bvg cÖZ¨vnvi K‡i wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q enb Ki‡Z n‡e bv Ges GKBfv‡e Avcbv‡KI Avgiv †Kvb ai‡bi A\_© cÖ`vb Kie bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb miKvi gvmz`cvi†fR (‡m›Uvi di KwgDwbK¨vej wWwR‡Rm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8860523-23 G·-150 †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi A\_©‰bwZK †Kvb ¶wZ mvwaZ n‡q‡Q e‡j g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523-32 G·- 3206 †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2r: Bangla consent form for structured observations with video recording

**†¯^”Qv m¤§wZcÎ**

AvšÍR©vwZK D`ivgq M‡elYv †K›`ª, evsjv‡`k (AvB wm wW wW Avi, we )

gnvLvjx, XvKv|

**M‡elYvi wk‡ivbvgt**

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb I cywóKi m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve|

**cÖavb M‡elK:**

W: w÷‡db wc. jywe

**M‡elYvi D‡Ïk¨t**

Avm&mvjvgyAvjvBKzg/bg¯‹vi| Avgvi bvg -------------------------------| Avwg XvKvi gnvLvjx‡Z Aew¯’Z AvBwmwWwWAvi,we (K‡jiv nvmcvZvj) G PvKix Kwi| wkï-¯^v¯’¨ I Wvqwiqv welqK Avgiv GKwU M‡elYv KvR KiwQ| GB M‡elYvi gva¨‡g Avgiv Rvb‡Z PvB wbw`©ó wKQz ¯^v¯’¨m¤§Z welq, cvwbi ¸bv¸Y Ges ¯^v¯’¨m¤§Z Af¨vmmg~n ¯^v‡¯’¨i Dci wKfv‡e cÖfve ‡d‡j |

**Avgiv Avcbv‡K †Kb GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿Y Rvbvw”Q?**

Avgiv wKQz M„n¯’vjx/Lvbv †`L‡Z Pvw”Q hviv GB M‡elYvi Ab¨vb¨ Kvh©µ‡g BwZg‡a¨B AskMÖnY Ki‡Q| Avgiv GB M‡elYv m¤ú‡K© Avcbv‡`i‡K AviI we¯ÍvwiZ wKQz Rvbv‡Z PvB Ges Avkv Kwi †h Avcwb Ges Avcbvi wkï GB M‡elYvq †¯^”Qvq AskMÖnY Ki‡eb| Avcbviv GKwU MÖvgxY mvgvwRK I cÖvK…wZK cwi‡e‡k evm Ki‡Qb †hLvb †\_‡K Avgiv AviI wKQz wkL‡Z PvB| ZvQvov GB Lvbvq GKRb Mf©eZx gwnjv wQ‡jb Ges †QvU wkïivI i‡q‡Q hv‡`i ¯^v¯’¨ wb‡q Avgiv Avjvc Ki‡ev|

**GB M‡elYvq AskMÖnYKvix‡`i KvQ †\_‡K cÖZ¨vkv wK?**

hw` Avcwb GB M‡elYvq AskMÖn‡Y ivRx \_v‡Kb Zvn‡j Avwg Avcbvi Ni ev DVv‡bi KvQvKvwQ Ggb GKwU ¯’v‡b em‡ev wKš‘ Avcbvi Pjvi c‡\_i euvav n‡ev bv| Avwg Avcbvi evox Ges Avcbvi wkïi cÖwZw`bKvi Kg©KvÛ mg~n ch©‡eÿY Ki‡ev I Zv wj‡L ivL‡ev| GQvovI Avwg Avcbvi DVv‡bi Pvwiw`‡K Ny‡i †`L‡Z cvwi Ges cwi‡k‡l wKQz cÖkœI wRÁvmv Ki‡Z cvwi| Avwg Avcbvi evoxi cÖvK…wZK cwi‡ek, Avcbviv Ges Avcbvi wkïi ˆ`bw›`b Kg©KvÛ PjvKvjxb wKQz Qwe I wfwWI wPÎI †b‡ev| Avwg Avcbvi evox‡Z †gvU 5 N›Uvi gZ \_vK‡ev|

**Su~wK Ges myweavmg~n**

GB M‡elYvq AskMÖn‡b Avcbvi †Kvb SzuwK †bB| GB M‡elYvq AskMÖn‡bi Rb¨ Avcwb †Kvb ai‡Yi Avw\_©K mnvqZvI cv‡eb bv| wKš‘ Avcbvi wkïi AskMÖnY, wkï‡`i Wvqwiqv †ivM m¤ú‡K© Ávbjv‡f Avgv‡`i‡K mnvqZv Ki‡e|

**GKvšÍZv, ‡MvcbxqZv, Ges wek¦vm‡hvM¨Zv**

GB †`‡ki AvBb Abyhvqx Avcwb Avgv‡`i‡K hv ej‡eb Zv †Mvcbxq ivLvi Rb¨ me wKQzB Ki‡ev| Avgiv Avgv‡`i M‡elYvi †Kvb ‡jLvq/djvd‡j Avcbvi cÖK…Z bvg e¨envi Kie bv| Avgv‡`i msM„nxZ mKj Z\_¨ Zvjve× \_vK‡e| Avgiv †KejgvÎ Avgv‡`i M‡elYvi Kv‡R Gme Z\_¨ e¨envi Kie| Avgiv hLb GB M‡elYvi djvdj cÖKvk Ki‡ev Ges Ab¨‡Ki‡K Rvbv‡ev ZLb Avcbvi bvg e¨envi Ki‡ev bv| Avgiv Avkv Kwi Avgiv †h mKj c`‡ÿc MÖnY Ki‡ev Zv Avcbvi cÖ`Ë Z\_¨‡K †Mvcb ivL‡Z mvnvh¨ Ki‡e| Avgiv GB M‡elYvi djvdj wewbgq I cÖKvkbvi ‡ÿ‡Î Avcbvi bvg e¨envi Kie bv| Avgiv Avcbvi †`Iqv Z\_¨mg~n †Mvcb ivLvi Rb¨ m¤¢ve¨ meai‡bi †Póv Kie| Zv m‡Ë¡IfyjekZt AbvKvw•LZ †Kvb NUbv NU‡j ‡mRb¨ gvR©bv cÖv\_©bv KiwQ|

**fwel¨‡Z Z‡\_¨i e¨envi**

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Avgiv Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq Ki‡Z cvwi| Ges Kv‡iv mv‡\_ Z\_¨ wewbgq Kiv n‡j Avgiv †mLv‡b Avcbvi cÖK…Z bvg e¨envi Kie bv Ges Avcbvi †`Iqv Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kie|

**AskMÖnY bv Kivi Ges AskMÖnY ev` †`Iqvi AwaKvi**

GB M‡elYvq Avcbvi AskMÖnY m¤ú~Y©fv‡e †¯^”Qvg~jK| Avcbv‡K wRÁvmv Kiv mKj ev †h †Kvb cÖ‡kœi DËi Avcwb hw` w`‡Z bv Pvb Z‡e †Kvb Amyweav †bB A\_ev Avcwb Avcbvi cQ›` Abyhvqx cÖ‡kœi DËiI w`‡Z cv‡ib| GB M‡elYv †\_‡K †h †Kvb mgq Avcbvi AskMÖnY ev` w`‡Z cv‡ib, GgbwK †Kvb mvÿvrKvi PjvKvjxb ‡h‡Kvb mgqKv‡jI| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

**ÿwZc~iY**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q enb Ki‡Z n‡e bv Ges GKBfv‡e Avcbv‡KI Avgiv †Kvb ai‡bi A\_© cÖ`vb Kie bv|

**†hvMv‡hvMt**

Avcbvi hw` †Kvb cÖkœ \_v‡K Avcwb †h †Kvb mgq Avgv‡K Zv wRÁvmv Ki‡Z cv‡ib| GQvovI hw` Avcbvi GB Rwic ev M‡elYv m¤ú‡K© AviI †Kvb cÖkœ \_v‡K Z‡e Avcwb IqvUvi, m¨vwb‡Ukb GÛ nvBwRb wimvP© MÖæc, †m›Uvi di KwgDwb‡Kej wWwR‡RR, AvBwmwWwWAv,we, gnvLvjx, XvKv -1212 Gi wimvP© Bb‡fw÷‡MUi Rbve gynv¤§` dviæK ûmvBb Gi †gvevBj b¤^i- 01711437326 G †hvMv‡hvM Ki‡Z cv‡ib|

hw` M‡elYvq AskMÖn‡Yi AwaKvi m¤ú‡K© Avcbvi †Kvb cÖkœ \_v‡K A\_ev GB M‡elYvi Kvi‡Y Avcbvi †Kvbiƒc ÿwZ mvwaZ n‡q‡Q Z‡e wb¤œwjwLZ e¨w³i mv‡\_ Avcwb †hvMv‡hvM Ki‡Z ev e¨w³MZfv‡e †`Lv Ki‡Z cv‡ibt

Rbve Gg G mvjvg Lvb, AvBAviwe †m‡µUvwi‡qU, †dvb-9886498 A\_ev wcGweG· 8860523-32, G·. 3206.

hw` Avcwb Avgv‡`i cÖ¯Ív‡ei mv‡\_ GKgZ †cvlY K‡ib (ivRx \_v‡Kb) I GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j GB M‡elYvq Avcbvi M„n¯’vjx (Lvbv) †K Aš‘f‚©³ Kiv n‡e| `qv K‡i wb‡¤œi dvKv ¯’v‡b Avcwb Avcbvi ¯^vÿi ev evg e„×v½ywji Qvc w`‡q Avcbvi m¤§wZ cÖ`vb Kiæb|

Avcbvi mn‡hvwMZvi Rb¨ Avcbv‡Ki A‡bK ab¨ev`|

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AskMÖnYKvixi ¯^vÿi ev evg nv‡Zi e„×v½ywji Qvc ZvwiL

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GKRb ¯^vÿxi ¯^vÿi ev evg nv‡Zi e„×v½ywji Qvc ZvwiL

ÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑ ÑÑÑÑÑÑÑÑÑÑÑÑÑ

wcÖwÝcvj Bb‡fw÷‡MUi ev Zvi cÖwZwbwai ¯^vÿi ZvwiL

**Qwe †Zvjv I wfwWI Kivi Rb¨ Avjv`v m¤§wZ**

Avcwb hw` AbygwZ †`b Zvn‡j M‡elYv PjvKvjxb mg‡q Avgiv Avcbvi I Avcbvi wkïi, cwiev‡ii Ab¨vb¨ m`m¨‡`i, Zv‡`i Kvh©µg Ges Avcbvi Lvbvi Av‡kcv‡ki cÖvK…wZK cwi‡e‡ki w¯’i I Pjvgvb wKQz Qwe (wfwWI) Zzj‡ev| GB Qwe ev wfwWI, hw` cÖ‡qvRb nq, Z‡e †Kvb †cÖ‡R‡›Uk‡b ev †jLv‡jwL‡Z (wi‡cv‡U©) e¨envi Kiv n‡e A\_ev ‰eÁvwbK Av‡jvPbv ev wgwUs I mvavib gvby‡li Kv‡Q Dc¯’vcb Kiv n‡e| Qwe †Zvjvi ev wfwWI Kivi AbygwZ bv w`‡jI Avcwb GB M‡elYvq AskMÖnb Ki‡Z cvi‡eb|

`qv K‡i m¤¢ve¨ Qwe †Zvjv I wfwWI wPÎ ‡bqv‡Z Avcbvi AbygwZ Av‡Q wKbv Zv wb‡¤œi n¨v ev bv Gi Dci ¯^vÿi K‡i AbygwZ cÖ`vb Kiæb|

cÖ‡qvR‡b Avcwb Qwe Zzj‡Z cvi‡eb I wfwWI Ki‡Z cvi‡eb GB AbygwZ cÖ`vb KiwQ| n¨v bv

Appendix 2s: Bangla consent form for in depth interview in relationship to environmental assessment

**†¯^”Qv m¤§wZcÎ**

AvšÍR©vwZK D`ivgq M‡elYv †K›`ª, evsjv‡`k (AvB wm wW wW Avi, we )

gnvLvjx, XvKv|

**M‡elYvi wk‡ivbvgt**

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb I cywóKi m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve|

**cÖavb M‡elK:**

W: w÷‡db wc. jywe

**M‡elYvi D‡Ïk¨t**

Avm&mvjvgyAvjvBKzg/bg¯‹vi| Avgvi bvg -------------------------------| Avwg XvKvi gnvLvjx‡Z Aew¯’Z AvBwmwWwWAvi,we (K‡jiv nvmcvZvj) G PvKix Kwi| wkï-¯^v¯’¨ I Wvqwiqv welqK Avgiv GKwU M‡elYv KvR KiwQ| GB M‡elYvi gva¨‡g Avgiv Rvb‡Z PvB wbw`©ó wKQz ¯^v¯’¨m¤§Z welq, cvwbi ¸bv¸Y Ges ¯^v¯’¨m¤§Z Af¨vmmg~n ¯^v‡¯’¨i Dci wKfv‡e cÖfve ‡d‡j|

**Avgiv Avcbv‡K †Kb GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿Y Rvbvw”Q?**

Avgiv wKQz M„n¯’vjx/Lvbv †`L‡Z Pvw”Q hviv GB M‡elYvi Ab¨vb¨ Kvh©µ‡g BwZg‡a¨B AskMÖnY Ki‡Q| Avgiv GB M‡elYv m¤ú‡K© Avcbv‡`i‡K AviI we¯ÍvwiZ wKQz Rvbv‡Z PvB Ges Avkv Kwi †h Avcwb Ges Avcbvi wkï GB M‡elYvq †¯^”Qvq AskMÖnY Ki‡eb| Avcbviv GKwU MÖvgxY mvgvwRK I cÖvK…wZK cwi‡e‡k evm Ki‡Qb †hLvb †\_‡K Avgiv AviI wKQz wkL‡Z PvB| ZvQvov GB Lvbvq GKRb Mf©eZx gwnjv wQ‡jb Ges †QvU wkïivI i‡q‡Q hv‡`i ¯^v¯’¨ wb‡q Avgiv Avjvc Ki‡ev|

**GB M‡elYvq AskMÖnYKvix‡`i KvQ †\_‡K wK cÖZ¨vkv Kiv n‡”Q?**

Avcbvi AbygwZµ‡g Avgiv GB evox ev LvbvwU‡K GB M‡elYvq AšÍ©f~³ Kie| hw` Avcwb GB M‡elYvq AskMÖn‡Y ivRx \_v‡Kb Zvn‡j Avgv‡K Avcbvi Lvbvi cvwb, m¨vwb‡Ukb Ges ¯^v¯’¨m¤§Z AvPiY msµvšÍ e¨e¯’v I Kg©KvÛ wb‡q 40-60 K\_v ejvi Rb¨ mgq eivÏ Kivi Aby‡iva Rvbv‡ev| Avwg Avcbvi wkïi ¯^v¯’¨ I Zvi weKvk m¤ú‡K©I wKQz K\_v ej‡ev| Avcwb AbygwZ w`‡j Avgv‡`i Df‡qi K\_vevZ©v Avgv‡`i Kv‡Ri myweav‡\_©© †Uc †iKW© Ki‡ev|

**Su~wK Ges myweavmg~n**

GB M‡elYvq AskMÖn‡b Avcbvi †Kvb SzuwK †bB| GB M‡elYvq AskMÖn‡bi Rb¨ Avcwb †Kvb ai‡Yi Avw\_©K mnvqZvI cv‡eb bv| wKš‘ Avcbvi wkïi AskMÖnY, wkï‡`i Wvqwiqv †ivM m¤ú‡K© Ávbjv‡f Avgv‡`i‡K mnvqZv Ki‡e|

**GKvšÍZv, ‡MvcbxqZv, Ges wek¦vm‡hvM¨Zv**

GB †`‡ki AvBb Abyhvqx Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z\_¨ †MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| Avgiv Avgv‡`i M‡elYvi †Kvb ‡jLvq/djvd‡j Avcbvi cÖK…Z bvg e¨envi Kie bv| Avgv‡`i msM„nxZ mKj Z\_¨ Zvjve× \_vK‡e| Avgiv †KejgvÎ Avgv‡`i M‡elYvi Kv‡R Gme Z\_¨ e¨envi Kie| Avgiv GB M‡elYvi djvdj wewbgq I cÖKvkbvi ‡ÿ‡Î Avcbvi bvg e¨envi Kie bv| Avgiv Avcbvi †`Iqv Z\_¨mg~n †Mvcb ivLvi Rb¨ m¤¢ve¨ meai‡bi †Póv Kie| Zv m‡Ë¡I fyjekZt AbvKvw•LZ †Kvb NUbv NU‡j ‡mRb¨ gvR©bv cÖv\_©bv KiwQ|

**fwel¨‡Z Z‡\_¨i e¨envi**

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Avgiv Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq Ki‡Z cvwi| Ges Kv‡iv mv‡\_ Z\_¨ wewbgq Kiv n‡j Avgiv †mLv‡b Avcbvi cÖK…Z bvg e¨envi Kie bv Ges Avcbvi †`Iqv Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kie|

**AskMÖnY bv Kivi Ges AskMÖnY ev` †`Iqvi AwaKvi**

GB M‡elYvq AskMÖnb Kiv m¤ú~b©fv‡e Avcbvi B”Qvi Dci wbf©i Ki‡Q| GB M‡elYvq Avcbv‡K †hme cÖkoe wRÁvmv Kiv n‡e Zvi †h‡KvbwUi DËi Avcwb PvB‡j bvI w`‡Z cv‡ib| GB M‡elYvq AskMÖn‡b m¤§Z nevi c‡iI M‡elYv PjvKvjxb †h‡Kvb mgq Avcwb Avcbvi bvg cÖZ¨vnvi K‡i wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

**ÿwZc~iY**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q enb Ki‡Z n‡e bv Ges GKBfv‡e Avcbv‡KI Avgiv †Kvb ai‡bi A\_© cÖ`vb Kie bv|

**†hvMv‡hvMt**

Avcbvi hw` †Kvb cÖkœ \_v‡K Avcwb †h †Kvb mgq Avgv‡K Zv wRÁvmv Ki‡Z cv‡ib| GQvovI hw` Avcbvi GB Rwic ev M‡elYv m¤ú‡K© AviI †Kvb cÖkœ \_v‡K Z‡e Avcwb IqvUvi, m¨vwb‡Ukb GÛ nvBwRb wimvP© MÖæc, †m›Uvi di KwgDwb‡Kej wWwR‡RR, AvBwmwWwWAv,we, gnvLvjx, XvKv - 1212 Gi wimvP© Bb‡fw÷‡MUi Rbve gynv¤§` dviæK ûmvBb Gi †gvevBj b¤^i- 01711437326 G †hvMv‡hvM Ki‡Z cv‡ib|

hw` M‡elYvq AskMÖn‡Yi AwaKvi m¤ú‡K© Avcbvi †Kvb cÖkœ \_v‡K A\_ev GB M‡elYvi Kvi‡Y Avcbvi †Kvbiƒc ÿwZ mvwaZ n‡q‡Q Z‡e wb¤œwjwLZ e¨w³i mv‡\_ Avcwb †hvMv‡hvM Ki‡Z ev e¨w³MZfv‡e †`Lv Ki‡Z cv‡ibt

Rbve Gg G mvjvg Lvb, AvBAviwe †m‡µUvwi‡qU, †dvb-9886498 A\_ev wcGweG· 8860523-32, G·. 3206.

hw` Avcwb Avgv‡`i cÖ¯Ív‡ei mv‡\_ GKgZ †cvlY K‡ib (ivRx \_v‡Kb) I GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j GB M‡elYvq Avcbvi M„n¯’vjx (Lvbv) †K Aš‘f‚©³ Kiv n‡e| `qv K‡i wb‡¤œi dvKv ¯’v‡b Avcwb Avcbvi ¯^vÿi ev evg e„×v½ywji Qvc w`‡q Avcbvi m¤§wZ cÖ`vb Kiæb|

Avcbvi mn‡hvwMZvi Rb¨ Avcbv‡Ki A‡bK ab¨ev`|

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AskMÖnYKvixi ¯^vÿi ev evg nv‡Zi e„×v½ywji Qvc ZvwiL

ÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑ ÑÑÑÑÑÑÑÑÑÑÑÑÑ

GKRb ¯^vÿxi ¯^vÿi ev evg nv‡Zi e„×v½ywji Qvc ZvwiL

ÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑ ÑÑÑÑÑÑÑÑÑÑÑÑÑ

wcÖwÝcvj Bb‡fw÷‡MUi ev Zvi cÖwZwbwai ¯^vÿi ZvwiL

Appendix 2t: Bengali consent form for Focus Group Discussion (FGD)

†¯^”Qv m¤§wZcÎ

AvšÍR©vwZK D`ivgq M‡elYv †K›`ª, evsjv‡`k (AvB wm wW wW Avi, we )

gnvLvjx, XvKv|

**M‡elYvi wk‡ivbvgt**

evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb I cywóKi m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve|

**cÖavb M‡elK:**

W: w÷‡db wc. jywe

**M‡elYvi D‡Ïk¨t**

Avm&mvjvgyAvjvBKzg/bg¯‹vi| Avgvi bvg -------------------------------| Avwg XvKvi gnvLvjx‡Z Aew¯’Z AvBwmwWwWAvi,we (K‡jiv nvmcvZvj) G PvKix Kwi| wkï-¯^v¯’¨ I Wvqwiqv welqK Avgiv GKwU M‡elYv KvR KiwQ| GB M‡elYvi gva¨‡g Avgiv Rvb‡Z PvB wbw`©ó wKQz ¯^v¯’¨m¤§Z welq, cvwbi ¸bv¸Y Ges ¯^v¯’¨m¤§Z Af¨vmmg~n ¯^v‡¯’¨i Dci wKfv‡e cÖfve ‡d‡j |

**Avgiv Avcbv‡K †Kb GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿Y Rvbvw”Q?**

Avgiv wKQz msL¨K AskMÖnYKvix LyRwQ hviv Avgv‡`i M‡elYvaxb GjvKvq evm Ki‡Qb Ges ¯’vbxq cvwb, ¯^v¯’¨m¤¢eZ Af¨vmmg~‡ni PP©v m¤ú‡K© g~j¨evb Z\_¨ w`‡Z cv‡ib| Avgiv Rvwb †h Avcbviv wkï‡`i jvjb-cvjbmn cwiev‡ii Ab¨vb¨ m`m¨‡`i †`Lv‡kvbv I M„n¯’vjxi cwi‡ek iÿYv‡eÿ‡Yi ¸iæ `vwqZ¡ MÖnY K‡i‡Qb| ZvQvov Avcbviv GKwU cÖvK…wZK I mvgvwRK cwi‡e‡k evm Ki‡Qb †hLvb †\_‡K Avgiv AviI A‡bK †ekx wKQz Rvb‡Z PvB| Avgiv MÖvgxY Avcbv‡`i cvwb, ¯^v¯’¨m¤§Z Af¨vm I PP©v we‡kl K‡i Avcbv‡`i wb‡R‡`i cwiev‡ii m`m¨‡`i cÖvZ¨wnK Rxeb-hvcb msµvšÍ wel‡q Rvb‡Z PvB hv Avgv‡`i‡K cwi‡e‡ki wewfbœ `~lY GgbwK gj msµvšÍ `ylY NU‡Z cv‡i Zv Ges ‡Kv\_vq †\_‡K †Kv\_vq wKfv‡e hvq Zvi GKwU wPÎ AsKb Ki‡Z PvB|

**GB M‡elYvq AskMÖnYKvix‡`i KvQ †\_‡K cÖZ¨vkv wK?**

hw` Avcwb GB Av‡jvPbvq AskMÖn‡Y ivRx \_v‡Kb Zvn‡j Avwg Avcbv‡K GKwU ¯’v‡b Dcw¯’Z n‡Z Ges GB Av‡jvPbvq Avgwš¿Z AviI K‡qKRb AskMÖnYKvixi mv‡\_ mvÿv‡Zi Rb¨ Aby‡iva Ki‡ev| Avwg Avcbv‡`i I Avcbv‡`i GjvKvi gvby‡li I wkï‡`i ˆ`w›`b Rxeb-hvc‡b cvwb, ¯^v¯’¨m¤§Z Af¨vm I PP©v ev Kg©KvÛmg~n m¤ú‡K© Av‡jvPbv Ki‡ev| Avgiv Avgv‡`i Av‡jvPbv I K‡\_vcK\_b¸wj wj‡L wb‡ev| Avcbv‡`i mv‡\_ Avgv‡`i GB ¸iæZ¡c~Y© Av‡jvPbvi welqe¯‘mg~n wbwðZfv‡e ‡evSvi Rb¨ Avgiv K\_v¸wj †iKW© Ki‡ev| Avwg cÖZ¨vkv Ki‡ev Avgv‡`i GB Av‡jvPbv †Uc †iKW© Ki‡Z Avcbviv Avgv‡`i‡K AbygwZ w`‡eb| Avgiv GB Av‡jvPbvi Rb¨ GK N›Uv mgq cÖ`v‡bi Rb¨ Avcbv‡`i‡K Aby‡iva Ki‡ev| Avgv‡`i GKRb mnKgx© Dcw¯’Z †\_‡K Avgv‡`i Av‡jvPbv †jLv I †Uc †iKW© Ki‡Z mvnvh¨ Ki‡eb|

**Su~wK Ges myweavmg~n**

GB M‡elYvq AskMÖn‡b Avcbvi †Kvb SzuwK †bB| Avgiv Avgv‡`i GB Av‡jvPbvq Dcw¯’Z AskMÖnYKvix‡`i Rb¨ mvgvb¨ Pv-bv¯Ívi Av‡qvRb Ki‡ev| GB Pv-bv¯Ívi e¨e¯’v Qvov hw` Avcbviv g‡b K‡ib †h Av‡jvPbvi GB ¯’vbwU‡Z Avmvi Rb¨ Avcbv‡`i ¯’vbxq hvZvqv‡Zi Rb¨ LiP n‡q‡Q Zvn‡j GLv‡b Avmvi ci Ges Av‡jvPbv m¤úbœ nIqvi ciAvgiv Zv cÖ`vb Ki‡ev | GQvov GB M‡elYvq AskMÖn‡bi Rb¨ Avi †Kvb ai‡Yi Avw\_©K mswkøóZv †bB|

**GKvšÍZv, ‡MvcbxqZv, Ges wek¦vm‡hvM¨Zv**

GB †`‡ki AvBb Abyhvqx Avcwb Avgv‡`i‡K hv ej‡eb Zv †Mvcbxq ivLvi Rb¨ me wKQzB Ki‡ev| Avgiv Avgv‡`i M‡elYvi †Kvb ‡jLvq/djvd‡j Avcbvi cÖK…Z bvg e¨envi Kie bv| Avgv‡`i msM„nxZ mKj Z\_¨ Zvjve× \_vK‡e| Avgiv †KejgvÎ Avgv‡`i M‡elYvi Kv‡R Gme Z\_¨ e¨envi Kie| Avgiv hLb GB M‡elYvi djvdj cÖKvk Ki‡ev Ges Ab¨‡Ki‡K Rvbv‡ev ZLb Avcbvi bvg e¨envi Ki‡ev bv| Avgiv Avkv Kwi Avgiv †h mKj c`‡ÿc MÖnY Ki‡ev Zv Avcbvi cÖ`Ë Z\_¨‡K †Mvcb ivL‡Z mvnvh¨ Ki‡e|

Avgiv GB M‡elYvi djvdj wewbgq I cÖKvkbvi ‡ÿ‡Î Avcbvi bvg e¨envi Kie bv| Avgiv Avcbvi †`Iqv Z\_¨mg~n †Mvcb ivLvi Rb¨ m¤¢ve¨ meai‡bi †Póv Kie| Zv m‡Ë¡IfyjekZt AbvKvw•LZ †Kvb NUbv NU‡j ‡mRb¨ gvR©bv cÖv\_©bv KiwQ| ‡Uc †iKW©¸wj Kv‡iv Kv‡Q ev AskMÖnYKvixM‡Yi †Kvbiƒc cwiPq †Kvb Kv‡R cÖKvk Kiv n‡e bv| GB †iKwW©s¸wj Z\_¨ we‡kølY nIqv ch©šÍ wbivcËvi mv‡\_ msiwÿZ \_vK‡e Ges Zvici Zv gy‡Q †djv/b÷ K‡i †djv n‡e|

**fwel¨‡Z Z‡\_¨i e¨envi**

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Avgiv Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq Ki‡Z cvwi| Ges Kv‡iv mv‡\_ Z\_¨ wewbgq Kiv n‡j Avgiv †mLv‡b Avcbvi cÖK…Z bvg e¨envi Kie bv Ges Avcbvi †`Iqv Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kie|

**AskMÖnY bv Kivi Ges AskMÖnY ev` †`Iqvi AwaKvi**

GB M‡elYvq Avcbvi AskMÖnY m¤ú~Y©fv‡e †¯^”Qvg~jK| Avcbv‡K wRÁvmv Kiv mKj ev †h †Kvb cÖ‡kœi DËi Avcwb hw` w`‡Z bv Pvb Z‡e †Kvb Amyweav †bB A\_ev Avcwb Avcbvi cQ›` Abyhvqx cÖ‡kœi DËiI w`‡Z cv‡ib| GB M‡elYv †\_‡K †h †Kvb mgq Avcbvi AskMÖnY ev` w`‡Z cv‡ib, GgbwK Av‡jvPbv PjvKvjxb ‡h‡Kvb mgqKv‡jI| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

**ÿwZc~iY**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q enb Ki‡Z n‡e bv Ges GKBfv‡e Avcbv‡KI Avgiv †Kvb ai‡bi A\_© cÖ`vb Kie bv hw` bv AskMÖn‡Yi Rb¨ GB Av‡jvPbvi ¯’v‡b Avm‡Z Ges wKQzUv Avc¨vq‡bi Rb¨ †Kvb LiP nq|

**†hvMv‡hvMt**

Avcbvi hw` †Kvb cÖkœ \_v‡K Avcwb †h †Kvb mgq Avgv‡K Zv wRÁvmv Ki‡Z cv‡ib GgbwK Av‡jvPbv PjvKvjxb mg‡qI| Z‡e Avcwb hw` GLbB ev Av‡jvPbv ïiæ nIqvi c~‡e©B cÖkœ¸wj wRÁvmv K‡ib Zvn‡j Avgv‡`i Rb¨ myweav nq| GQvovI hw` Avcbvi GB M‡elYv ev Av‡jvPbv m¤ú‡K© AviI †Kvb cÖkœ \_v‡K Z‡e Avcwb IqvUvi, m¨vwb‡Ukb GÛ nvBwRb wimvP© MÖæc, †m›Uvi di KwgDwb‡Kej wWwR‡RR, AvBwmwWwWAv,we, gnvLvjx, XvKv -1212 Gi wimvP© Bb‡fw÷‡MUi Rbve gynv¤§` dviæK ûmvBb Gi †gvevBj b¤^i- 01711437326 G †hvMv‡hvM Ki‡Z cv‡ib|

hw` M‡elYvq AskMÖn‡Yi AwaKvi m¤ú‡K© Avcbvi †Kvb cÖkœ \_v‡K A\_ev GB M‡elYvi Kvi‡Y Avcbvi †Kvbiƒc ÿwZ mvwaZ n‡q‡Q Z‡e wb¤œwjwLZ e¨w³i mv‡\_ Avcwb †hvMv‡hvM Ki‡Z ev e¨w³MZfv‡e †`Lv Ki‡Z cv‡ibt

Rbve Gg G mvjvg Lvb, AvBAviwe †m‡µUvwi‡qU, †dvb-9886498 A\_ev wcGweG· 8860523-32, G·. 3206.

hw` Avcwb `jxq Av‡jvPbvq AskMÖn‡Y Avgv‡`i cÖ¯Ív‡ei mv‡\_ GKgZ †cvlY K‡ib (ivRx \_v‡Kb) Zvn‡j `qv K‡i wb‡¤œi dvKv ¯’v‡b Avcwb Avcbvi ¯^vÿi ev evg e„×v½ywji Qvc w`‡q Avcbvi m¤§wZ cÖ`vb Kiæb|

GB Av‡jvPbvq AskMÖnY K‡i mn‡hvwMZvi Rb¨ Avcbv‡Ki A‡bK ab¨ev`|

¯^vÿi ev e×v½ywji Qvc cÖ`vb K‡i `jxq Av‡jvPbvq AskMÖn‡Yi m¤§wZmn AskMÖnYKvix‡`i ZvwjKvt

ZvwiLt ÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑÑ mgqt nB‡Z- ÑÑÑÑÑ ‡\_‡K- ÑÑÑÑÑÑÑÑÑÑ

¯’vbt

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **µwgK** | **AskMÖnYKvixi bvg** | **eqm** | **wkÿv** | **‡ckv** | **<3 eqmx wkï msL¨v** | **¯^vÿi/e„×v½ywji Qvc** |
| 1. |  |  |  |  |  |  |
| 2. |  |  |  |  |  |  |
| 3. |  |  |  |  |  |  |
| 4. |  |  |  |  |  |  |
| 5. |  |  |  |  |  |  |
| 6. |  |  |  |  |  |  |
| 7. |  |  |  |  |  |  |
| 8. |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |
| 11. |  |  |  |  |  |  |
| 12. |  |  |  |  |  |  |

gWv‡iU‡ii bvgt

‡bvUMÖnYKvixi bvgt

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GKRb ¯^vÿxi ¯^vÿi ev evg nv‡Zi e„×v½ywji Qvc ZvwiL

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wcÖwÝcvj Bb‡fw÷‡MUi ev Zvi cÖwZwbwai ¯^vÿi ZvwiL

Appendix 2u: Bengali consent form for longitudinal environmental assessment

cwi‡ekMZ cÖfve g~j¨vq‡bi Rb¨ m¤§wZcÎ

M‡elYvi wk‡ivbvg:evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb IcywóKi m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve|

**cÖavb M‡elK**:W: wj‡qb BDwbK¤^

**M‡elYvi D‡Ïk¨:**

AvmjvgyAvjvBKzg/Av`ve| Avgvi bvg ----------------------------| Avgiv XvKv (gnvLvjx) K‡jiv nvmcvZv‡j KvR Kwi|Avgiv wkï‡`i WvqwiqvRwbZ †ivM-evjvB wb‡q M‡elYv KiwQ Ges Rvb‡Z †Póv KiwQ m¨vwb‡Ukb e¨e¯’v¯^v‡¯’¨i Dci wKfv‡e cÖfve ‡d‡j |Avgiv Av‡gwiKvi ev‡K©jxi K¨v‡j‡dvwb©qv wek¦we`¨vj‡qi M‡elKM‡Yi mv‡\_ GB M‡elYv cwiPvjbv KiwQ|

Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡b Avgš¿Y Rvbvw”Q?

Avgiv Avcbv‡K/Avcbvi Lvbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q KviY Avcwb/Avcbvi Lvbv BwZg‡a¨B Avgv‡`i M‡elYvi Ab¨vb¨ Kg©Kv‡Û AskMÖnb K‡i‡Qb| Avgiv Avcbv‡K/Avcbv‡`i‡K GB M‡elYvi wel‡q Av‡iv we¯ÍvwiZfv‡e Rvbv‡Z PvB Ges Avgiv Avkv KiwQ Avcwb Ges Avcbvi wkï ‡¯^”Qvq GB M‡elYvq AskMÖnb Ki‡eb| GQvov GB Lvbvq GKRb Mf©eZx gv Av‡Q A\_ev eZ©gv‡b GLv‡b †QvU wkï i‡q‡Q hv‡`i ¯^v¯’¨ wb‡q Avgiv K\_v ej‡ev|

M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx?

hw` Avcwb/Avcbvi Lvbv GB M‡elYvq AskMÖn‡Y m¤§Z \_v‡Kb, Zvn‡j GLb Avgviv Avcbvi Lvbv cwi`k©bKie Ges cÖwZ wZb gvm ci ci Avcbvi Lvbv cw`k©b Kie hv cie©Zx 2 eQi a‡i Pj‡e ( ‡gvU 8 evi cw`k©b Kiv n‡e) cÖ‡Z¨Kevi cwi`©kbKv‡j Avgiv Avcbvi/Avcbv‡`i msi¶bK„Z cvwbi cÖvÎ n‡Z Lvevi cvwb bgybv wnmv‡e msMÖn Kie|Avcbv‡K Ges Avcbvi wkïi nvZ‡avqve Ges †mB nvZ‡avqv cvwb bgybv wnmv‡e msMÖn Kie| `yBwU cwi`©kbKv‡j Avcbv Lvbvi cÖ‡ek ¯’v‡bi gvwUi bgybvGes Avcbvi †QvU wkï‡K †hLvevi LvIqvb †mLvb †\_‡K mvgvb¨ cwigvb Lvevi msMÖn Kie| Gme msMÖnK…Z bgybv Avgiv cix¶v Kivi/we‡køl‡bi Rb¨ M‡elYvMv‡i wb‡q hve| wK Kvi‡Y wkïiv Amy¯’ nq Gme bgybv Avgv‡`i‡K Zv Rvb‡Z mnvqZv Ki‡e| Avgiv Avcbvi AbygwZ mv‡c‡¶ Avcbvi/Avcbv‡`i cvwb, cvqLvbv Ges nvZ‡avqvi my‡hvM-myweavw` ch©‡e¶Y Kie| Avgiv Avcbvi wkïi ¯^v¯’¨ m¤ú‡K© wKQz cÖkœI wRÁvmv Kie| cÖ‡Z¨Kevi cwi`k©bKv‡j Avgiv Avcbvi Lvbv‡Z cÖvq 1 N›Uv mgq KvUve|GQvov AvgivcÖvq wZbgvm ci Avcbvi Lvbvi cvqLvbv‡Z GKwU ms‡e`bkxj hbª ¯’vcb Kie hv wfwWI ev AwWI Z\_¨ aviY Ki‡e bv| Avgiv GB hbª GK mvßvn ci Avcbvi cvqLvbv †\_‡K mwi‡q †be Ges aviYK„Z Z\_¨ evwZj Kie | cvqLvbvq hvIqv Avmvi mgq GB wWfvB‡mi gva¨‡g Rvbv hv‡e|GB KvRwU Avgiv Avcbvi Lvbv‡Z AvMvgx 2 eQ‡ii g‡a¨ †gvU 2 evi Kie|

Su~wK Ges myweavmg~n:

GB M‡elYvq Avcbvi Ges Avcbvi wkïi SyuwKi m¤¢vebv byb¨Zg| Avcbvi cwiPqmsµvšÍ Z\_¨mg~n †Mvcb bv \_vKvi mvgvb¨ m¤¢vebv i‡q‡Q wKš‘ Avgiv Avcbvi cwiPqmsµvšÍ Z\_¨mg~n †Mvcb ivLvi Rb¨ m¤¢ve¨ meai‡bi †Póv Kie| Zv m‡Ë¡I fyjekZt AbvKvw•LZ †Kvb NUbv NU‡j ‡mRb¨ gvR©bv cÖv\_©bv KiwQ|GB M‡elYvq AskMÖn‡bi Rb¨ Avcwb mivmwi †Kvb ai‡Yi mnvqZv cv‡eb bv|wKš‘ Avcbvi wkïi AskMÖnY, wkï‡`i Wvqwiqv †ivM m¤ú‡K© Ávbjv‡f Avgv‡`i‡K mnvqZv Ki‡e|

wek¦vm‡hvM¨Zv:

Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z‡\_¨i †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| Avcbv‡`i †`Iqv **w**KQyZ\_¨ AvBwmwWwWAvi,we i M‡elK‡`i Kv‡Q \_vK‡e hvi d‡j Avcbv‡K mbv³ Kiv m¤¢e, ‡hgb Avcbvi bvg Ges ‡dvb b¤^i | Zviv Avcbv‡`i †`Iqv Z\_¨ ‡\_‡K Avcbvi mbv³KiY gyjK Z\_¨ mgyn ev` **w**`†q Ab¨vb¨ M‡elK†`i mv‡\_ ‡kqvi Ki‡e (‡hgb Av‡gwiKvi K¨vwj‡dvwb©qv evK©‡j wek¦we`¨vj‡qi M‡elK), hvi d‡j‡Kvb M‡elKB Avcbv‡K wPwýZ Ki‡Z cvi‡e bv | M‡elYvi me †iKW© Zvjve× K‡i ivLv n‡e I Kgw¤úDUv‡i Z\_¨vejx cvmIAviW **w**`†q msi¶b Kiv n‡e|

Ab¨vb¨ e¨w³ A\_ev M‡elYvi mv‡\_ mswkøó `j Avcbvi Z\_¨ ‡`L‡Z cvi‡e hw` M‡elYvi Kvi‡Y cÖ‡qvRb g‡b K‡i| Giv n‡jb- Av‡gwiKvi K¨vwj‡dvwb©qv evK©‡j wek¦we`¨vj‡qi M‡elK I M‡elYvi ¯úÝi (wej I ‡gwjÛv ‡MUm dvD‡Ûkb) | AvBwmwWwWAvi,we i M‡elK†`i Qvov †KD Avcbv‡K Ges Avcbvi wkï‡K mbv³ Ki‡Z cvi‡e bv | Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elbv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡jøLKiv n‡e bv| Avcbvi KvQ ‡\_‡K cÖvß mKj Z\_¨ I bgybvi m‡e©v”P ‡MvcbxqZv i¶vi Rb¨ Avgiv me©vZ¥K ‡Póv Kie, ZeyI fyjekZt AbvKvw•LZ †Kvb NUbvi Kvi‡b ‡MvcbxqZv i¶v wbwðZ Ki‡Z bv cvi‡j ‡mRb¨ gvR©bv cÖv\_©bv KiwQ|

fwel¨‡Z Z‡\_¨i e¨envi:

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Avgiv Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq Ki‡Z cvwi|Kv‡iv mv‡\_ Z\_¨ wewbgq Kiv n‡j Avgiv †mLv‡b Avcbvi cÖK…Z bvg e¨envi Kie bv Ges Avcbvi †`Iqv Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kie|Avcbvi KvQ †\_‡K msM„wnZ mKj Z\_¨ GB M‡elYv †kl n‡q hvIqvi c‡iI `xN©w`b msiÿY Ki‡ev| wkïiv †hme M‡elYvq RwoZ Av‡Q Ggb Z\_¨mg~n Kgc‡ÿ mvZ eQi msiÿY Kiv n‡e ZZw`‡b Zv‡`i eqm 18 eQi n‡e|

M‡elYvq AskMÖnb bv Kiv ev bvg cÖZ¨vnv‡ii AwaKvit

G M‡elYvq Avcbvi wkïi AskMªnY ‡m”Qvg~jK Ges Avcbvi wkïi AskMªnY Kiv ev bv Kiv m¯ú~Y©fv‡e Avcbvi B”Qvi Dci wbf©i Ki‡Q| GB M‡elYvq Avcbv‡K †hme cÖkœ wRÁvmv Kiv n‡e Zvi †h‡KvbwUi DËi Avcwb PvB‡j bvI w`‡Z cv‡ib| GB M‡elYvq AskMÖn‡b m¤§Z nevi c‡iI M‡elYv PjvKvjxb †h‡Kvb mgq Avcwb Avcbvi bvg cÖZ¨vnvi K‡i wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

¶wZc~iY :

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q enb Ki‡Z n‡e bv Ges GKBfv‡e Avcbv‡KI Avgiv †Kvb ai‡bi A\_© cÖ`vb Kie bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb miKvi gvmy` cvi‡fR (‡m›Uvi di KwgDwbK¨vej wWwR‡Rm, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 01817541872 †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib|

GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi A\_©‰bwZK †Kvb ¶wZ mvwaZ n‡q‡Q e‡j g‡b K‡ib, Zvn‡j Avcwb †Uwj‡dvb b¤^‡i A\_ev mivmwi AvBAviwe †m‡µUvwi‡qU Gg G mvjvg Lvb Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Gg G mvjvg Lvb, AvBAviwe †m‡µUvwi‡qU,9886498 A\_ev wcGweG· 8860523-32 (G·- 3206)

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Ges Avcbvi wkï‡K GB M‡elYvq AskMÖnb Kivi AbygwZ †`bZvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

Appendix 2v: Bangla consent form assessment of child's cognitive development

M‡elYvi wk‡ivbvg:evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb IcywóKi m¤ú~iK Lvevi cÖ`vb Ges wkïi gvbwmKe„w×i Dci Zvi cÖfve|

**cÖavb M‡elK**: W: wj‡qb BDwbK¤^

**M‡elYvi D‡Ïk¨:**

Avm&&mvjvgyAvjvBKzg/ bg¯‹vi| Avgvi bvg---------------------------------------------------- Avwg AvBwmwWwWAvi,we (K‡jiv nvmcvZvj) XvKvq KvR Kwi| Avgiv WvBwiqv wb‡q GKwU M‡elYv KiwQ Ges Avgiv Rvb‡Z PvB wkï ¯^v‡¯’i Dci WvBwiqvi wK cÖfve| Avgiv AviI Rvb‡Z PvB WvBwiqv n‡j A`yi fwel¨‡Z wkïi †Kvb mgm¨ nq wKbv|

**‡Kb Avcbv‡K GB M‡elYvi Rb¨ AskMÖnY Ki‡Z ejv n‡”Q:**

Avgiv Avcbvi Lvbv‡K GB M‡elYvq AšÍf©z³ Ki‡Z PvB Kvib Avcbvi Lvbv‡Z GKRb 8-15 gvm eqmx wkï i‡q‡Q Ges Avcwb BwZg‡a¨ M‡elYvi cÖavb As‡k AšÍf©y³ n‡q‡Qb| GB eq‡mi ev”Pv‡`i Rb¨ WvBwiqv GKwU cÖavb †ivM| Avgiv Rvb‡Z PvB ev”Pv‡`i fvlvMZ Ges AsMmÂvjb `ÿZv weKv‡k WvBwiqvi †Kvb weiƒc cÖfve Av‡Q wKbv| Avgiv Avkv KiwQ Avcwb Avcbvi wkky‡K GB M‡elYvq AskMÖn‡bi AbygwZ w`‡eb|

**GB M‡elYvq AskMÖn‡Y Avcbvi Kibxq:**

Avcwb hw` Avcbvi wkï‡K AskMÖnb Kivi AbygwZ †`b Zvn‡j M‡elYv msµvšÍ mKj Kvh©vewj m¤úbœ Ki‡Z Avgv‡`i AvR 1 N›Uv mgq cÖ‡qvRb n‡e| Avgiv Avcbvi Lvbv msµvšÍ wKQy cÖkœ Kie †hgb Acbvi wkï wK wb‡q †Lj‡Z Pvq| Avcwb Avcbvi wkï‡K wKQz msL¨v, Aÿi Ges GKwU Mí ej‡eb hv Avcbvi wkï c~bive„wË Ki‡e Ges GwU GKai‡Yi †Ljvi gZ n‡e| Avgiv Avcbvi wkky wK ai‡Yi kã eyS‡Z Ges ej‡Z cv‡i Zv Rvb‡Z PvBe| Avgiv AviI Rvb‡Z PvB Avcbvi wkï em‡Z, `vov‡Z Ges nvU‡Z cv‡i wKbv| †mRb¨ Avgiv Avcbvi wkï‡K em‡Z, `vov‡Z Ges nvU‡Z eje| Gi Rb¨ 10-15 wgwbU mgq jvM‡e| Ae‡k‡l Avgiv Avcbvi wkïi gvbwmK Ges kvixwiK my¯’Zv‡eva m¤ú‡K© Rvb‡Z PvBe|

**Su~wK Ges myweavw`:**

GB M‡elYvq eo †Kvb SuzwK bvB| wKQy cÖ‡kœi DËi w`‡Z Avcwb ¯^v”Q›` †eva bvI Ki‡Z cv‡ib| wKš‘ Avcwb PvB‡j GBmKj cÖ‡kœi DËi bvIw`‡Z cv‡ib|Avcbvi wkï emv, `vov‡bv Ges nvUvi mgq mvgvb¨ K¬všÍ †eva Ki‡Z cv‡i| Avcwb Ges Avcbvi wkï †h‡Kvb mgq em‡Z ev Avivg Ki‡Z cvi‡eb A\_ev Agv‡K \_vgv‡Z cvi‡eb|

GB M‡elYvq Ask MÖnb Ki‡j Avcwb I Avcbvi wkï †Kvb myweav cv‡ebbv| wKš‘ M‡elbv jä djvdj wkïi fvlvMZ Ges AsMmÂvjb `ÿZv weKv‡k WvBwiqvi cÖfve m¤ú‡K© ÁvbvR©‡b mnvqZv Ki‡e|

**wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv:**

GB †`‡ki AvBb Abyhvqx Avcbvi †`Iqv mg¯Í Z\_¨†MvcbxqZvi mv‡\_ i¶Yv‡e¶Y Kiv n‡e| Avgiv Avgv‡`i M‡elYvi †Kvb ‡jLvq/djvd‡j Avcbvi cÖK…Z bvg e¨envi Kie bv| Avgv‡`i msM„nxZ mKj Z\_¨ Zvjve× \_vK‡e| Avgiv †KejgvÎ Avgv‡`i M‡elYvi Kv‡R Gme Z\_¨ e¨envi Kie| Avgiv GB M‡elYvi djvdj wewbgq I cÖKvkbvi ‡ÿ‡Î Avcbvi bvg e¨envi Kie bv| Avgiv Avcbvi †`Iqv Z\_¨mg~n †Mvcb ivLvi Rb¨ m¤¢ve¨ meai‡bi †Póv Kie| Zv m‡Ë¡I fyjekZt AbvKvw•LZ †Kvb NUbv NU‡j ‡mRb¨ gvR©bv cÖv\_©bv KiwQ|

**fwel¨‡Z Z‡\_¨i e¨envi:**

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Avgiv Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq Ki‡Z cvwi| Ges Kv‡iv mv‡\_ Z\_¨ wewbgq Kiv n‡j Avgiv †mLv‡b Avcbvi cÖK…Z bvg e¨envi Kie bv Ges Avcbvi †`Iqv Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kie|

**M‡elYvq AskMÖnb bv Kiv ev bvg cÖZ¨vnv‡ii AwaKvit**

GB M‡elYvq AskMÖnb Kiv m¤ú~b©fv‡e Avcbvi B”Qvi Dci wbf©i Ki‡Q| GB M‡elYvq Avcbv‡K †hme cÖkœ wRÁvmv Kiv n‡e Zvi †h‡KvbwUi DËi Avcwb PvB‡j bvI w`‡Z cv‡ib| GB M‡elYvq AskMÖn‡b m¤§Z nevi c‡iI M‡elYv PjvKvjxb †h‡Kvb mgq Avcwb Avcbvi bvg cÖZ¨vnvi K‡i wb‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

**¶wZc~iY :**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q enb Ki‡Z n‡e bv Ges GKBfv‡e Avcbv‡KI Avgiv †Kvb ai‡bi A\_© cÖ`vb Kie bv|

‡hvMv‡hvM:

Avcbvi †Kv‡bv cÖkœ \_vK‡j ‡h‡Kvb mgq Avcwb Zv Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb Wv: dvnwg`v †Zvdv‡qj (PvBì †W‡fjc‡g›U BDwbU, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 01715700370 †gvevBj b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib|

GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi A\_©‰bwZK †Kvb ¶wZ mvwaZ n‡q‡Q e‡j g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523-32 G·- 3206 †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

# Appendix 2w: Bengali consent form for neighboring compounds in spillover study

**AvšÍR©vwZK D`vivgq M‡elYv †K›`ª evsjv‡`k (AvB wm wW wW Avi, we )**

**M‡elYvi wk‡ivbvg:**evsjv‡`‡ki MÖvgxY GjvKvq nvZ †avqv, cvwb weï×KiY, m¨vwb‡Ukb Ges m¤ú~iK Lvevi cÖ`vb Ges wkïi ¯^v¯’¨ I e„w×i Dci Zvi cÖfve

**cÖavb M‡el‡Ki bvg:** W: wj‡qb BDwbK¤^

**M‡elYvi D‡Ïk¨:**

Avm&mvjvgyAvjvBKzg| Avgvi bvg ( \_\_\_\_\_\_\_\_\_ ) Ges Avwg AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx| Avgiv GB M‡elYvi gva¨‡g wKQy mvavib B›Uvi‡fbkb †hgb- cvqLvbvi Dbœqb, cvwbi ¸bMZgvb Ges ¯^v¯’¨m¤§Z Af¨vm ev cvuP eQ‡ii †QvU ev”Pv‡`i cywóMZ Ae¯’v BZ¨vw`i Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q| GKB mgv‡Ri/GjvKvi wkïiv hviv GB B›Uv‡fbkb¸‡jv †c‡q‡Q Ges hviv cvq bvB Zv‡`i cv\_©K¨ eySvi †Póv KiwQ

**Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡b Avgš¿Y Rvbvw”Q?**

‡h‡nZz Avcbviv ¯^v¯’¨¯§Z Af¨vm, cvwb weïØKib I m¨vwb‡Ukb B›Uvi‡fbk‡bi me‡P‡q wbKUeZ©x ¯’v‡b emevm K‡ib ZvB Avgiv Avcbvi wkïi ¯^v‡¯’¨i g~j¨vqb Ki‡Z AvMÖnx Avgiv| Avgiv Avcbv‡K GB M‡elYvq AskMÖn‡Yi Rb¨ Avgš¿b Rvbvw”Q |

**M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx ?**

Avcwb hw` AskMÖnY Ki‡Z ivwR \_v‡Kb Z‡e GKRb gvV M‡elbvKvix GB D‡Ï‡k¨ Avcbvi evwo‡Z `yBevi cwi`k©‡b Avm‡e | GB M‡elbvq AskMÖnY Ki‡j Avcbvi GKÑ`yB N›Uv mgq e¨q n‡e| cÖ\_g cwi`k©‡b AvR‡K hv Ki‡Z B”QyK , Zv‡Z Avgiv Avcbvi Ni.evwo I Avcbvi N‡ii wKQy Af¨v‡mi m¤ú©‡K wKQy cÖkœ wR½vmv Kie| Avgiv Avcbv‡K wKQy cÖviw¤¢K Z\_¨ , Avcbvi cvwb, m¨vwb‡Ukb Ges ¯^v¯’¨m¤§Z Af¨vm Ges cvuP eQ‡ii wb‡Pi wkï‡`I m¤ú©‡K wKQy cÖkœ wR½vmv Kie| Avcbvi AbygwZ µ‡g ,Avgiv Avcbvi m¨vwb‡Ukb myweav¸‡jv ch‡e¶b Kie| Avgiv gv A\_ev wkïi cwiPh©vKvix‡`i Zv‡`i wkïiv Amy¯’ n‡qwQj wKbv ‡m m¤ú‡K© wR½vmv Kie|

Avgiv Avcbvi wkï‡K 1Uv †Ljbvi ej w`e Ges Avcbvi evwoi cvqLvbv I ivbœvN‡ii Av‡kcv‡k gvwQ aivi dvu` evaue/†mU Kie| Avcwb Avcbvi wkï‡K LvIqvi Rb¨ †h cvwb †`b, †mB cvwb †\_‡K Avgv‡`i‡K GKMøvm cvwb w`‡Z Aby‡iva Kie| Avcbvi †`Iqv GB cvwb †\_‡K Avgiv bgybv wnmv‡e mvgvb¨ cvwb msMÖn Kie|

wØZxqevi cwi`k©‡bi Rb¨ Avgiv AvMvgxKvj Avevi Avcbvi evwo‡Z Avme| Avgiv cvwb w`‡q Avcbvi wkï‡K †`Iqv ‡Ljbv ej¸‡jv †ave/‡aŠZ Kie Ges ej cvwbUyKz msiÿb Kie| Avcbvi wkï †Ljbv ej¸‡jv w`‡q †Lj‡ZI cv‡i Avevi bvI †Lj‡Z cv‡i| GUv m¤ú~b© Zvi B”Qvi Dci wbf©i K‡i| wØZxq cwi`k©‡bi mgq Avgiv Avcbvi evwoi cvqLvbv I ivbœvN‡ii Av‡kcv‡k ‡e‡au ivLv dvu‡`/ d¬vB †Uª‡c AvUKv cov gvwQi msL¨v Mbbv Kie| Avgiv Avcbv‡K wKQz cÖkœI wRÁvmv Kie| cÖ‡Z¨Kevi cwi`k©bKv‡j Avgiv Avcbvi Lvbv‡Z cÖvq 1 N›Uv mgq KvUve| Avgiv AviI Avcbvi cvuP eQ‡ii wb‡Pi wkï‡`I cvqLvbvi bgybv msMÖn Kie| Avgiv Avcbv‡`i wkï‡`i †Kvb K…wgi msµgb Av‡Q wKbv Zv cix¶v Kie wKš‘ GB cix¶v XvKvq Kiv n‡e Ges Gi djvdjv Rvbv‡Z cvie bv| cvqLvbvi bgybvi cix¶vi djvdj hvB †nvK bv †Kb Avgiv Avcbv‡`i‡K K…wgi Jla cÖ`vb Kie|

GKRb gvVKgx© Avcbv‡K cvqLvbv msMÖn Kivi mvgMÖx w`‡q hv‡e Ges wKfv‡e Avcbvi wkïi cvqLvbv msMÖn Ki‡Z n‡e Zv †`wL‡q ‡`‡e| c‡ii w`b mKv‡j hw` gvVKgx© ‡cŠQv‡bvi c~‡e© wkï cvqLvbv K‡i, Z‡e Avcwb Avcbvi wkïi cvqLvbv msMªn Ki‡eb| cvqLvbv msMªn Kivi Rb¨ Avcbv‡K GKwU c­vwóK wkU †`qv n‡e, †hLv‡b wkï cvqLvbv Ki‡e Ges Avcwb GKwU c­vwóK (‡Qwb) ¯‹zc e¨envi K‡i Dci †\_‡K Aí GKUy m`¨ (GBgvÎ Kiv) cvqLvbv †evZ‡j fi‡eb| Avgv‡`i gvVKgx© hLb Ab¨vb¨ bgybv msMÖn Kivi Rb¨ Avm‡e, ZLb GB †evZjwU Avcbvi KvQ †\_‡K wb‡q †b‡e|

**SuywK Ges myweav**

GB M‡elYvq AskMÖn‡b Avcbvi Ges Avcbvi wkïi SzuwKi m¤¢vebv byb¨Zg| Avcbvi cwiPqmsµvšÍ Z\_¨mg~n †Mvcb bv \_vKvi mvgvb¨ m¤¢vebv i‡q‡Q|wKš‘ Avcbvi wkïi AskMÖnY, wkï‡`i Wvqwiqv †ivM m¤ú‡K© Ávbjv‡f Avgv‡`i‡K mnvqZv Ki‡e|

**wbR¯^Zv, †MvcbxqZv I wek¦vm‡hvM¨Zv:**

Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z‡\_¨i †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| Avcbv‡`i †`Iqv **w**KQyZ\_¨ AvBwmwWwWAvi,we i M‡elK‡†`i Kv‡Q \_vK‡e hvi d‡j Avcbv‡K mbv³ Kiv m¤¢e, ‡hgb Avcbvi bvg Ges ‡dvb b¤^i | Zviv Avcbv‡`i †`Iqv Z\_¨ ‡\_‡K Avcbvi mbv³KiY gyjK Z\_¨ mgyn ev` **w**`†q Ab¨vb¨ M‡elK‡†`i mv‡\_ ‡kqvi Ki‡e (‡hgb Av‡gwiKvi K¨vwj‡dvwb©qv evK©‡j wek¦we`¨vj‡qi M‡elK), hvi d‡j‡Kvb M‡elKB Avcbv‡K wPwýZ Ki‡Z cvi‡e bv | M‡elYvi me †iKW© Zvjve× K‡i ivLv n‡e I KgwcDUv‡i Z\_¨vejx cvmIAviW **w**`†q msi¶b Kiv n‡e|

Ab¨vb¨ e¨w³ A\_ev M‡elYvi mv‡\_ mswk­ó `j Avcbvi Z\_¨ ‡`L‡Z cvi‡e hw` M‡elYvi Kvi‡Y cÖ‡qvRb g‡b K‡i| Giv n‡jb- Av‡gwiKvi K¨vwj‡dvwb©qv evK©‡j wek¦we`¨vj‡qi M‡elK I M‡elYvi ¯úÝi (wej I ‡gwjÛv ‡MUm dvD‡Ûkb) | AvBwmwWwWAvi,we i M‡elK‡†`i Qvov †KD Avcbv‡K Ges Avcbvi wkï‡K mbv³ Ki‡Z cvi‡e bv | Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elbv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡j­L Kiv n‡e bv| Avcbvi KvQ ‡\_‡K cÖvß mKj Z\_¨ I bgybvi m‡e©v”P ‡MvcbxqZv i¶vi Rb¨ Avgiv me©vZ¥K ‡Póv Kie, ZeyI fyjekZt AbvKvw•LZ †Kvb NUbvi Kvi‡b ‡MvcbxqZv i¶v wbwðZ Ki‡Z bv cvi‡j ‡mRb¨ gvR©bv cÖv\_©bv KiwQ|

**fwel¨‡Z Z‡\_¨i e¨envi:**

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Z‡\_¨i †MvcYxqZv I wbR¯^Zv K‡Vvifv‡e i¶v Kiv n‡e| fwel¨‡Z, msMÖnK„Z i³ &I cvqLvbvi bgyYvi AwZwi³ †Kvb cixÿv Ki‡Z cvwi| GB bgyYv AvBwmwWwWAvi,we †Z 20 eQi ch©šÍ msiÿY Kiv n‡Z cv‡i hv‡Z K‡i Avgiv Avcbvi †Kvb msµgb wQj wKbv Zv Rvbvi Rb¨ Ges Avcbvi kix‡i †Kvb ‡Kvb RxevYy emevm KiZ Zv †ei Kivi Rb¨ DbœZ ai‡bi cix¶v Ki‡Z cvwi | Gi Rb¨ cieZ©x‡Z Avcbvi KvQ †\_‡K †Kvb AbygwZ †bIqv n‡e bv Ges Avcwb GB cix¶vi †Kvb djvdjI cv‡eb bv| AvBwmwWwWAvi,we GKRb wmwbqi weÁvbx wVK Ki‡eb †K msi¶YK…Z bg~Yv e¨envi Ki‡Z cvi‡e Ges †Kvb †Kvb cix¶v Ki‡Z cvi‡e| GB bgybv fwel¨‡Z cixÿvi Rb¨ †i‡L †`Iqvi e¨cv‡i hw` Avcwb KLbI Avcbvi gZvgZ cwieZ©b K‡ib Zvn‡j Avcwb Avgv‡`i mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib Ges Avgiv Avcbvi bgyYv †d‡j w`e|

**‡¯^”Qv AskMÖnY :**

G M‡elYvq Avcbvi wkïi AskMªnY ‡m”Qvg~jK Ges Avcbvi wkïi AskMªnY Kiv ev bv Kiv m¯ú~Y©fv‡e Avcbvi B”Qvi Dci wbf©i Ki‡Q| Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q Avcbvi AbygwZ wdwi‡q wb‡Z cvi‡eb Ges Zvn‡j Avgiv Avcbvi I Avcbvi wkïi KvQ †\_‡K †bIqv bgyYv bó K‡i †dje Ges Avcbvi †`Iqv mKj Z\_¨I gy‡Q †dje| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

**¶wZc~iY :**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡bi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡bi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

**‡hvMv‡hvM:**

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb Avey bv‡mi , (†m›Uvi di KwgDwb‡Kej wWwRR, AvBwmwWwWAvi,we: gnvLvwj, XvKv-1212) Gi mv‡\_ 8819419-20, 8860523-32 (G·-120) †Uwj‡dvb b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elbvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 9840523 (G·- 3206) †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBwmwWwWAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

gv bgyYv w`‡Z ivRx n‡q‡Q: n¨uv \_\_\_\_\_\_ bv \_\_\_\_\_\_

........................................... .................................

DËi`vZvi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

¯^v¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

**=**

Appendix 2z: Bengali consent for microbiome substudy

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

cÖavb M‡el‡Ki bvg:W: wj‡qb BDwbK¤^

**M‡elbvi D‡Ïk¨**

AvmmvjvgyAvjvBKzg/ bg¯‹vi| Avgvi bvg---------------- | Avwg XvKvi AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) ‡Z KvR Kwi| Avgiv Wvqwiqv †ivM wb‡q M‡elYv KiwQ Ges GB M‡elYvi gva¨‡g Avgiv wkky‡`i ¯^v‡¯’¨i Dci Wvqwiqv †iv‡Mi cÖfve m¤ú‡K© Rvb‡Z Pvw”Q| wkï‡`i Wvqwiqv ‡iv‡Mi **SuywK**i †Kvb `xN©‡gqvw` cÖfve i‡q‡Q wKbv, Zv Rvb‡Z Avgiv AvMÖnx|wkï‡`i Acywó A‡š¿i msµg‡bi mv‡\_ m¤úK©xZ hv Avgv‡`i cywó Dcv`v‡bi e¨envi e`‡j w`‡Z cv‡i| Avgv‡`i †`‡ni wWGbG-i wR‡bi Kvi‡Y wKQz wKQz wkï‡`i Ab¨‡`i Zzjbvq Acywói SzuwK †ekx \_v‡K| GB wWGbG Avgiv DËivwaKvi m~‡Î evev-gvi KvQ †\_‡K cvB Ges GQvovI Avgiv Avgv‡`i †`‡n emevmKvix ÿwZKi bq Ggb Rxevb~i A‡bK wRb enb Kwi|wkï‡`i Wvqwiqv ‡iv‡Mi SuywKi †Kvb `xN©‡gqvw` cÖfve i‡q‡Q wKbv, Zv Rvb‡Z Avgiv AvMÖnx|

**Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡Y Avgš¿Y Rvbvw”Q?**

Avgiv GB evox‡K M‡elYvq AšÍ©f~³ Ki‡Z Pvw”Q KviY Avgiv Gi Av‡M Avcbvi Lvbv m¤úKx©Z Z\_¨ msMÖn K‡iwQ Ges Avgiv Avcbvi wkïi AviI wKQy cix¶vi gva¨‡g wkïwUi cwicvK bvjx m¤ú©‡K Rvb‡Z AvMÖnx|

**M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx?**

GB M‡elYvq AskMÖnY Ki‡j cÖwZgv‡m AvbygvwbK 15 wgwbU mgq e¨q n‡e|GB M‡elYvi D‡Ïk¨ mdj Ki‡Z n‡j cÖwZgv‡mGKevi K‡i †gvU 10 gvm hveZ wkïi wKQzUv cvqLvbvi bgybv msMÖn Ki‡Z n‡e| cvqLvbvi bgybv cix¶vMv‡i cix¶vi gva¨‡g Avgiv eyS‡Z m¶g ne †h, Avcbviwkïi msµg‡bi SzuwK †Kgb Ges wkïi †`‡n emevmKvix ÿwZKi bq Ggb Rxevb~ m¤ú‡K© Rvb‡Z mnvqZv Ki‡e|

Avcwb AskMÖnY Ki‡Z ivRx n‡j, GKRb gvV M‡elK GB Kv‡R cÖwZgv‡m`yBevi K‡i †gvU 10 gvm hveZ Avcbvi Lvbvq Avm‡e| bgybv msMÖn Kivi Av‡Mi w`b GKRb gvVKgx© Avcbv‡K cvqLvbv msMÖn Kivi mvgMÖx w`‡q hv‡e Ges wKfv‡e Avcbvi wkïi cvqLvbv msMÖn Ki‡Z n‡e Zv †`wL‡q ‡`‡e| c‡ii w`b mKv‡j hw` gvVKgx© ‡cŠQv‡bvi c~‡e© wkï cvqLvbv K‡i, Z‡e Avcwb Avcbvi wkïi cvqLvbv msMªn Ki‡eb| cvqLvbv msMªn Kivi Rb¨ Avcbv‡K GKwU cøvwóK wkU †`qv n‡e, †hLv‡b wkï cvqLvbv Ki‡e Ges Avcwb GKwU cøvwóK (‡Qwb) ¯‹zc e¨envi K‡i Dci †\_‡K Aí GKUy m`¨ (GBgvÎ Kiv) cvqLvbv †evZ‡j fi‡eb| Avgv‡`i gvVKgx© hLb Ab¨vb¨ bgybv msMÖn Kivi Rb¨ Avm‡e, ZLb GB †evZjwU Avcbvi KvQ †\_‡K wb‡q †b‡e| Avgiv cixÿvMv‡i cixÿvi gva¨‡g ‡`L‡ev ‡h Avcbvi wkïi kix‡i ‡Kvb msµvgb Av‡Q wKbv A\_ev wkïi †`‡n emevmKvix A‡bK ÿwZKi bq Ggb †Kvb Rxevby Av‡Q wKbv | wKš‘ Avgiv Gi djvdj Avcbv‡K Rvbv‡ev bv|

**SuywK Ges myweav**

hw`I Avgiv Avcbvi cwiPq †Mvcb ivLvi †Póv Kie Zey Zv cÖKvwkZ nIqvi m¤¢vebv Av‡Q| Avcwb M‡elYvq AskMÖn‡Yi Rb¨ mivmwi †Kvb ai‡Yi mnvqZv cv‡eb bv| wKš‘ Avcbvi wkïi AskMÖnY, wkï‡`i Wvqwiqv †ivM m¤ú‡K© Ges wkïi †`‡n emevmKvix ÿwZKi bq Ggb †Kvb Rxevby Av‡Q wKbv †m m¤ú‡K© Ávbjv‡f Avgv‡`i‡K mnvqZv Ki‡e|

**wek¦vm‡hvM¨Zv:**mKj Z\_¨ Ges msM„nxZ bgybv GB †`‡ki AvBb Abyhvqx †MvcbxqZvi mv‡\_ ivLv n‡e| Z\_¨ Ges bgybvi djvd‡ji †MvcbxqZv K‡Vvifv‡e cvjb Kiv n‡e| Avgiv ïay M‡elYvi cÖ‡qvR‡b GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elYv msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡jøL Kiv n‡e bv|

**fwel¨‡Z Z‡\_¨i e¨envi**

GKB mg‡q j¨v‡e cix¶v Kivi Rb¨ GB cvqLvbvi bgybv M‡elYvi †kl mgq ch©šÍ msi¶Y Kiv n‡Z cv‡i| hw` Avcwb ivwR \_v‡Kb, Z‡eGB cvqLvbvi bgybvi cvkvcvwk msMÖnK…Z Z\_¨I GB bgyYv AvBwmwWwWAvi,we †Z 20 eQi ch©šÍ msiÿY Kiv n‡Zcv‡i hv‡Z K‡i Avgiv Avcbvi †Kvb msµgb wQj wKbv Zv Rvbvi Rb¨ DbœZ ai‡bi cix¶v Kiv n‡Z cv‡i| Gi Rb¨ cieZ©x‡Z Avcbvi KvQ †\_‡K †Kvb AbygwZ †bIqv n‡e bv Ges Avcwb GB cix¶vi †Kvb djvdjI cv‡eb bv| AvBwmwWwWAvi,we GKRb wmwbqi weÁvbx wVK Ki‡eb †K msi¶YK…Z bg~Yv e¨envi Ki‡Z cvi‡e Ges †Kvb †Kvb cix¶v Ki‡Z cvi‡e| GB bgybv fwel¨‡Z cixÿvi Rb¨ †i‡L †`Iqvi e¨cv‡i hw` Avcwb KLbI Avcbvi gZvgZ cwieZ©b K‡ib Zvn‡j Avcwb Avgv‡`i mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib Ges Avgiv Avcbvi bgyYv †d‡j w`e|

**‡¯^”Qv AskMÖnY**

GB M‡elYvq AskMÖnY m¤c~©Yfv‡e Avcbvi B”Qvi Ici wb©fi K‡i| Avcwb GB M‡elYvq Avcbvi wkï‡K AskMÖnY bvI Ki‡Z w`‡Z cv‡ib| Avcbvi wjwLZ AbygwZ †`qvi cieZ©x‡ZI Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q GgbwK bgybv msMÖ‡ni gvSLv‡bI Avcbvi AbygwZ cÖZ¨vL¨vb Ki‡Z cv‡ib| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges GRb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i AvBwmwWwWAvi,we-i ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

**¶wZc~iY**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡Yi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡Yi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

**‡hvMv‡hvM**

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb **Rbve gvmy` cvi‡fR Gi mv‡\_ 01817541872 †gvevBj b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib|** GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb †Uwj‡dvb b¤^‡i A\_ev mivmwi AvBAviwe †m‡µUvwi‡qU, Gg G mvjvg Lvb Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Gg G mvjvg Lvb, AvBAviwe †m‡µUvwi‡qU 9886498 A\_ev wcGweG· 8860523-32 (G·- 3206)

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avwg `xN© mgq a‡i Avgvi wkïi cvqLvbv msi¶‡Yi AbygwZ w`jvg.........[ ]

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

........................................... .................................

Awffve‡Ki ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

mv¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

wØgZ:

Avwg PvB bv Avgvi wkïi cvqLvbvi bgybv `xN© mgq a‡i msi¶Y Kiv †nvK🞎

# Appendix 2aa: English consent form for in-depth interviews about spillovers

**International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)**

Protocol Title: Effect of hand washing, water treatment, sanitation and nutritional supplement interventions on child health and development in rural Bangladesh

**Spillover substudy**

cÖavb M‡el‡Ki bvg: W: wj‡qb BDwbK¤^

**M‡elYvi D‡Ïk¨**

AvmmvjvgyAvjvBKzg/ bg¯‹vi| Avgvi bvg---------------- | Avwg XvKvi AvBwmwWwWAvi, we (K‡jiv nvmcvZvj) †Z KvR Kwi| Avgiv wkï‡`i Wvqwiqv †ivM Ges Bnv wKfv‡e Zv‡`i kvixwiK I gvbwmK e„w×‡K cÖfvweZ K‡i Zv wb‡q M‡elYv Ki‡Z AvMÖnx|Avgiv GB M‡elYvi gva¨‡g wKQy mvavib B›Uvi‡fbkb †hgb- cvqLvbvi Dbœqb, cvwbi ¸bMZgvb Ges ¯^v¯’¨m¤§Z Af¨vm ev cvuP eQ‡ii †QvU ev”Pv‡`i cywóMZ Ae¯’v BZ¨vw`i Dbœq‡bi gva¨‡g ¯^v¯’¨MZ myweav m¤ú‡K© Rvb‡Z Pvw”Q| Avgiv ‡evSvi †Póv KiwQ GKB GjvKvq cvkvcvwk emevmKvix Ab¨vb¨ wkïiv mvavib B›Uvi‡fbkb cvIqv wkï‡`i g‡Zv GKB myweav jvf K‡i wKbv| Avgiv Av‡gwiKvi ev‡K©jxi K¨v‡j‡dvwb©qv wek¦we`¨vj‡qi M‡elKM‡Yi mv‡\_ GB M‡elYv cwiPvjbv KiwQ|

**Avgiv †Kb Avcbv‡K GB M‡elYvq AskMÖn‡Y Avgš¿Y Rvbvw”Q?**

Avgiv GB Lvbv‡K M‡elYvq AšÍ©f~³ Ki‡Z Pvw”Q KviY Avcwb AvB, wm, wW, wW, Avi, we (K‡jiv nvmcvZvj) -i D³ M‡elYvq B‡Zvg‡a¨ AskMÖnb K‡i‡Qb A\_ev GB M‡elYvq AšÍ©f‚³ †Kvb AskMÖnbKvixi KvQvKvwQ emevm Ki‡Qb| Avcwb GB MÖv‡gi Kv‡K Kv‡K wP‡bb Ges Avcwb †Kv\_v †\_‡K ¯^v¯’¨welqK Z\_¨ cvb- Gme wel‡q Avgiv Avcbv‡K wKQz cÖkœ wRÁvmv Kie|

**M‡elYvq AskMÖnYKvixi Kv‡Q cÖZ¨vkv Kx?&**

Avcwb GB M‡elYvq AskMÖnY Ki‡Z m¤§Z n‡j, Avcwb GB MÖv‡gi Kv‡K Kv‡K wP‡bb Ges Avcwb †Kv\_v †\_‡K ¯^v¯’¨welqK Z\_¨ cvb- Gme wel‡q Avgiv Avcbv‡K KwZcq cÖkœ wRÁvmv Kie| †h‡nZz Avcbvi mv‡\_ Av‡jvPbvi mKj welq LvZvq wj‡L ivLv LyeB `yiƒn, ZvB Avcwb m¤§Z \_vK‡j Avgv‡`i GB Av‡jvPbv ce©wU †Uc‡iK©Wv‡i avib K‡i ivL‡Z PvB| Avgiv GB Av‡jvPbvi wKQy welq wjwce× K‡iI ivL‡Z PvB| GB Av‡jvPbvwU‡Z cÖvq GK N›Uv mgq e¨q n‡e|

**SuywK Ges myweav**

GB M‡elYvq AskMÖn‡Y Avcbvi SuzwK byb¨Zg| Z‡e Avcbvi cwiPqmsµvšÍ Z\_¨mg~n †Mvcb bv \_vKvi mvgvb¨ m¤¢vebv i‡q‡Q| wKš‘ Avcbvi wkïi AskMÖnY, wkï‡`i Wvqwiqv †ivM m¤ú‡K© Ávbjv‡f Avgv‡`i‡K mnvqZv Ki‡e|

**†MvcbxqZv**

Avgiv Avcbvi/ Avcbv‡`i †`Iqv mg¯Í Z\_¨ I bgybvi †MvcbxqZv eRvq ivLvi Rb¨ m‡ev©”P †Póv Kie| Avcbvi/Avcbv‡`i †`Iqv wKQyZ\_¨ AvBwmwWwWAvi,we-i M‡elK‡`i Kv‡Q \_vK‡e hvi d‡j Avcbv‡K mbv³ Kiv m¤¢e, ‡hgb Avcbvi bvg| Zviv Avcbvi/Avcbv‡`i †`Iqv Z\_¨ ‡\_‡K Avcbvi/Avcbv‡`i mbv³KiY gyjK Z\_¨ mgyn ev` w`†q Ab¨vb¨ M‡elK‡`i mv‡\_ ‡kqvi Ki‡e (‡hgb Av‡gwiKvi K¨vwj‡dvwb©qv evK©‡j wek¦we`¨vj‡qi M‡elK), hvi d‡j‡Kvb M‡elKB Avcbv‡K wPwýZ Ki‡Z cvi‡e bv | Avcbvi/Avcbv‡`i †`Iqv mg¯Í DËi I †iKW©K…Z Z\_¨ Zvjve× K‡i ivLv n‡e Ges KgwcDUv‡i Z\_¨vejx cvmIqv©W w`†q msi¶b Kiv n‡e|

Ab¨vb¨ e¨w³ A\_ev M‡elYvi mv‡\_ mswkøó `j M‡elYvi wbivcËvi cÖ‡qvR‡b Avcbvi ‡`Iqv mg¯Í DËi I †iKW©K…Z Z\_¨ ‡`L‡Z cv‡i | Giv n‡jb- Av‡gwiKvi K¨vwj‡dvwb©qv evK©‡j wek¦we`¨vj‡qi M‡elK I M‡elYvi ¯úÝi (wej I ‡gwjÛv ‡MUm dvD‡Ûkb) | Avcbvi †`Iqv Z\_¨ †\_‡K AvBwmwWwWAvi,we i M‡elK‡`i Qvov †KD Avcbv‡K Ges Avcbvi evwoi Ab¨ †Kvb m`m¨‡K mbv³ Ki‡Z cvi‡e bv | Avgiv ïaygvÎ M‡elYvi Kv‡R GB Z\_¨ e¨envi Kie Ges Avcbvi bvg A\_ev cwiP‡qi †Kvb m~Î GB M‡elbv-msµvšÍ †Kvb wi‡cv©U/ cÖKvkbvq D‡jøL Kiv n‡e bv| Avcbvi KvQ ‡\_‡K cÖvß mKj Z‡\_¨i m‡e©v”P ‡MvcbxqZv i¶vi Rb¨ Avgiv me©vZ¥K ‡Póv Kie, Zv m‡Ë¡I fyjekZt AbvKvw•LZ †Kvb NUbvi Kvi‡b ‡MvcbxqZv i¶v wbwðZ Ki‡Z bv cvi‡j ‡mRb¨ gvR©bv cÖv\_©bv KiwQ|

**fwel¨‡Z Z‡\_¨i e¨envi**

GB M‡elYvq msM„nxZ Z\_¨ cÖ‡qvR‡b Ab¨vb¨ M‡el‡Ki mv‡\_ wewbgq n‡Z cv‡i, wKš‘ Z‡\_¨i †MvcYxqZv K‡Vvifv‡e cvjb Kiv n‡e|Avcbvi KvQ †\_‡K msM„wnZ mKj Z\_¨ GB M‡elYv †kl n‡q hvIqvi c‡iI `xN©w`b msiÿY Ki‡ev|

**‡¯^”Qv AskMÖnY**

G M‡elYvq Avcbvi AskMªnY m¤ú~b© ‡m”Qvg~jK Ges Avcwb/Avcbviv wkïi AskMªnY Kiv ev bv Kiv m¯ú~Y©fv‡e Avcbvi B”Qvi Dci wbf©i Ki‡Q| Avcwb B”Qv Ki‡j ‡h †Kvb mg‡q, GgbwK Av‡jvPbvi gvSc‡\_I Avcbvi AskMÖn‡bi AbygwZ cÖZ¨vL¨vb Ki‡Z cvi‡eb†Kvb ÿwZc~iY QvovB| Avcwb PvB‡j Avgiv Avcbvi M‡elYvq AskMÖn‡bi AbygwZ evwZj Ges Avcbvi †`Iqv mKj Z\_¨I gy‡Q †dje| GB M‡elYvq AskMÖnY bv Kivi AwaKvi Avcbvi Av‡Q Ges G Rb¨ fwel¨‡Z Avcbvi cwiev‡ii m`m¨‡`i K‡jiv nvmcvZv‡j ¯^v¯’¨‡mev MÖn‡Yi Dci †Kvb cÖfve co‡e bv|

**¶wZc~iY**

GB M‡elYvq AskMÖn‡Yi Rb¨ Avcbvi mivmwi †Kvb ai‡Yi A\_©‰bwZK LiP/ e¨q n‡e bv Ges GKBfv‡e Avcwb GB M‡elYvq AskMÖn‡Yi Rb¨ mivmwi †Kvb ai‡Yi A\_©‰bwZK mnvqZvI cv‡eb bv|

**‡hvMv‡hvM**

Avcbvi †Kv‡bv cÖkœ \_vK‡j Avgv‡K wRÁvmv Ki‡Z cv‡ib| hw` M‡elYv m¤úwK©Z AwZwi³ †Kvb cÖkœ \_v‡K Zvn‡j Avcwb gvmy` cvi‡fR (wmwmwW, AvBwmwWwWAvi,we, gnvLvwj, XvKv-1212) Gi mv‡\_ 01817541872 ‡gvevBj b¤^‡i mivmwi †hvMv‡hvM Ki‡Z cv‡ib| GB M‡elYvq Avcbvi AwaKvi-msµvšÍ †Kvb cÖkœ \_vK‡j A\_ev M‡elYvi Kvi‡Y Avcbvi †Kvb ¶wZ n‡Z cv‡i e‡j hw` g‡b K‡ib, Zvn‡j Avcwb 9886498 A\_ev 8860523 (G·- 3206) †Uwj‡dvb b¤^‡i A\_ev mivmwi Gg G mvjvg Lvb, AvBAviwe †m‡µUvwi‡qU Gi mv‡\_ †hvMv‡hvM Ki‡Z cv‡ib|

Avcwb hw` GB M‡elYvq AskMÖnY Ki‡Z AvMÖnx nb Zvn‡j wb‡gœi wba©vwiZ ¯’v‡b ¯^v¶i A\_ev evg e„×v½yjxi Qvc w`b|

Avcbvi mn‡hvwMZvi Rb¨ ab¨ev`|

........................................... .................................

AskMÖnbKvixi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

mv¶xi ¯^v¶i/evg e„×v½ywji Qvc ZvwiL

........................................... .................................

wc AvB/ M‡el‡Ki cÖwZwbwai ¯^v¶i ZvwiL

wØgZ:

Avwg PvB bv Avgvi wkïi i³ Ges cvqLvbvi bgybv `xN© mgq a‡i msi¶Y Kiv †nvK🞎

Appendix: 3 Data Collection Forms English

WASH Benefits Common Module 1

Birth date, age and sex

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. CLUSTER ID:** |  |
| **0.2. HOUSEHOLD ID:** |  |
| **0.3. CHILD ID** |  |

Administer to: Children < 36 months at baseline

|  |  |  |
| --- | --- | --- |
| C.101  Interview date | DD/MM/YY | // |
| C.102  Child Status | 1 = Present  2 = Not yet born (in utero) >> Skip to C.108 |  |
| C102.a. Has the mother resided outside the bari for more than seven days since our last visit ?  Yes 1  No 0  DK 999 | | |
| C102.b. (If C102.a. answer is 1), how many times the mother visited outside the bari? | | |
| C103.c. (If C102.a. answer is 1), How long was the duration of each travel (enter the number of days for each time mother traveled)?  C103.c.1………………………………………………..  C103.c.2………………………………………………..  C103.c.3……………………………………………….. | | |
| C.103  Date of Birth (DOB) | DD/MM/YY | // |
| C.104  Source of Date of Birth | 1 = Confirmed DOB by valid  vaccination/health card  2 = Mother/Relative remembers DOB  3 = Both 1 & 2  4 = Estimated DOB with 2 and event calendar |  |
| C.105  Reported Age | # Years, ## Months | A.Years |
|  |  | B.Months |
| C.106  Source of age used in the survey | 1 Birth date (C.103)  2 Reported Age (C.105) |  |
| C.107  Sex | 1 = Male  2 = Female |  |
| For pregnant women: |  |  |
| C.108 What was the date of your last menstrual period? | 88 / 88 / 88 = No menstruation since their last pregnancy  99 = Don’t know / not sure | //  DD MM YY |
| C.109  Estimated Length of the Pregnancy | Record number of completed months  99 = Don’t know / not sure | Completed Months |
| C.110  Source of Pregnancy Length | 1 = Estimated by mother only  2 = Estimated by mother and a health practitioner, no ultrasound (last prenatal visit)  3 = Estimated by mother and health practitioner, using ultrasound (last prenatal visit) |  |

WASH Benefits Common Module 2

Diarrhea and symptoms of illness

Administer to: Children < 36 months living in a study compound at baseline

Respondent: Child’s primary caregiver.

(The primary caregiver is the person that spends the most time with the child. This is often the mother.)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Identification** | | |  | | |  | | | |
| **0.1. CLUSTER ID:** | | |  | | |  | | | |
| **0.2. HOUSEHOLD ID:** | | |  | | |  | | | |
| **0.3. CHILD ID** | | |  | | |  | | | |
|  |  |  | | **A** | **B** | | **C** | **D** |  |
|  |  | **Did [NAME] have [SYMPTOM] :** | | **Today** | **Yesterday** | | **Day before Yesterday** | **In the last 7 days** (since this day last week) |  |
|  | **C.201** | Fever | | 1=Yes | 1=Yes | | 1=Yes | 1=Yes |  |
|  | **C.202** | Diarrhea | | 1=Yes | 1=Yes | | 1=Yes | 1=Yes |  |
|  | **C.203** | 3 or more bowel movements in 24 hours | | 1=Yes | 1=Yes | | 1=Yes | 1=Yes |  |
|  | **C.204** | Number of bowl movements each day | |  |  | |  |  |  |
|  | **C.205** | Watery or soft stool (unformed) | | 1=Yes | 1=Yes | | 1=Yes | 1=Yes |  |
|  | **C.206** | Blood in the stool | | 1=Yes | 1=Yes | | 1=Yes | 1=Yes |  |
|  | **C.207** | Skin rash (anywhere on the body) | | 1=Yes | 1=Yes | | 1=Yes | 1=Yes |  |
|  |  |  | | **Today** | **Yesterday** | | **Day before Yesterday** | **In the last 7 days** (since this day last week) |  |
|  | **C.208** | Constant cough | | 1=Yes | 1=Yes | | 1=Yes | 1=Yes |  |
|  | **C.209** | Congestion / runny nose | | 1=Yes | 1=Yes | | 1=Yes | 1=Yes |  |
|  | **C.210** | Panting / wheezing / difficulty breathing | | 1=Yes | 1=Yes | | 1=Yes | 1=Yes |  |
|  | **C.211** | Bruising, scrapes or cuts | | 1=Yes | 1=Yes | | 1=Yes | 1=Yes |  |
|  | **C.212** | Toothache / teething | | 1=Yes | 1=Yes | | 1=Yes | 1=Yes |  |

**C.213**

*If answered Yes to C.202 (Diarrhea):* When did the diarrhea start?

Record length of time in days or weeks. If< 14 days, record the response in days.

A  B

1 Days ago

2 Weeks ago

WASH Benefits Common Module 3

Deworming

Administer to:

Children 12 – 36 months at enrollment

School-aged children that provide stool specimens

Respondent: Child’s primary caregiver.

(The primary caregiver is the person that spends the most time with the child. This is often the mother.)

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. CLUSTER ID:** |  |
| **0.2. HOUSEHOLD ID:** |  |
| **0.3. CHILD ID** |  |

**Deworming**

Within the last six months, has [NAME] received a pill or drug for intestinal worms?

1 Yes

2 No **(Done)**

99 Don’t know / not sure **(Done)**

Where did [NAME] receive the drug for intestinal worms?

1 At home / in the village

2 At a hospital or health facility

3 At a school

99 Don’t know / not sure

Did [NAME] receive the drug as part of a large campaign?

1 Yes

2 No

99 Don’t know / not sure

Approximately how long ago did [NAME] receive the drug?

*If more recent than 1 month, record weeks*

99 Don’t know / not sure

A  MONTHS(0 – 6)

B  WEEKS

WASH Benefits Common Module 4

Anthropometry

Administer to: Children at midline and endline

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. CLUSTER ID:** |  |
| **0.2. HOUSEHOLD ID:** |  |
| **0.3. CHILD ID** |  |

|  |  |  |
| --- | --- | --- |
| C.401  FRA ID | ## |  |
| C.402  Name of FRA | Full Name |  |
| C.403  Is mother wearing heavy clothing during weight measurement? | 1 = Light clothing  2 = Light clothing plus sweater  3 = Heavy clothing |  |
| C.404  Weight of Mother  Measurement #1 | Weight  (kg) | . |
| C.405  Weight of Mother  Measurement #2 | Weight  (kg) | . |
| C.406  Weight of Mother  Measurement #3  (If difference between  measures 1 & 2 is  0.1 kg) | Weight  (kg) | . |
| C.407  Is child wearing clothing during weight measurement? | 0 = No Clothes  1 = Only Shirt  2 = Only Pants  3 = Both Shirt & Pants |  |
| C.408  Weight of Mother + Child  Measurement #1 | Weight  (kg) | . |
| C.409  Weight of Mother + Child  Measurement #2 | Weight  (kg) | . |
| C.410  Weight of Mother + Child  Measurement #3  (If difference between  measures 1 & 2 is  0.1 kg) | Weight  (kg) | . |
| C.411 – C.413  reserved for child weight measurement without mother (follow-up visits) |  |  |
| C.414  Length of Child  Measurement #1 | Length  (cm) | . |
| C.415  Length of Child  Measurement #2 | Length  (cm) | . |
| C.416  Length of Child  Measurement #3  (If difference between  measures 1 & 2 is  0.5 cm) | Length  (cm) | . |
| C.417  Length Measurement Method | Child was:  1 = lying (recumbent)  2 = standing |  |
| C.418  Head Circumference  Measurement #1 | Circumference  (cm) | . |
| C.419  Head Circumference  Measurement #2 | Circumference  (cm) | . |
| C.420  Head Circumference  Measurement #3  (If difference between  measures 1 & 2 is  0.5 cm) | Circumference  (cm) | . |
| C.421  Does the child have swollen feet (bi-pedal edema)? | 1 = Yes (>> Referral)  2 = No |  |

WASH Benefits Common Module 5

Vaccination History

Administer for target child at midline and endline

Respondent: Child’s primary caregiver.

(The primary caregiver is the person that spends the most time with the child. This is often the mother.)

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. CLUSTER ID:** |  |
| **0.2. HOUSEHOLD ID:** |  |
| **0.3. CHILD ID** |  |

Do you have a card where [NAME’S] vaccinations are written down? [*If YES*: May I see it please?]

1 Yes, seen **(Skip to C.504)**

2 Yes, not seen

3 No card

Did [NAME] ever receive any vaccinations to prevent him/her from getting diseases, including vaccinations received in a national immunization campaign?

1 Yes

2 No **(Done)**

99 Don’t know / not sure **(Done)**

*For children without a vaccination card*

Please tell me if [NAME] received any of the following vaccinations:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | **Country’s Schedule (Ages)** |
| 1 | BCG vaccination against tuberculosis, that is, an injection in the arm or shoulder that usually causes a scar? |  1 Yes   2 No   99 Don’t Know | XXX  FILL IN WITH |
| 2 | Polio vaccine, that is, (pink) drops in the mouth? |  1 Yes   2 No   99 Don’t Know | XXX COUNTRY |
| 3 | How many times was the polio vaccine received? |  9 = DK | XXX SCHEDULE |
| 4 | A DPT vaccination, that is, an injection given in the thigh or buttocks, sometimes at the same time as the polio drops? |  1 Yes   2 No   99 Don’t Know | XXX  (SEE NOTES) |
| 5 | How many times was the DPT vaccine received? |  9 = DK |  |
| 6 | A measles injection or an MMR injection, that is, a shot in the arm at the age of 9 months or older to prevent him/her from getting measles? |  1 Yes   2 No   99 Don’t Know | XXX |
| 7 | A pneumococcal (PCV) vaccination, that is, a shot in the thigh, sometimes at the same time as the polio drops to help prevent some kinds of pneumonia? |  1 Yes   2 No   9 Don’t Know | XXX |
| 8 | How many times was the PCV vaccine received? |  99 = DK |  |
| 9 | Rotavirus vaccine, that is, drops in the mouth to prevent some kinds of diarrhea? |  1 Yes   2 No   99 Don’t Know | XXX |
| 10 | How many times was the Rotavirus vaccine received? |  9 = DK |  |
| 11 | Within the last six months, has [NAME] received a vitamin A dose (like this / any of these)?  SHOW COMMON TYPES OF AMPULES/CAPSULES/SYRUPS |  1 Yes   2 No   99 Don’t Know | XXX |

*For children with a vaccination card:*

Copy the vaccination date for each vaccine from the card.

Record “**99**” in the DAY column if card shows that a vaccination was given, but no date is was recorded.

Record “**88**” in the DAY column if vaccination not given.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **DAY** | **MONTH** | **YEAR** | **Country’s Schedule**  **(Age)** |
| 1 | BCG | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX FILL IN WITH |
| 2 | POLIO 0 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX COUNTRY |
| 3 | POLIO 1 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX SCHEDULE |
| 4 | POLIO 2 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX (SEE NOTES) |
| 5 | POLIO 3 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 6 | DPT 1 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 7 | DPT 2 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 8 | DPT 3 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 9 | MEASLES | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 10 | VITAMIN A  (most recent) | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 11 | PCV 1 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 12 | PCV 2 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 13 | PCV 3 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
|  |  |  |  |  |  |

WASHBenefitsCommonModule 6

Food Frequency Questionnaire

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1.CLUSTERID:** |  |
| **0.2.HOUSEHOLDID:** |  |
| **0.3. CHILD ID** |  |

Administer to: Children < 3 months at enrollment

Respondent:Child’sprimarycaregiver.

(The primary caregiver is the person that spends the most time with the child. This is often the mother.)

**Introduction**

Now I would like to ask you some questions about feeding [NAME].First I need to know if you will be able to tell me about feeding [NAME] yesterday and over the last week.

Do you know what[NAME]consumed yesterday?

 1 Yes

 2 No

*If No,* Istheresomeoneelsewhoknowswhatthechildatewhocansitwithustodayandhelpanswerquestions?

 1 Yes

 2 No

 88 Not applicable (C.601 = 1)

Respondent relationship to the participating child

 1 Mother

 2 Father

 77 Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Breastfeeding,Liquids,andFoodsEatenbytheChild**

How long after the birth did you first put [name] to the breast?

 0 Immediately

 1 Within the first hour

 2 More than one hour but less than 24 hours

 3 More than 24 hours

 88 Never breastfed / Not Applicable (**Skip to C.608**)

 99 Don’t know / not sure

Isthebabystillbreastfeeding, orishe/shecompletelyweaned?

 1 Yes, breastfeeding **(Skip to C.607)**

 2 No, weaned

Howoldwas[NAME]thelasttimehe/shewasbreastfed?

99 Don’t know / not sure

MONTHS

Now I would like you to tell me how many times [NAME] breastfed yesterday. I am going to read you some answers and I want you to please tell me which you think is closest.

 1 Not at all

 2 Only at night

 3 Very little, only 1 or 2 times during the day

 4 Moderately, about 3 to 5 times during the day

 5 Very often, at least 6 times during the day

 99 Don’t know / not sure

Now I would like to ask you about liquids that [NAME]may have had yesterday during the day or at night. I am interested in whether your child had it even if it was combined with other foods.

*For each item on the list, read the question below and tick the appropriate box.*

Did[NAME]drink/haveany[ITEMFROMLIST]?*Readquestion8times, onceforeachitem*

|  |  |  |
| --- | --- | --- |
|  | **Food Item** | **Drink / take / eat this item?** |
| 1. | Water/ sugar water |  1 Yes   2 No   99 Don’t Know |
| 2 | Milk, includingfreshmilk, milkintinorbox, orpowderedmilk? |  1 Yes   2 No   99 Don’t Know |
| 3 | InfantformulasuchasLactogen or NAN or Aspen? |  1 Yes   2 No   99 Don’t Know |
| 4 | Teamadewithmilk? |  1 Yes   2 No   99 Don’t Know |
| 5. | Tea made without milk? |  1 Yes   2 No   99 Don’t Know |
| 6 | Yogurt? |  1 Yes   2 No   99 Don’t Know |
| 7 | Porridge? |  1 Yes   2 No   99 Don’t Know |
| 8 | [**optional: other local drink specified by country teams**]  For example: fruit juice, clear broth, chocolate drinks (with no milk), chocolate milks (with milk), soft drinks. The exact drinks or types of drinks should be adapted to locally consumed foods. |  1 Yes   2 No   99 Don’t Know |

Next I would like to ask you some questions about the foods that [NAME] ate yesterday during the day or at night. I would like to know everything that [NAME] ate, whether at home or someplace else.

*Use the separate page of instructions, with questions to help the mother remember. Do not read the list below. Let the mother tell you what the child ate. Circle each food(or ingredient)that the child ate, and tick“[X]1 Yes” for that food group.*

|  |  |  |
| --- | --- | --- |
|  | Foods/ingredientsinrecipes(maybeinasauceorporridge)eatenbythechildyesterday |  |
| 1 | Porridge | 1 Yes2 No |
| 2 | Maizensima/ugali Rice Bread Frieddough Sorghum Millet Noodles | 1 Yes2 No |
| 3 | Pumpkin Orange- or yellow- Carrots  fleshed sweet potato | 1 Yes2 No |
| 4 | Cassava Cassava White yam Irish potato White-fleshed Plantain  nsima/ugali sweet potato | 1 Yes2 No |
| 5 | Pumpkin Mustard Rape Bean Cassava Pigeon pea Other dark green  leavesleaves leaves leavesleaves leaves | 1 Yes2 No |
| 6 | Ripe mango Ripe papaya | 1 Yes2 No |
| 7 | Banana Pineapple Guava Masau Avocado Orange Malambe Other fruit  (Baobab) | 1 Yes2 No |
| 8 | Tomato Onion Mushroom Okra Fresh bean Other  pea pod vegetable | 1 Yes2 No |
| 9 | Liver Kidney Heart Other organ meat | 1 Yes2 No |
| 10 | Any type of meat / flesh, including from birds and animals | 1 Yes2 No |
| 11 | Any type of bird egg | 1 Yes2 No |
| 12 | Fresh fish Dried fish Crab (freshwater) Other fish / seafood | 1 Yes2 No |
| 13 | Beans Peas / Soya Groundnut Cashew Pounded Any other  Lentils groundnut legume or nut | 1 Yes2 No |
| 14 | Cheese Yogurt Chambiko Other milk products  (curdled milk) | 1 Yes2 No |
| 15 | Vegetable oil Animal fat Margarine | 1 Yes2 No |
| 16 | Chocolate Sweets / candies Cake Cookies / sweet biscuits | 1 Yes2 No |
| 17 | Seasonings Garlic Spices Spice/seasoning mix | 1 Yes2 No |
| 18 | Snails Any type of insect | 1 Yes2 No |
| 19 | *If not on list above, write food(s) here and at bottom* |  |

You mentioned that [NAME]ate[readbackcircledfoodsonpreviouspage]yesterday during thedayoratnight. Did[NAME]have any other food at all, including snacks?

 1 Yes

 2 No

*If“yes”,use the same probing questions and circle on thelistonpreviouspage.*

***At the end of theirrecall tick“[X]2No”if no food or ingredient is circled for that group.***

**NOTE;** C.610 not administered in the baseline survey because few children will be eating solid foods.

NowIwouldliketoask yousomequestionsaboutfoods[NAME]ateinthelast7days, since last [INTERVIEW DAY]. For eachfoodIaskabout, pleasetellmehowmanydaysinthelast7daysyouthinkthechild ate that food.

I would like to knowif[NAME]hadthefood, evenifitwascombinedwithotherfoods. Forexample, if [NAME] ate a sauce or relish madewithchicken,onions,andtomatoes,youshouldsay“yes”whenIaskaboutmeat, andagain“yes”whenIaskaboutvegetables. However, if [NAME] only hadthebroth, notthechickenorvegetables, do not say “yes” because theydidnoteatit.

*For each item on the list, read the question below and fill in the number of days the respondent says(0-7).*

How many days in the last 7 days did[NAME]have[ITEM FROM LIST]?

|  |  |  |
| --- | --- | --- |
|  | **Foods (in groups) eaten by the child in the last seven days** | **Number of days food was eaten by child(0-7)**  Eaten, don’t know how many days=**66**  Don’t know if eaten or not=**99** |
| 1 | Porridge, rice, fried dough or bread? | |\_\_|\_\_| |
| 2 | Pumpkin, carrots, or sweet potatoes that are yellow or orange inside? | |\_\_|\_\_| |
| 3 | Cassava, plantains, white sweet potato, Irish potato, white yams, or any other root or tuber? | |\_\_|\_\_| |
| 4 | Anysauceorrelishmadewithdarkgreenleavessuchaspumpkinleavesormustard leaves? | |\_\_|\_\_| |
| 5 | Ripe mango or ripe papaya? | |\_\_|\_\_| |
| 6 | Any other fruit such as banana, guava, avocado, or any other fruit? | |\_\_|\_\_| |
| 7 | Anyothervegetablesuchastomato,onions,mushroom,freshbeanpodoranyother? | |\_\_|\_\_| |
| 8 | Any type of meat, including from birds or from animals? | |\_\_|\_\_| |
| 9 | Any type of egg? | |\_\_|\_\_| |
| 10 | Any type of dried fish or fresh fish? | |\_\_|\_\_| |
| 11 | Any dishes made with beans,peas,lentils,ground nut,or other nuts, including pounded nuts? | |\_\_|\_\_| |
| 12 | Any milk, cheese, yogurt, or foods/drinks made with milk? | |\_\_|\_\_| |
| 13 | Vegetable oil, fat from animals, margarine, or any foods made with these? | |\_\_|\_\_| |
| 14 | Sweet foods such as chocolate, sweets/candies, cake or cookies/ sweet biscuits? | |\_\_|\_\_| |

Now I would like to ask you about infant formula and about some special foods that are sometimes given to infants and small children. Even if you already told me about the food, please tell me again so I can be sure to write down these special foods.

Onhowmanydaysinthelast7 days, since last [INTERVIEW DAY],did [NAME]have any[ITEMFROMLIST]?

|  |  |  |
| --- | --- | --- |
|  | **Infant formula and special foods eaten by the child in the last seven days** | **Number of days food was eaten by child(0-7)**  Eaten, don’t know how many days=**66**  Don’t know if eaten or not=**99** |
| 1 | Infant formula such as Lactogen or NAN or Aspen? | |\_\_|\_\_| |
| 1.1 | *If Yes,* What type? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 2 | Porridge or other food made with Likuni Phala or Rab’s Sunshine, of the type bought in stores | |\_\_|\_\_| |
| 3 | Other baby cereal such as Baby’s Best, Nestle Nestum, Cerelacorother? | |\_\_|\_\_| |
| 3.1 | *If Yes,* What type? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 4 | *Foods to which you added a [powder or micronutrient sprinkles] such as [list brands or show common micronutrient powders available in the study area]?* | |\_\_|\_\_| |
| 4.1 | *If yes, what type? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* |  |
| 5 | [Lipid-based nutrient supplement (LNS)] you received from us? | |\_\_|\_\_|  *[Fillin“****00****” at enrollment.*  *Fill in “****07****” if infantdoesnotreceiveLNSfromWASHBenefits]* |
| 6 | Any other [Lipid-based nutrient supplement (LNS)]? | |\_\_|\_\_| |
| 6.1 | *If Yes, ask to see and write name/type:\_\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 7 | [**Optional: include locally available LNSbrand identified by country teams**] | |\_\_|\_\_| |

NowIwouldliketoaskyouaboutvitamin/mineralpillsordrops.

Onhowmanydaysdid[NAME]haveanyvitamin/mineralpillsordropsinthelast7days?

66 Child had, but number of days not known

99 Don’t know if child had or not

DAYS (0 – 7)

If baby was given vitamin / mineral drops or pills:   What type?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Ask the respondent to show the package and write the name on the line above.*

Observation: What is the source of the information on the pill or drop name?

 1 Information not available

 2 Data collector saw package

 3 Respondent remembered and told name

 88 Vitamins / minerals were not given

Has the child eaten any dirt or soil ?

*Ask for each recall period:*

|  |  |  |
| --- | --- | --- |
| 1 | Today |  1 Yes  2 No 99 Don’t know |
| 2 | Yesterday |  1 Yes  2 No 99 Don’t know |
| 3 | Day before yesterday |  1 Yes  2 No 99 Don’t know |
| 4 | In the past 7 days (since this day last week?) |  1 Yes  2 No 99 Don’t know |

WASH Benefits Common Module 7

Hand washing Practices

[Spot check for a convenient place to wash hands that includes both soap and water (observation)

[Ask the respondent: “Can you please show me where you most often wash your hands?”]

1. |\_\_\_\_|[Observation: Record the location where the primary hand washing station is located?]
   * + 1. In/near main house (≤6 feet to entrance)
       2. In/near latrine (≤6 feet to entrance)
       3. In/near cooking area (≤6 feet to entrance)
       4. >6 feet away from main house, latrine and cooking area
       5. No specific place 711 bs cÖ‡kœ P‡j hvb (skips to 711)
2. [Observation: Which of the following are present at the primary hand washing station? (If you observe the listed item, write “1” for “yes” in the box below. If you do not observe the listed item, write “0” for “no” in the box below.)]

1=[Yes], 0=[No]

|\_\_\_\_\_| 1.[Body/hand bar soap (Lux, Lifebuoy)]

|\_\_\_\_\_| 2. [Other type of bar soap (Wheel)]

|\_\_\_\_\_| 3. [Detergent (powder)]

|\_\_\_\_\_| 4. [Liquid soap]

|\_\_\_\_\_| 5. [Ash]

|\_\_\_\_\_| 6. [Mud/Sand]

|\_\_\_\_\_| 7. [ICDDR,B provided blue drum with tap]

|\_\_\_\_\_| 8.[Working water supply (if applicable). Please check to ensure water supply. (Hand pump, tap)]

|\_\_\_\_\_| 9. [Water for handwashing present]

|\_\_\_\_\_| 10.[Moisture below the hand washing station]

|\_\_\_\_\_| 11. [Soapy water bottle]

|\_\_\_\_\_| 12. [Soapy water]

|\_\_\_\_\_| 13. [ICDDR,B provided smaller bucket]

|\_\_\_\_\_| 14. [None] (skips to 703)

|\_\_\_\_\_| 777. [Other (Bucket, Basin, Jug), specify]\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

702.a [Soap/soapy water and water present together in PHWS]

1. [Yes]
2. [No]
3. |\_\_\_\_|[Observation: The primary hand washing station is away from the kitchen---Count in steps, allow in continuous numbers]
4. |\_\_\_\_|[Observation: The primary hand washing station is away from the toilet---Count in steps, allow in continuous numbers]
5. |\_\_\_\_| [Ask the respondent: “Was the handwashing station moved as part of the intervention?” (Record code in box)]:
6. [Yes]
7. [No]
8. [Not Applicable]
9. [Ask the respondent: “Is there anywhere else you wash your hands?” (Record code in box)]:

1. [Yes]

2.[No] (skips to 711)

1. |\_\_\_\_| [Observation: Record the location of the secondary hand washing station].
   * + 1. In/near main house (≤6 feet to entrance)
       2. In/near latrine (≤6 feet to entrance)
       3. In/near cooking area (≤6 feet to entrance)
       4. >6 feet away from main house, latrine and cooking area
       5. No specific place (skips to 711)
2. [Observation: Which of the following are present at the secondary hand washing station? (If you observe the listed item, write “1” for “yes” in the box below. If you do not observe the listed item, write “0” for “no” in the box below.) ]

1=[Yes], 0=[No]

|\_\_\_\_\_| 1. Body/hand bar soap (Lux, Lifebuoy)]

|\_\_\_\_\_| 2. [Other type of bar soap (Wheel)]

|\_\_\_\_\_| 3. [Detergent (powder)]

|\_\_\_\_\_| 4. [Liquid soap]

|\_\_\_\_\_| 5. [Ash]

|\_\_\_\_\_| 6. [Mud/Sand]

|\_\_\_\_\_| 7. [ICDDR,B provided blue drum with tap]

|\_\_\_\_\_| 8.[Working water supply (if applicable). Please check to ensure water supply. (Hand pump, tap)]

|\_\_\_\_\_| 9. [Water for handwashing present]

|\_\_\_\_\_| 10. [Moisture below the hand washing station]

|\_\_\_\_\_| 11. [Soapy water bottle]

|\_\_\_\_\_| 12. [Soapy water]

|\_\_\_\_\_| 13. [ICDDR,B provided smaller bucket]

|\_\_\_\_\_| 14. [None] (skips to 709)

|\_\_\_\_\_| 777. [Other (Bucket, Basin, Jug),specify]\_\_\_\_\_\_\_\_\_\_\_\_

708.a [Soap/soapy water and water present together in SHWS]

1. Yes 0.No

1. [Observation:T he secondary hand washing station is away from the kitchen---Count in steps, allow in continuous numbers]]
2. [Observation: The secondary hand washing station is away from the toilet---Count in steps, allow in continuous numbers]
3. [Stand by the primary hand washing station if present. If no primary hand washing station, stand by the latrine and ask the respondent: Which of the following are present in the household regardless of place? (If you did or did not observe the listed item, write “1” for “yes”, “0” for “no” in the box below.)]

[How long did it take to show each of the above mentioned items? (Record in seconds.)]

FRA- [Position of the FRA]

1=[Yes], 0=[No]

|\_\_\_\_\_| 1.[Primary hand washing station]

|\_\_\_\_\_| 2. [latrine]

[Ask the respondent to show you] Time:

Note: [Code: 0 Present right there; 888 Not applicable]

1=[Yes], 0=[No] 9. Unable to show

|\_\_\_\_\_| 1. [Bar soap] |\_\_\_\_\_| (seconds)

|\_\_\_\_\_| 2. [Detergent (powder)] |\_\_\_\_\_| (seconds)

|\_\_\_\_\_| 3.[Liquid soap] |\_\_\_\_\_| (seconds)

|\_\_\_\_\_| 4. [Ash] |\_\_\_\_\_| (seconds)

|\_\_\_\_\_| 5. [Mud/Sand] ...........................................................|\_\_\_\_\_| (seconds)

|\_\_\_\_\_| 6. [Soapy water bottle............................................|\_\_\_\_\_| (seconds)

|\_\_\_\_\_| 7. [Nothing ................................................|\_\_\_\_\_| (seconds)

1. |\_\_\_\_\_\_||\_\_\_\_\_\_|[FRA will ask to see the oldest under 3 child’s hand from that household. Note the age of the child observed in months].[Observe the child’s hands.]

[Visible dirt] 1

[Unclean appearance] 2

[Clean] 3

[Observation was not possible/refused)] 4

[No under 3 child] 5

|  |  |
| --- | --- |
| Left hand | Right hand |
| a. |\_\_\_\_\_| [Fingernails]  b. |\_\_\_\_\_| [Palms]  c. |\_\_\_\_\_| [Fingerpads] | a. |\_\_\_\_\_| Fingernails]  b. |\_\_\_\_\_| [Palms]  c. |\_\_\_\_\_| [Fingerpads] |

1. [FRA will then ask to look at the primary female caregivers hands].

[Visible dirt] 1

[Unclean appearance] 2

[Clean] 3

[Observation was not possible/refused)] 4

[Primary female caregiver was absent]........................5

|  |  |
| --- | --- |
| Left hand | Right hand |
| a. |\_\_\_\_\_| [Fingernails]  b. |\_\_\_\_\_| [Palms]  c. |\_\_\_\_\_| [Fingerpads] | a. |\_\_\_\_\_| [Fingernails]  b. |\_\_\_\_\_| [Palms]  c. |\_\_\_\_\_| [Fingerpads] |

Section 7a Hand washing demonstration (Keep for baseline)

[Field workers will ask the primary female caregiver of the child<3 years old to demonstrate where and how they usually clean their hands after defecation. The field worker will note]

1. |\_\_\_\_\_| [Did the primary female caregiver wash her hand?]

1. [Yes]

0. [No] (skips to M101)

1. |\_\_\_\_\_|[Did he/she wash both the hands?]

1. [Yes]

1. [No]

728. |\_\_\_\_\_| [What did he/she use to wash his/her hands]

1.[Soap/soapy water]

2. [Ash]

3. [Only water]

4. [Mud/sand]

777. [Other, specify]\_\_\_\_\_\_\_\_

1. |\_\_\_\_\_|[How long hands were rubbed together (timed with a stop watch)] \_\_\_\_\_\_\_\_\_\_\_\_\_ [sec]
2. |\_\_\_\_\_| [How were the hands dried?]

1.[Clean towel]

2. [Dirty towel]

3. [with clean clothes]

4.[with dirty clothes]

5.[Air dry]

6. [Did not dry hand(s)]

1. |\_\_\_\_\_| [Where were hands washed?] 1. [Primary handwash station]

2. [Secondary handwash station]

3. Other

1. |\_\_\_\_\_| [Was project soapy water used?]

1. [Yes]

0. [No]

WASH Benefits Common Module 8

Sanitation

Version Number 4.0 (2011-10-18)

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. CLUSTER ID:** |  |
| **0.2. HOUSEHOLD ID:** |  |

**Open Defecation**

Administer to: All study households

*Ask questions C.801 – 804 separately for each group (A, then B, then C, then D)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **A** | **B** | **C** | **D** | **E** |
|  |  | **Children < 3 years** | **Children**  **3 – 7 years** | **Children**  **8– 15 years** | **Men** | **Women** |
|  | Do [GROUP] in this household ever practice open defecation?  1 Daily  2 Occasionally  3 Never **(Skip: Next Group)**  88 Not Applicable **(Skip: Next Group)**  99 Don’t Know **(Skip: Next Group)** |  |  |  |  |  |
|  | Do [GROUP] go to more or less the same area every time?  1 Yes  2 No  99 Don’t Know / Not Sure |  |  |  |  |  |
|  | How long does it take to walk (one way) from your house to the most commonly visited place?  MINUTES  99 Don’t Know / Not Sure |  |  |  |  |  |
|  | Is that place within the village?  1 Yes  2 No  99 Don’t Know / Not Sure |  |  |  |  |  |

**Optional Open Defecation Questions**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **Children < 3 years** | **Children**  **3 – 7 years** | **Children**  **8 – 15 years** | **Men** | **Women** |
| **C.XX** | What are the main reasons that [GROUP] in your household practice open defecation?  DO NOT READ RESPONSES  MARK ALL THAT APPLY |  |  |  |  |  |
|  | 1 No choice (nothing else is available) |  |  |  |  |  |
|  | 2 Cannot control where children defecate |  |  |  |  |  |
|  | 3 Privacy |  |  |  |  |  |
|  | 4 Habit / Routine |  |  |  |  |  |
|  | 5 Prefer to use the bush rather than a toilet |  |  |  |  |  |
|  | 6 Toilet not available at work / school |  |  |  |  |  |
|  | 7 Choose not to share toilets with in-laws / extended family (or cannot) |  |  |  |  |  |
|  | 8 Convenience |  |  |  |  |  |
|  | 9 Safety |  |  |  |  |  |
|  | 10 Comfort |  |  |  |  |  |
|  | 11 Sickness |  |  |  |  |  |
|  | 12 Latrine overflowed |  |  |  |  |  |
|  | 13 Latrine broken  (superstructure and /or slab) |  |  |  |  |  |
|  | 14 Fear of latrine |  |  |  |  |  |
|  | 15 Don’t know how to use the latrine |  |  |  |  |  |
|  |  | **Children < 3 years** | **Children**  **3 – 7 years** | **Children**  **8 – 15 years** | **Men** | **Women** |
| **C.XX** | Do you know of other households in the community whose [GROUP] practice OD, even if they might have a toilet or latrine at their house?  1 Yes, Often  2 Yes, Sometimes  3 No, Never  99 Don’t Know / Not Sure |  |  |  |  |  |
| **C.XX** | Do you see that children’s stools are disposed in the yard / surrounding / community in your neighborhood / river?  1 Yes, Often  2 Yes, Sometimes  3 No, Never  99 Don’t Know / Not Sure |  |  |  |  |  |

**Latrine Pit switching questionnaire**

1. What type of latrine the household is using currently?
2. icddr,b provided dual pit latrine (skip to question 4)
3. icddr,b provided single pit latrine
4. Previously existing improved latrine
5. Others ( Please specify...............)
6. Did your current icddr,b provided latrine pit ever fill up?

Yes

No

1. If yes, when?

/ / (dd/mm/yy)

1. If yes, who first noticed that latrine pit was full or almost full?
2. Any adult male from the household
3. Index mother(herself)
4. Any adult female from the household other than index mother
5. Any children from the household
6. Other person ( Please specify --------)
7. How the person/you realized that the pit was filled up?
8. No drainage of stool/water
9. By noticing sound
10. Feces did not run off with regular water use

---------------------

1. How many members used this latrine?
2. How long did it take to fill the pit?

a) months...... b)days.....

1. What was done when the pit filled up?
2. Nothing till now
3. Discussed with CHP to switch to another pit
4. Discussed with household members to switch to another pit
5. Switched to another pit
6. When did you start switching to another pit?

/ / (dd/mm/yy)

1. How long it took to switch to another pit?

days...... b)hours.....

1. Who helped/supported switching to another pit?
2. Family members
3. Neighbors
4. Other relatives
5. Hired people (Skip to Question 15)
6. Others (Please specify----------------)
7. Did you hire labors for switching?

Yes

No

1. How much money did you spend for switching to another pit?

----------------- Taka

1. Was it easy to switch between pits?

Yes

No

1. If yes, what were the reasons that you think it was easy? (multiple answer accepted, it will be open ended question, few options are given only for the convenience of the interviewer, options should not be read to the participants)
2. No cost required
3. Not much time required
4. Family members/other people helped
5. Other ( Please specify ------------
6. If no, why you think it was not easy?(multiple answer accepted, it will be open ended question, few options are given only for the convenience of the interviewer, options should not be read to the participants)
7. Expensive
8. Switching took much time
9. Switching was not possible without help
10. Other ( Please specify ------------
11. How many months/ days have been elapsed after the latrine switching?

----- months/days

1. Did the superstructure damage due to switching?

Yes

No

1. if yes, which part?
2. Wall
3. Roof
4. Door
5. Other parts ( please specify----------)
6. What is the main problem of using a dual pit latrine?
7. Switching is difficult
8. Switching is expensive
9. Switching takes much time
10. Family members don't like
11. Others (Please specify----------)
12. Did you ever emptied your pit?

Yes

No

1. If no, why? (multiple answer accepted, it will be open ended question, few options are given only for the convenience of the interviewer, options should not be read to the participants)
2. Latrine has not filled up yet
3. Never used dual pit latrine
4. Switched to another pit/latrine without emptying
5. Others (Please specify-----------)
6. If yes, how long after switching to second pit, you emptied the first pit?

---------------------( months/days)

1. What equipment did you use to empty the pit?
2. Spade/hoe
3. Bucket
4. Others (Please specify------------)
5. Did any part of the latrine damage due to emptying?

Yes

No

1. if yes, which part?
2. Rings
3. Bottom part
4. Lid
5. Others (Please specify--------------------)
6. Was it easy to empty the pit?

Yes

No

1. Who helped/supported for pit emptying?
2. Family members
3. Neighbors
4. Other relatives
5. Hired people
6. Others (Please specify----------------)
7. How much money required for pit emptying?

------------------------------Taka

1. What did you do with the pit contents?
2. Used as fertilizer
3. Threw away
4. Gave to someone
5. Others (Please specify----------------)
6. Have you heard about using the decomposed contents as fertilizer from anyone?

Yes

No

**Sanitation Facility**

Administer to: All study households

Does your household have a toilet facility that is in use? Can I see it?

1 Yes have toilet, can observe

2 Yes have toilet, refused observation **(Skip to C.809)**

3 No toilet facility **(Skip to C.815)**

**Toilet Details**

Observation: Note the type, condition and apparent use of the toilet:

1 Yes

2 No

88 Not Applicable / Could not observe / cannot tell

|  |  |  |
| --- | --- | --- |
|  | **Exterior Observations** |  |
| 1 | At least 3 walls around the toilet | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 2 | Bamboo fences around the toilet | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 3 | Door/curtain or walls that guarantee privacy around the toilet | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 4 | Roof over toilet | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 5 | Ventilation pipe | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 6 | Path to the toilet suggests regular use (is clear, well-worn, etc.) | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
|  | **Interior Observations** |  |
| 7 | Toilet has a slab | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 8 | Raised footings around hole | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 9 | Flush or Pour Flush | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 9a | If Flush or Pour Flush:  Water seal condition: | [ 1 ] Functional water seal  [ 2 ] Broken water seal  [ 3 ] No water seal  [ 88 ] N/A / could not observe / cannot tell |
| 9b | If Flush or Pour Flush:  Flushes to:  *(Ask / probe household members if necessary)* | [ 1 ] Piped sewer system  [ 2 ] Septic tank  [ 3 ] Pit latrine (off set)  [ 4 ] Somewhere else (canal, ditch, river, etc.)  [ 88 ] N/A |
| 10 | Main material of the floor (*select 1*) | [ 1 ] Mud  [ 2 ] Wood  [ 3 ] Cement  [ 4 ] Tile / brick  [ 5 ] Plastic  [ 88 ] N/A / could not observe / cannot tell |
| 11 | Bucket toilet | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 12 | Hanging toilet | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 13 | Latrine appears to be in use (by your best judgment) | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 14 | Odor of feces in the latrine/bathroom | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 15 | Odor of urine in the latrine/bathroom | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 16 | Stool is visible on the slab or floor | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 17 | Drop hole is covered | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
| 18 | Flies present | [ 1 Yes ] [ 2 No ] [ 88 N/A] |
|  | **General Characteristics** |  |
| 19 | Single or double pit latrine | [ 1 ] Single pit  [ 2 ] Double pit  [ 88 ] N/A / could not observe / cannot tell |
| 20 | Composting toilet | [ 1 Yes ] [ 2 No ] [ 88 N/A] |

Observation: Fullness of the pit – shine a light into the pit to see if solid waste is…

1 Very far from surface (>1 meter)

2 Within 1 meter

3 Very close to surface or full

88 Water seal latrine / non direct pit latrine / could not observe

Observation: What materials for anal cleansing are present inside or immediately outside the latrine?

1 Yes

2 No

88 Not Applicable / Could not observe

|  |  |  |
| --- | --- | --- |
| 1 |  | Leaves/grass |
| 2 |  | Twigs / sticks |
| 3 |  | Rag or cloth |
| 4 |  | Stones |
| 5 |  | Hygienic (toilet) paper |
| 6 |  | Water container / vessel |
| 7 |  | Water tap |
| 8 |  | Soap |
| 9 |  | Ash or soil for cleansing |
| 10 |  | Newspaper |

Please tell me about who in your family uses the toilet for defecation.

1 Always

2 Usually

3 Sometimes

4 Never

88 Not Applicable

|  |  |  |
| --- | --- | --- |
| 1 | Children < 3 years |  |
| 2 | Children 3 – 7 yrs |  |
| 3 | Children 8– 15 yrs |  |
| 4 | Men |  |
| 5 | Women |  |

Do you share this toilet with other households?

1 Yes

2 No **(Skip to C.813)**

 How many other households share this toilet?(Don’t know = 99)

 How many people including children in your household use this toilet?

Who owns the toilet?

1 Only for the household

2 Shared

3 Someone else

4 Public

88 Not Applicable

How long have you had the present toilet in this place? (Don’t know = 99)

A  Years

B  Months

**Child Potty Use**

Administer to: All households

Does your household have a potty that children use for defecation?

1 Yes

2 No **(Skip to Sani Scoop C.821)**

99 Don’t know / not sure **(Skip to Sani Scoop C.821)**

Did your household receive the potty from the project?

1 Yes

2 No

99 Don’t know / not sure

In the last week, how often did your child use the potty?

1 Every time

2 More than half of all defecation events, but not every time

3 Less than half of all defecation events, but often

4 Rarely (defined by a few occasions)

5 Used to use it, but no longer use it **(Skip to Sani Scoop C.821)**

6 Never **(Skip to Sani Scoop C.821)**

99 Don’t know / not sure **(Skip to Sani Scoop C.821)**

What is the age of the child (or children) who is using the potty? Mark All that Apply. Yes = 1

|  |  |  |
| --- | --- | --- |
| 1 |  | < 1 year |
| 2 |  | 1 to < 3 years |
| 3 |  | 3 to < 5 years |
| 4 |  | 5 + years |

Could I please see the potty?

 Observation: *Record how long it takes to produce the potty.*

:MINUTES : SECONDS (99:99 if could not measure)

 Observation: Potty condition. Mark All that Apply. 1 = Yes

|  |  |  |
| --- | --- | --- |
| 1 |  | Easily accessible when needed by the child |
| 2 |  | Easily accessible when needed by the mother |
| 3 |  | Visible signs of feces inside / on the potty / removable pot |
| 4 |  | Potty was covered with the lid |
| 5 |  | Potty was covered with anything other than the lid |
| 6 |  | Dry |
| 7 |  | Broken so that it is unusable |
| 8 |  | Covered in dust / signs of non-use |
| 9 |  | Cannot produce a potty |

Where do you usually dispose of feces from the potty?

1 Latrine

2 Open Pit / separate pit for child or animal feces

3 Bury it / Covered Pit

4 Undefined open site near the compound (including open garbage disposal sites / dumps)

5 Bush / forest / field

6 Nearby water (pond, canal, river)

77 Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Sani Scoop Use**

Administer to: All households

Does your household have a dedicated tool [sani scoop] to clean up feces around your household?

1 Yes (Project tool observed by interviewer)

2 Yes (Other tool observed by interviewer)

3 No **(Skip to Feces Observed C.826)**

99 Don’t know / not sure **(Skip to Feces Observed C.826)**

How often do you use the [sani scoop]?

1 Multiple times per day

2 Once per day

3 A few times each week

4 Less than once per week

5 Used to use it, but no longer use it **(Skip to Feces Observed C.826)**

6 Never **(Skip to Feces Observed C.826)**

What do you use the [sani scoop] for? Do Not Read Responses. Mark All that Apply. 1 = Yes

|  |  |  |
| --- | --- | --- |
| 1 |  | Clean up animal feces |
| 2 |  | Clean up child feces |
| 3 |  | Clean up garbage |
| 4 |  | Take the scoop to the field (for work) |
| 5 |  | Digging / gardening |
| 77 |  | Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Could I please see the [sani scoop]?  Observation: Sani scoop condition. Mark All that Apply. 1 = Yes

|  |  |  |
| --- | --- | --- |
| 1 |  | Visible signs of feces on the sani scoop |
| 2 |  | Dry |
| 3 |  | Broken and needs repair |
| 4 |  | Easily accessible when needed by a child |
| 5 |  | Easily accessible when needed by an adult |
| 6 |  | Signs that the sani scoop is not used |
| 7 |  | Cannot produce a sani scoop |

**If answered YES to picking up animal or child feces in C.823:**

I’d like to ask a few more questions about the types of feces you pick up with the [sani scoop] and how you dispose of the different types of feces.

[Ask about each type of feces separately.].

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Where do you dispose the feces?  Do Not Read Responses.  Mark All that Apply. 1 = Yes | | | | |
|  |  | A | B | C | D | E | F |
|  | Feces | Use Sani Scoop for disposal? | Latrine | Open  Pit | Bush.Farm | Surface Water | Dig Hole and cover |
| 1 | Child |  | 1=YES | 1=YES | 1=YES | 1=YES | 1=YES |
| 2 | Cow |  | 1=YES | 1=YES | 1=YES | 1=YES | 1=YES |
| 3 | Poultry / pigeons |  | 1=YES | 1=YES | 1=YES | 1=YES | 1=YES |
| 4 | Goat |  | 1=YES | 1=YES | 1=YES | 1=YES | 1=YES |
| 5 | Pig |  | 1=YES | 1=YES | 1=YES | 1=YES | 1=YES |
| 6 | Dog or cat |  | 1=YES | 1=YES | 1=YES | 1=YES | 1=YES |

**Feces Observed in and Around the Compound**

Administer to: All study households

 Observation: For the following:

*Record the number of piles you observe in the area (up to 25 piles)*

55 Too numerous to count (more than 25 piles)

99 Cannot tell / could not observe

|  |  |  |
| --- | --- | --- |
|  |  | **Human** feces within the **compound/courtyard** that could be considered open defecation |
|  |  | **Human** feces within **5 meters of the house** that could be considered open defecation |
|  |  | **Human** feces within the **house** that could be considered open defecation |
|  |  |  |
|  |  | **Animal** feces within the **compound/courtyard** |
|  |  | **Animal** feces within **5 meters of the house** |
|  |  | **Animal** feces within the **house** |

WASH Benefits Common Module 9

Child Defecation and Feces Disposal

Version Number 4.0 (2011-10-18)

Administer to: All study households

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. CLUSTER ID:** |  |
| **0.2. HOUSEHOLD ID:** |  |

**Child Defecation and Feces Disposal**

**Children < 3**

 Record the ID of the youngest child in the household

When was the last time your youngest child / infant (<3 years) defecated?

1 Today

2 Yesterday

3 2 or more days ago

4 Cannot remember **(Skip to C.906)**

5 Refused **(Skip to C.906)**

88 Not Applicable **(Skip to C.906)**

 Where did the child defecate the last time? Do Not Read Responses.

1. Potty (in the courtyard)
2. Potty (inside the house)

2 Nappy / diaper

3 In the courtyard (without potty)

4 Inside the house (without potty)

5 In Toilet / Latrine **(Skip to C.905)**

6 Bush / forest / field

77 Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **(Skip to C.905)**

88 Not Applicable **(Skip to C.905)**

99 Don’t know / Not sure [Probe to see if someone in the HH knows] **(Skip to C.905 )**

What was done with the feces? Do Not Read Responses.

1 Left there

2 Put / rinsed into toilet or latrine

3 Put / rinsed into drain or ditch

4 Thrown into the bush / forest / field

5 Thrown into garbage

6 Thrown into a specific pit for child’s feces

7 Buried

77 Other (specify)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

99 Don’t know / not sure

How did you handle the feces? Do Not Read Responses. Mark All that Apply (1 = Yes)

|  |  |  |
| --- | --- | --- |
|  | 1 | Hands only (bare hands) |
|  | 2 | Hands and cloth / paper / leaves / straw |
|  | 3 | Scrap material to scoop feces |
|  | 4 | Potty |
|  | 5 | Local agricultural hoe/instrument |
|  | 6 | Sani-scoop |
|  | 7 | Did nothing |
|  | 77 | Others (specify)\_\_\_\_\_\_\_\_\_\_\_ |
|  | 99 | Don’t know / not sure |

**Child Defecation and Feces Disposal**

**Children 3 – 7 years**

Are there any other children between the ages of 3 – 7 years in this household?

1 Yes

2 No **(Skip to C.911)**

Record the age in years and months of the oldest child < 7 years.

A  Years

B  Months

 Where did the child < 7 years defecate the last time?

1 Potty (in the courtyard)

2 Potty (inside the house)

2 In the courtyard (without potty)

3 Inside the house (without potty)

4 Open space outside the front yard

5 Bush / forest / field

6 In Toilet / Latrine **(Skip to C.911)**

77 Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

99 Don’t know / Not sure [Probe to see if someone in the HH knows] **(Skip to C.911)**

What was done with the feces? Do Not Read Responses.

1 Left there

2 Put / rinsed into toilet or latrine

3 Put / rinsed into drain or ditch

4 Thrown into the bush / forest / field

5 Thrown into garbage

6 Thrown into a specific pit for child’s feces

7 Buried

77 Other (specify)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

99 Don’t know / not sure

How did you handle the feces? Do Not Read Responses. Mark All that Apply (1 = Yes)

|  |  |  |
| --- | --- | --- |
|  | 1 | Hands only (bare hands) |
|  | 2 | Hands and cloth / paper / leaves |
|  | 3 | Scrap material to scoop feces |
|  | 4 | Potty |
|  | 5 | Local agricultural hoe/instrument |
|  | 6 | Sani-scoop |
|  | 7 | Did nothing |
|  | 77 | Others (specify)\_\_\_\_\_\_\_\_\_\_\_ |
|  | 99 | Don’t know / not sure |

 Do children eventually start to use latrines?

1 Yes

2 No **(Skip >> Next Section)**

At what age does a child start using a latrine?

YEARS

WASH Benefits Common Module 10

Water Treatment, Storage, and Quality

Version Number 4.0 (2011-10-18)

Administer to: All study households

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. CLUSTER ID:** |  |
| **0.2. HOUSEHOLD ID:** |  |

**Water Storage and Treatment**

How do you store drinking water? Ask the question and observe.

1 In plastic or metal containers (bucket, jerry can, jerkin, bottle, drum, etc…)

2 In clay pots

3 Roof tank or cistern

4 Do not store water

 Is there a child < 3 years in this home who ever drinks water?

1 Yes

2 No

 Is the wate for a child < 3 years stored in a container provided by the project?

1 Yes

2 No

If your child < 3 years wanted a drink of water right now, could you show me how you would give it to him / her? [If the mother has no children < 3 years at baseline (or if her child is too young to drink water), ask: If you wanted a drink of water right now, could you show me how you would get it?] Ask the question and observe.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1 | IS WATER FOR DRINKING CURRENTLY AVAILABLE IN THE HOUSEHOLD? | 1. YES 2. NO  **SKIP TO C.1007** | | | |
|  | WHAT DID RESPONDENT DO BEFORE TAKING THE WATER? | | YES | NO | D/K |
| 2 | Rinsed glass / container with drinking water before filling | | [1] | [2] | [88] |
| 3 | Washed hands with water before drinking water was obtained | | [1] | [2] | [88] |
| 4 | Washed hands with soap before drinking water obtained | | [1] | [2] | [88] |
|  | FROM WHERE DID THE RESPONDENT TAKE THE WATER? | | YES | NO | D/K |
| 5 | Brought directly from the water source | | [1] | [2] | [88] |
| 6 | Brought directly from container | | [1] | [2] | [88] |
| 7 | Brought directly from water filter | | [1] | [2] | [88] |
| 8 | Stored water was covered | | [1] | [2] | [88] |
|  | HOW DID SHE GET THE WATER INTO THE CUP? | |  |  |  |
| 9 | Hands touched / contacted the drinking water | | [1] | [2] | [88] |
| 10 | Container / glass dipped into water container | | [1] | [2] | [88] |
| 11 | Ladle used to obtain water | | [1] | [2] | [88] |
| 12 | Water poured from container | | [1] | [2] | [88] |
| 13 | Water poured from tap | | [1] | [2] | [88] |

How long ago did you or somebody in your home collect this water? ( 99 = Don’t know; 88 = No Water)

A HOURS

B DAYS

Have you done anything to make this water less cloudy or safer to drink?

1 Yes

2 No **(Skip to C.1007)**

99 Don’t know / not sure **(Skip to C.1007)**

How was this water treated?

Do Not Read Responses. Mark all that apply.

|  |  |  |
| --- | --- | --- |
| 1 | [1] Yes [2] No | Aquatabs **[B]** / Chlorine dispenser **[K]** (field code differs by country) |
| 2 | [1] Yes [2] No | Waterguard / bottled chlorine |
| 3 | [1] Yes [2] No | Boil |
| 4 | [1] Yes [2] No | Strain it through cloth or other material |
| 5 | [1] Yes [2] No | Water filter [ceramic, sand, composite] |
| 6 | [1] Yes [2] No | Solar disinfection (SODIS) |
| 7 | [1] Yes [2] No | Let it stand and settle |
| 8 | [1] Yes [2] No | Biosand filter |
| 9 | [1] Yes [2] No | Lifestraw Family Filter (Vestergaard Frandsen distributed) [Kenya only] |
| 10 | [1] Yes [2] No | Coagulant (alum) |
| 11 | [1] Yes [2] No | PUR (flocculant + disinfectant) |

Do you ever treat your drinking water or do anything to make it less cloudy?

1 Yes

2 No **(Skip to C.1014** chlorine test**)**

When was the last time you treated your water? Do Not Read Responses.

1 Today

2 Yesterday

3 Within the past Week

4 Within the past 2 weeks

5 Within the past Month

6 Within the past Year

99 Don’t know / not sure

What are all the ways you treat your drinking waterDo Not Read Responses. Mark all that apply.

|  |  |  |
| --- | --- | --- |
| 1 | [1] Yes [2] No | Aquatabs **[B]** / Chlorine dispenser **[K]** (field code differs by country) |
| 2 | [1] Yes [2] No | Waterguard / bottled chlorine |
| 3 | [1] Yes [2] No | Boil |
| 4 | [1] Yes [2] No | Strain it through cloth |
| 5 | [1] Yes [2] No | Water filter [ceramic, sand, composite] |
| 6 | [1] Yes [2] No | Solar disinfection (SODIS) |
| 7 | [1] Yes [2] No | Let it stand and settle |
| 8 | [1] Yes [2] No | Biosand filter |
| 9 | [1] Yes [2] No | Lifestraw Family Filter (Vestergaard Frandsen distributed) [Kenya only] |
| 10 | [1] Yes [2] No | Coagulant (alum) |
| 11 | [1] Yes [2] No | PUR (flocculant / disinfectant) |

**Aquatabs / Dispenser Use**

**1010 – 1013 Not asked in the baseline survey, only at follow-up.**

Administer to: Households that Report Using [Aquatabs / Dispenser] in C.1009

How frequently do you treat your water using [Aquatabs / Dispenser]?

Do Not Read Responses.

1 Every time they collect water

2 Sometimes / occasionally

3 Treated water in the beginning [of the program] but not any more

4 Never treated water with [Aquatabs / Dispenser] **(Skip to C.1012)**

99 Don’t know / not sure

Is the drinking water stored in your household today treated with [Aquatabs / Dispenser]?

1 Yes, all of it

2 Yes, some of it

3 Not treated

4 No water in the house

99 Don’t know

Ask to see the treated water. Observe: Is the water covered?

1 Yes

2 No

3 No water stored in the house

88 Not applicable / refused

Ask to see the treated water. Observe: Is the water stored in the project provided container?

1 Yes

2 No

88 Not applicable / refused

Approximately how long ago did you treat the water with Aquatabs?

HH:MM : ( 9 9 : 9 9 Don’t know )

How many aquatabs did you use? \_\_\_\_\_

**Residual Chlorine Test**

Administer to: All study households

 May I test a small sample of your drinking water for chlorine?

1 Yes

2 No / refused

3 No drinking water available to test

Collect a small water sample from stored drinking water for children < 3 and test for free residual chlorine.

9 9 9 Could not test

Level of Free Residual Chlorine: .mg / L

**HH Microbiological Sample:**

Administer to: Random Subsample of Households

 May collect a small sample of your drinking water to test for bacteria in our office?

1 Yes

2 No / refused

3 No drinking water available to test

HH Water Sample Time Log (can be automated in a bar-code scanner)

|  |  |  |
| --- | --- | --- |
|  | DD/MM/YY HH:MM |  |
| A | //: | HH sample collected |
| B | //: | HH sample arrived at lab |
| C | //: | HH sample analyzed |

ml HH sample, volume of water filtered (in milliliters)

Household sample lab result, *E. coli*

(5555 = Too numerous to count, 9999 = Not analyzed)

(CFU / 100 ml)

HH sample qualifier

1 Below detection limit

2 Above detection limit

3 Sample could not be analyzed

**Paired Source Water Sample for HH Water Sample**

 Attempt to locate the household’s source water and collect a sample.

1 Yes, located / sample collected

2 No, refused

3 No, could not locate the source

1. Water Source ID

If Source is a shared source, list the source ID.

If Source is located in the compound, only list the cluster/HH ID, and record “99” in the Source ID.

If the shared source located is not on the preprinted list, enter “00”

A  / Cluster / HH ID

B  Source ID (if a shared source)

 Record the source water type

1 Shallow Tubewell / borehole

2 Deep Tubewell / borehole

3 Unprotected spring

4 Protected spring

5 Unprotected dug well

6 Protected dug well

7 Rainwater collection

8 Cart with small tank / drum

9 Tanker truck

10 Surface water (river, dam, lake, pond, stream, canal, irrigation channel)

11 Piped water into dwelling

12 Piped water into yard / plot

Source Water Sample Time Log (can be automated in a bar-code scanner)

|  |  |  |
| --- | --- | --- |
|  | DD/MM/YY HH:MM |  |
| A | //: | Source sample collected |
| B | //: | Source sample arrived at lab |
| C | //: | Source sample analyzed |

ml Source sample, volume of water filtered (in milliliters)

Source sample lab result, *E. coli*

(5555 = Too numerous to count, 9999 = Not analyzed)

(CFU / 100 ml)

Source sample qualifier

1 Below detection limit

2 Above detection limit

3 Sample could not be analyzed

WASH Benefits Common Module 12

Home Care Environment

Version Number 3.0 (2011-09-07)

Administer to: All study households

If target child is not born at baseline, administer this module if the mother has another child < 36 months

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. CLUSTER ID:** |  |
| **0.2. HOUSEHOLD ID:** |  |

**Learning Stimulation**



Record the child ID number of the child about whom these questions are asked

*If the index child is not born at baseline, administer this module if an older sibling is < 36 months*

How many children’s books or picture books do you have for (name)?

00 None

99 Don’t know / refused

I am interested in learning about the things that (name) plays with when he/she is at home.

Does he/she play with:

1 Yes

2 No

88 Don’t know / not sure

|  |  |  |
| --- | --- | --- |
| A |  | Homemade toys (such as dolls, cars, or other toys made at home)? |
| B |  | Toys from a shop or manufactured toys? |
| C |  | Household objects (such as bowls or pots) or objects found outside (such as sticks, rocks, animal shells or leaves)? |

Sometimes adults taking care of children have to leave the house to go shopping, wash clothes, or for other reasons and have to leave young children.

On how many days in the past week was (name):

0 None

99 Don’t know / not sure

|  |  |  |
| --- | --- | --- |
|  | Days |  |
| A |  | Left alone for more than an hour? |
| B |  | Left in the care of another child, that is, someone less than 10 years old, for more than an hour? |

In the past 3 days, did you or any household member over 15 years of age engage in any of the following activities with (name):

If YES, ask:

Who engaged in this activity with (name)?

Circle all that apply.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **A** | **B** | **C** | **D** |
|  |  | **Mother** | **Father** | **Other** | **Nobody** |
| 1 | Read books to or looked at picture books with (name)? | Y | Y | Y | Y |
| 2 | Told stories to (name)? | Y | Y | Y | Y |
| 3 | Sang songs to (name) or with (name), including lullabies? | Y | Y | Y | Y |
| 4 | Took (name) outside the home, compound, yard or enclosure? | Y | Y | Y | Y |
| 5 | Played with (name)? | Y | Y | Y | Y |
| 6 | Named, counted, or drew things to or with (name)? | Y | Y | Y | Y |

**Spanking**

 Sometimes kids mind pretty well and sometimes they don’t. About how many times have you spanked your child in the past week?

1 None

2 1 or 2 times

3 3–7 times

4 8 or more times

99 Don’t know / not sure / refused

**Teaching**

 Some parents spend time teaching their children new skills while other parents believe children learn best on their own. Which of the following best describes your attitude?

1 Parent always teaches

2 Parent usually teaches

3 Usually learn on own

4 Always learn on own

99 Don’t know / not sure

**Other**

 Children seem to demand attention when their parents are busy, doing housework, for example. How often do you talk to your child while you are working?

1 Always talking

2 Often talking

3 Sometimes

4 Rarely talk

5 Never talk

99 Don’t know / not sure

 Does your child have a regular feeding schedule?

1 Yes

2 No

 Does your child see his/her father or father figure on a daily basis?

1 Yes

2 No

**Observation: Parental Responsiveness**

1 Yes

2 No

|  |  |  |
| --- | --- | --- |
|  |  | (Mother/Guardian) Spontaneously spoke to child twice or more (excluding scolding) |
|  |  | (Mother/Guardian) Responded verbally to child’s speech or verbal bids for attention |
|  |  | (Mother/Guardian) Provided toys or interesting activities for child |
|  |  | (Mother/Guardian) Caressed, kissed, or hugged child at least once |
|  |  | (Mother/Guardian) Kept child in view/could see child/looked at (him/her) often |

**Observation: Other**

1 Yes

2 No

|  |  |  |
| --- | --- | --- |
|  |  | (Mother/Guardian) Interfered with child’s actions or restricted child from exploring more than 3 times |
|  |  | Child’s play environment is safe (no potentially dangerous health or structural hazards within a toddler’s or infant’s range) |
|  |  | Reading material (newspapers, magazines, etc.) is present and visible |
|  |  | Child and child’s clothing appear clean |
|  |  | (Mother/Guardian) Slapped or spanked child at least once |
|  |  | There is evidence that older children are handling the child inappropriately (i.e., handling roughly, hitting, etc.) |

**Wash Benefit Module 13 Measures for spillover**

**Administer to: All study households**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | What is the name of your nearest health facility?  Enter “99” if Don’t know / not sure |  |
| **C.1301.a** |  | In the past year, (since this time last year) approximately how many times did you visit this health facility for any reason (including with your children)? | |\_\_|\_\_|TIMES |
| **C.1301.b** |  | What is your primary mode of travel to the health facility? | **1. walking**  **2. Ricshaw/van/ boat**  **3. battery run auto-rickshaw**  **4. CNG/bus**  **5. not applicable** |
| **C.1301.c** | **1303.a** | Approximately how long does it take to travel there (in minutes, one-way, from where we are now)?  Enter “999” if Don’t know / not sure | |\_\_|\_\_|\_\_| MINUTES |
|  |  | What is the name of the ECD center [preschool] where your children go (or will go when they are old enough)? |  |
|  |  | What is the name of the primary school where your children go (or will go when they are old enough)? |  |
|  |  | What is the name of the market that you most often go to when you buy or sell things? |  |
| **C.1304.a** |  | How often do you go to that market? | 0 Never  1 Once per week or more  2 Once every 2 weeks  3 Once every 3 weeks  4 Once every 4 weeks (every month)  5 Less than once every month  99 Don’t know / not sure |
|  |  | What is your primary mode of travel to the health facility? | **1. walking**  **2. Ricshaw/van/ boat**  **3. battery run auto-rickshaw**  **4. CNG/bus**  **5. not applicable** |
| **C.1304.b** | **1308.a** | Approximately how long does it take to travel there (in minutes, one-way, from where we are now)?  Enter “999” if Don’t know / not sure | |\_\_|\_\_|\_\_| MINUTES |
|  |  | What is the name of the church/mosque/temple (if any) that you attend? |  |
| **C.1305.a** |  | How often do you go to church? | 0 Never  1 Once per week or more  2 Once every 2 weeks  3 Once every 3 weeks  4 Once every 4 weeks (every month)  5 Less than once every month  99 Don’t know / not sure |
|  |  | What is your primary mode of travel to the health facility? | **1. walking**  **2. Ricshaw/van/ boat**  **3. battery run auto-rickshaw**  **4. CNG/bus**  **5. not applicable** |
| **C.1305.b** | **1312.a** | Approximately how long does it take to travel there (in minutes, one-way, from where we are now)?  Enter “999” if Don’t know / not sure | |\_\_|\_\_|\_\_| MINUTES |

WASH Benefits Common Module 14

LNS Measurement

Version Number 7 (2013-07-03) [updated 2013-12-02]

Administer to: All study households in the LNS and WASH+LNS arms

NOTE: this module is formatted for Bangladesh and specific LNS terms and team names will need to be adapted for Kenya.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Have you received any items for your child from icddr, b?** | 1. **Yes** 2. **No** | **If yes, skip to CM.1403** |
|  | **If no, write why they didn’t receive any item.** | 1. **Child is below 6 months** 2. **Away from home for last one month** 3. **Others, specify\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **Stop the interview here.** |
|  | **If yes, please show me the items you received?**  **Record your observation.**  **DO NOT READ THE RESPONSES. MULTIPLE RESPONSES ALLOWED.** | **Items (Yes=1, No=0)**   1. **Sonamoni** 2. **Plastic container for Sonamoni** |  |
|  | **How many days ago were the Sonamoni sachets distributed?**  **(FRAs ask household and see the records )** | **I\_\_II\_\_I days** |  |
|  | **How many unused Sonamoni sachets did you have at the time of last distribution?**  **(FRAs calculate and put the number)** | **I\_\_II\_\_I Sachets** |  |
|  | **How many Sonamoni sachets did you receive during last distribution? (FRAs ask household & see the records)** | **I\_\_I\_\_I Sachets** |  |
|  | **How many Sonamoni sachets are unused at present?**  **(FRAs count and put the number)** | **I\_\_I\_\_I Sachets** |  |
|  | **During the past week, how many days did you feed Sonamoni to your child?”** | **|\_\_| days** | **If 0 then skip to CM.1410** |
|  | **How many sachets per day did you feed most of the time during the last seven days?**  **DO NOT READ THE RESPONSES. SINGLE RESPONSE ALLOWED** | **|\_\_\_|. |\_\_ | sachets** |  |
|  | **Did anybody else ever share Sonamoni with the target child?** | 1. **Yes** 2. **No** | **If no, skip to CM.1412** |
|  | **If yes, who?**  **DO NOT READ THE RESPONSES. MULTIPLE RESPONSES ALLOWED.** | **Relationship (Yes=1, No=0)**   1. **Sibling** 2. **Other child/children** 3. **Adult relative(s)** 4. **Other adult(s)** |  |
|  |  |  |  |
|  | **If yes, how did you primarily feed the Sonamoni to your Child during last seven days?**  **DO NOT READ THE RESPONSES. SINGLE RESPONSES ALLOWED.** | **Supplementation (Yes=1, No=0)**   1. **Eaten alone** 2. **Mixed with rice** 3. **Mixed with other food** |  |
|  | **What did you use to feed the child last time you fed Sonamoni?** | 1. **Spoon** 2. **Mother's fingers** 3. **Directly from sachet** 4. **Child fed him/herself by hand** | **If 2 or 4 then ask CM.1414 or skip to CM.1416** |
|  | **Did you wash your hands last time you fed Sonamoni to your child?**  **Or**  **Did your child washed hands last time s/he ate Sonamoni by hands?** | 1. **Yes** 2. **No** | **If no, skip to CM.1416** |
|  | **If yes, what did you use to wash your hands last time you fed Sonamoni to your child?**  **DO NOT READ THE RESPONSES. CIRCLE ALL THAT APPLY.** | **Used (Yes=1, No=0)**   1. **Bar soap** 2. **Detergent** 3. **Liquid soap** 4. **Soapy water** 5. **Ash** 6. **Mud** 7. **Only water** |  |
| **CM.1420** | **Could you please tell me how you were told to useSonamoni?**  **CIRCLE ALL THAT APPLY.** | **(Yes=1, No=0)**  **[1] Feed to target child**  **[2] Feed to child every day (1 time per day)**  **[3] Feed to child every day (2 times per day)**  **[4] To mix with food**  **[5] To mix with liquid**  **[6] To take between meals**  **[7] To wash hands before opening sachet**  **[77] Other, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
|  | **If CM.1408 = 0 days, then why Sonamoni was not eaten?**  **DO NOT READ THE RESPONSES. MULTIPLE RESPONSES ALLOWED.** | **Reasons (Yes=1, No=0)**   1. **Child didn’t like** 2. **Not sure about the product** 3. **Peer pressure not to take** 4. **Child was sick** 5. **Away from home** 6. **Gave supplement to another person / another person ate it** 7. **Forgot** 8. **Sonamoni made child feel sick** 9. **Relative did not approve** 10. **Ran out of supplement**   **77. Others (Specify)** |  |
|  | **Were any of the Sonamoni sachets damaged or opened prior or during distribution?** | 1. **Yes** 2. **No** |  |
|  | **What shortcomings or problems are there in your opinion with Sonamoni?**  **DO NOT READ THE RESPONSES. MULTIPLE RESPONSES ALLOWED.** | **Shortcoming/problems (Yes=1, No=0)**   1. **Irregular supply** 2. **Taste is not good** 3. **Child vomit after swallow** 4. **Color of the food changes when mixed with Sonamoni** 5. **Limited supply** 6. **Bad smell** 7. **Causes indigestion** 8. **Loose stool** 9. **Allergic Reaction (skin rash)** 10. **Child doesn’t like to eat Sonamoni** 11. **Difficult to take out of the sachet** 12. **No Problem** 13. **Increased appetite** 14. **Child won’t eat other food because they are eating Sonamoni**   **77. Others, ( Specify )** |  |
|  | **What is that you liked about the supplement?**  **DO NOT READ THE RESPONSES. MULTIPLE RESPONSES ALLOWED.** | **Benefits (Yes=1, No=0)**  **1. Increased appetite**  **2. Weight gain**  **3. Increased energy**  **4. Easy to feed**  **5. Child liked it**  **6. Child remains playful**  **7. Good taste**  **8. Good smell**  **9. Don’t have to feed other foods because Sonamoni meets the child’s needs**  **77. Other, Specify \_\_\_\_\_\_\_\_\_\_** |  |

**Common Module 15**

**Environmental Sampling (Water, Hands, Sentinel Toys and Fly Density)**

**DAY 1**

**SECTION 1. DELIVER TOY BALL AND FLY TAPE**

PROMPT: Please deliver the toy ball to the target child or respondent.

1.1 Who did you give the ball to?

1 = Target child

2 = Respondent

3 = Other caregiver

4 = Ball not delivered

77 = Other (specify)

1.2 (if question 1.1 is not 4) Record the time that the toy ball was delivered (24H format, HH:MM).

1.3 (if question 1.1 is 4) Why was the toy ball not delivered?

1 = Respondent/caregiver refused

2 = Did not have a toy ball to deliver

77 = Other (specify)

PROMPT: Can you please show me the area where you prepare food?

PROMPT: Hang fly tape as close as possible to the food preparation area If there is more than one food prep area, hang the strips near where food was most recently prepared. Do NOT hang the strips over or near to a cooking fire. Ask the respondents to leave the tape undisturbed.

1.4 Record the time that the fly paper was hung at the food preperation area (24H format, HH:MM)

PROMPT: Can you please show me your primary latrine area?

PROMPT: Hang fly tape as close as possible to the primary latrine area. If there is more than one primary latrine area, hang the strips near the latrine that the respondent used most recently. Ask the respondents to leave the tape undisturbed.

1.5 Record the time that the fly paper was hung at the primary latrine area (24H format, HH:MM)

**SECTION 2. HAND RINSE SAMPLING**

|  |  |
| --- | --- |
| 2.1 | Record whether the respondent has washed heror target child’s hands at any time before this question since you arrived at the household. Select all that apply.  [1] Observed respondent washing hands  [2] Did not observe handwashing directly but respondent had wet hands  [3] Did not observe respondent washing hands or with wet hands  [4] Observed respondent washing/wiping target child’s hands  [5] Did not observe handwashing directly but target child had wet hands  [6] Did not observe respondent washing/wiping target child’s hands or child with wet hands |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| .  2.2 | READ: Thank you. Now, I would like to do a quick inspection of your hands. I hope you don’t mind. Can you please show me your hands?  BOTH HANDS SHOULD BE SHOWN (NOT JUST ONE HAND). USE APPEARANCE CODES BELOW TO RECORD THE DESCRIPTION THAT BEST DESCRIBES THE LEVEL OF CLEANLINESS.  ASK: Please show me [TARGET CHILD NAME]’s hands. DO NOT TOUCH HANDS. | MOTHER/CAREGIVER | | |
| Left Hand  A|\_\_|FINGERNAILS  B|\_\_| PALMS  C|\_\_|FINGER PADS | | Right Hand  D|\_\_|FINGERNAILS  E|\_\_| PALMS  F|\_\_|FINGER PADS |
| TARGET CHILD | | |
| Left Hand  G|\_\_|FINGERNAILS  H|\_\_| PALMS  I |\_\_|FINGER PADS | Right Hand  J |\_\_|FINGERNAILS  K |\_\_| PALMS  L |\_\_|FINGER PADS | |

APPEARANCE CODES:

1. VISIBLE DIRT (DIRT/MUD/SOIL/ASH OR ANY OTHER MATERIAL IS VISIBLE)
2. UNCLEAN APPEARANCE (NO DIRT IS VISIBLE ON THIS PART OF THE HAND BUT, IN GENERAL, THIS PART OF THE HAND APPEARS UNCLEAN)
3. CLEAN (OBSERVED PART OF THE HAND IS CLEAN AS WOULD APPEAR AFTER SOMEONE WASHES HANDS OR TAKES A BATH)

[88] N/A

[99] OBSERVATION NOT POSSIBLE/REFUSED/TARGET CHILD NOT AVAILABLE

PROMPT: Collect a hand rinse sample from the target child by rinsing both hands in same Whirlpak bag.

2.3 Please enter the 4-digit unique numerical ID.

PROMPT: Please label the whirlpak with the following label: H.[PID].[DAY].[MONTH]

2.4 Has a child hand rinse sample been collected successfully? Select all that apply.

1 = Yes, both hands rinsed

2 = No, only one hand rinsed

3 = No, some sample was spilled

4 = No, the inside of the sample bag was contaminated

5 = No, sample not collected

2.5 (if 2.4 is not 5) Record time that sample was collected (24H format, HH:MM).

SECTION 3. WATER SAMPLING

If (target child’s name) wanted a drink of water right now, could you show me how you would give it to him/her? [If target child it too young to drink water, ask: If your child < 3 years wanted a drink of water right now, could you show me how you would give it to him/her?] [If the mother has no children < 3 years, ask: If you wanted a drink of water right now, could you show me how you would get it?]

Ask the question and observe.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3.1 | IS WATER FOR DRINKING CURRENTLY AVAILABLE? | 1. YES 2. NO **🡪 SKIP TO SECTION 4** | | | |
|  | WHAT DID RESPONDENT DO BEFORE TAKING THE WATER? | | YES | NO | D/K |
| 3.2 | Rinsed glass / cup with drinking water before filling | | [1] | [2] | [99] |
| 3.3 | Washed hands with water before drinking water was obtained | | [1] | [2] | [99] |
| 3.4 | Washed hands with soap before drinking water obtained | | [1] | [2] | [99] |
|  | FROM WHERE DID THE RESPONDENT TAKE THE WATER? | | YES | NO | D/K |
| 3.5 | Brought directly from the water source | | [1] | [2] | [99] |
| 3.6 | Brought directly from water stored in a container | | [1] | [2] | [99] |
| 3.7 | Brought directly from water filter | | [1] | [2] | [99] |
| 3.8 | Stored water was covered or in a narrow mouth vessel | | [1] | [2] | [99] |
|  | HOW DID SHE GET THE WATER INTO THE GLASS/CUP? | | YES | NO | D/K |
| 3.9 | Hands touched / contacted the drinking water | | [1] | [2] | [99] |
| 3.10 | Glass/cup dipped into water container | | [1] | [2] | [99] |
| 3.11 | Ladle used to obtain water | | [1] | [2] | [99] |
| 3.12 | Water poured from container | | [1] | [2] | [99] |
| 3.13 | Water poured from tap / handpump | | [1] | [2] | [99] |

3.14 (ask/observe) What is the source of the drinking water?

1 = Tubewell

2 = Unprotected spring

3 = Protected spring

4 = Unprotected dug well

5 = Protected dug well

6 = Rainwater collection

7 = Cart with small tank / drum

8 = Tanker truck

9 = Surface water (river, dam, lake, pond, stream, canal, irrigation channel)

10 = Piped water into dwelling

11 = Piped water into yard / plot

77 = Other (specify)

99 = DK

3.15 (obs) (if 3.6 is 1) What is the type of the container?

1= Kolshi**[B]** /Jerrycan**[K]**

2 = Jug

3 = Topaz (provided by icddrb) **[B]**

4 = Bucket

5 = Other wide mouth container

6 = Other narrow mouth container

99 = Could not observe

3.16 (if 3.6 is 1) How long ago did you or somebody in your home collect this water? (99 = Don’t know)

A 🞎🞎 HOURS

B 🞎🞎 DAYS

3.17 (if 3.6 is 1) Have you done anything to make this water less cloudy or safer to drink?

1 = Yes

2 = No 🡪 Skip to 3.20

99 = DK/Not sure

3.18 (if 3.17 is 1) How was this water treated? **🖑**Do Not Read Responses. Mark all that apply.

|  |  |  |
| --- | --- | --- |
| 1 | [1] Yes [2] No | Aquatabs**[B]** / Chlorine dispenser **[K]** (field code differs by country) |
| 2 | [1] Yes [2] No | Waterguard / bottled chlorine |
| 3 | [1] Yes [2] No | Boil |
| 4 | [1] Yes [2] No | Strain it through cloth or other material |
| 5 | [1] Yes [2] No | Water filter [ceramic, sand, composite] |
| 6 | [1] Yes [2] No | Solar disinfection (SODIS) |
| 7 | [1] Yes [2] No | Let it stand and settle |
| 8 | [1] Yes [2] No | Biosand filter |
| 9 | [1] Yes [2] No | Lifestraw Family Filter (VestergaardFrandsen distributed) **[K]** |
| 10 | [1] Yes [2] No | Coagulant (alum) |
| 11 | [1] Yes [2] No | PUR (flocculant + disinfectant) |
| 12 | [1] Yes [2] No | Other (specify) |

3.19 (if 3.17 is 1) Approximately how long ago did you treat the water?

HH:MM 🞎🞎:🞎🞎 ( 99:99 Don’t know )

PROMPT: (if 3.18 is 1=Y or 2=Y) Please collect a drinking water sample by pouring the water from the glass provided by the participant into a Whirlpak with sodium thiosulphate.

PROMPT: (if 3.18 is 1=Nand 2=N) Please collect a drinking water sample by pouring the water from the glass provided by the participant into a regular Whirlpak.

3.20 Please enter the 4-digit unique numerical ID.

PROMPT: Please label the whirlpak with the following label: W.[PID].[DAY].[MONTH]

3.21 Has a drinking water sample been collected for microbiological testing?

1 = Yes

2 = No

3.22 (if 3.21 is 1) Record time that sample was collected (24H format, HH:MM)

PROMPT: (if 3.18 is 1=Y or 2=Y) Please fill a plastic tube with stored water for chlorine testing.

3.23 (if 3.18 is 1=Y or 2=Y) Has a sample from the storage container been collected for chlorine testing?

1 = Yes

2 = No

3.24 (if 3.23 is 1) Record time that sample was collected (24H format, HH:MM)

Beginning of Tubewell Section **[B]**

3.25 (obs) (if 3.14 is 1) Are there any materials attached to the tubewell mouth?

1 = No materials are covering the tubewell mouth

2 = Cloth

3 = Plastic

4 =Bamboo

77 = Other

3.26 (obs) (if 3.14 is 1) Did the respondent prime the tubewell prior to retrieving the glass of water?

1 = Yes

2 = No

3.27 (ask) (if 3.26 is 1) What kind of water was used to prime the tubewell?

1= Stored water from same tubewell

2 = Water from another tubewell

3 = Pond water

77 = Other

3.28 (ask) (if 3.14 is 1) What is the depth of the tubewell? (ft) (99 = Don’t know)

3.29 (obs) (if 3.14 is 1) Does the tubewell have a platform?

1 = Yes

2 = No

99 = Could not observe

3.30 (obs) (if. 3.29 is 1) Is the platform intact?

1 = Yes

2 = No

99 = Could not observe

3.31 (obs) (if 3.14 is 1) Is faulty drainage allowing ponding within 2 meters of the tubewell?

1 = Yes

2 = No

99 = Could not observe

3.32 (obs) (if 3.14 is 1) Is there a latrine within 10 meters of the tubewell?

1 = Yes

2 = No

99 = Could not observe

3.33 (obs) (if 3.32 is 1) How many steps is the closest latrine <10 m from the tubewell?

3.34 (obs) (if 3.32 is 1) How many latrines are present within 10 meters of the tubewell?

3.35 (obs) (if 3.14 is 1) Is there a pond within 10 meters of the tubewell?

1 = Yes

2 = No

99 = Could not observe

End of Tubewell Section **[B]**

**Section 4. Residual Chlorine Measurement**

PROMPT: (if 3.23 is 1) Measure the free chlorine residual in the stored water sample.Please leave the compound before conducting the chlorine test.

4.1 (record) (if 3.23 is 1) Free chlorine: \_\_\_\_\_.\_\_\_\_\_ mg/L

4.2 (record) (if 3.23 is 1) Record time that chlorine was measured (24H format, HH:MM)

**DAY 2**

**SECTION 1. SENTINEL TOY SAMPLING**

1.1(ask) Did you receive a toy ball from our team yesterday?

1 = Yes

2 = No 🡪 Skip to Section 2

PROMPT: Could you please show me where the ball that was delivered to your household yesterday is currently located?

1.2 (ask) May I now rinse the toy ball that was delivered to your household yesterday?

1 = Yes

2 = Ball was lost 🡪 Skip to Section 2

3 = Ball was given away to another household 🡪 Skip to Section 2

4 = Refused 🡪 Skip to Section 2

77 = Could not retrieve the ball for other reason (specify) 🡪 Skip to Section 2

1.3 (obs) Where is the ball located?

1 = Outside: on dirt

2 = Outside: on concrete/cement/wood

3 = Outside: in container

4 = Outside: in another home

5 = Inside: on dirt floor

6 = Inside: on concrete/cement/wood floor

7 = Inside: on surface other than ground, not in container (e.g. on bed, on table, etc.)

8 = Inside: in storage container/cabinet

9 = In child's hands

77 = Other (specify)

1.4.a (ask)In your opinion, how much did (target child’s name) play with the toy ball over the past 24 hours? (read each choice)

1 = Several times (4 or more times)

2 = Few times (2-3 times)

3 = Only once since he/she got the ball

4 = Never

99 = DK/Not sure

1.4.b In your opinion, how much time total did (target child’s name) spend playing with the toy ball over the past 24 hours? (enter hours)

1.5.a (ask) In your opinion, how much did any of the other children in the household or bari play with the toy ball in the past 24 hours? (read each choice)

1 = Several times (4 or more times)

2 = Few times (2-3 times)

3 = Only once since he/she got the ball

4 = Never

99 = DK/Not sure

1.5.b In your opinion, how much time total did other children in the household or bari spend playing with the toy ball over the past 24 hours? (enter hours)

1.6 (ask) Did children from other baris play with the toy ball in the past 24 hours? (read each choice)

1 = They played with it within this bari

2 = They played with it outside this bari

3 = No

99 = DK/Not sure

1.7 (ask) From what you saw, did the children play with the ball mostly inside the home (indoors), mostly outside the home (outdoors) or equal amount inside and outside the home?

1 = Mostly inside the home

2 = Mostly outside the home

3 = Equal amounts inside and outside the home

99 = DK/Not sure

1.8 (ask) How did the child play with the ball? Read each choice.

1 = With hands

2 = With feet

3 = With hands and feet

99 = DK/Not sure

1.9 (ask) Did you do anything to clean the ball?

1 = Yes

2 = No

1.10 (ask) (if 1.9 is 1) What did you do to clean the ball? Select all that apply. Read each choice.

1 = Washed with water only

2 = Washed with water and soap

3 = Wiped with towel

4 = Wiped on clothes

77 = Other (specify)

1.11 (ask) (if 1.9 is 1) How long ago did you clean the ball? (Enter hours, 99=DK)

1.12 (obs) Have children played with the ball since you arrived at the household? (select all that apply)

1 = Target child has played with ball

2 = Other children in the household have played with ball

3 = No children have played with ball

1.13 (obs) Toy appearance.

1 = Unused

2 = Used, clean appearance

3 = Used, unclean appearance

4 = Used, visibly dirty

5 = Used, visibly wet

1.14 (obs) Toy condition.

1 = Good condition

2 = Bulging (from being stepped on, sat on, heat applied, etc)

3 = Deflated (ball has lost air)

4 = Burst/Torn (ball has visible hole)

PROMPT: Collect a toy rinse sample by rinsing the toy in the Whirlpak bag.

1.15 Please enter the 4-digit unique numerical ID.

PROMPT: Please label the whirlpak with the following label: T.[PID].[DAY].[MONTH]

1.16 Has a toy rinse sample been collected successfully?

1 = Yes, toy rinsed successfully

2 = No, some sample was spilled

3 = No, the inside of the sample bag was contaminated

4 = No, sample not collected

1.17 (if 1.16 is not 4) Record time that sample was collected (24H format, HH:MM).

**SECTION 2. FLY DENSITY**

2.1 Observe fly activity in the food preparation area. Estimate the total number of flies seen.

1 = None

2 = Low (1-5)

3 = Moderate (6-10)

4 = High (>10)

2.2 Was the fly tape hung under a roof (protected from rain)?

1 = Yes

2 = No

2.3 Is the food prep area inside or outside?

1 = Walls and roof

2 = Walls but no roof

3 = Roof but no walls

4 = No roof and no walls

2.4 (record) How many steps are the strips hung from the food preparation area?

2.5 (obs) Was the fly tape in the food preparation area tampered with or did it fall down?

2.6 (record) What is the total number of flies counted on all strips?

2.7(record) (if 2.6 is not 0) Write the number of each species observed:

Musca domestica\_\_\_\_\_\_

Lesser house fly\_\_\_\_\_\_

Blow/bottle fly\_\_\_\_\_\_

Flesh fly/sarcophaga\_\_\_\_\_\_

Other\_\_\_\_\_\_

Cannot distinguish\_\_\_\_\_\_

2.8 Record the time you performed the fly density observation at the food preparation area (24H format, HH:MM)

2.9 Observe fly activity in the latrine area. Estimate the total number of flies seen.

1 = None

2 = Low (1-5)

3 = Moderate (6-10)

4 = High (>10)

2.10 Was the fly tape hung under a roof (protected from rain)?

1 = Yes

2 = No

2.11 (record) How many steps are the strips hung from the latrine area?

2.12 (obs) Was the fly tape in the latrine area tampered with or did it fall down?

2.13 (record) What is the total number of flies counted on all strips?

2.14(record) (if 2.13 is not 0) Write the number of each species observed:

Musca domestica\_\_\_\_\_\_

Lesser house fly\_\_\_\_\_\_

Blow/bottle fly \_\_\_\_\_\_

Flesh fly/sarcophaga \_\_\_\_\_\_

Other \_\_\_\_\_\_

Cannot distinguish\_\_\_\_\_\_

2.15 Record the time you performed the fly density observation at the latrine area (24H format, HH:MM)

**Module 16. Child development, motor milestones and language via Bangladesh**

**gvbwmK Abyf‚wZi cÖkœvejx**

**CESD**

The response should be 0-7

Sometimes we feel sad and unhappy and other times we feel good. I now want to ask you some questions about how you’ve been feeling this past week. Explain about the past week (e.g. today is Monday so I want you to tell me how you have been feeling in the past week, from last Monday until this morning.

gv‡S gv‡S Avgv‡`i gbUv Lye fvj \_‡K Avevi KL‡bv KL‡bv wb‡R‡K Lye AmyLx g‡b nq| Avgv‡`i g‡a¨ wKQy wKQy gvbyl Av‡Q hviv me mgq Lye nvwm Lykx \_v‡K Avevi †KD †KD mviv¶b gb Lvivc K‡i \_v‡K| Avgviv ZvB wewfbœ gv‡q‡`i mv‡\_ K\_v e‡j †`L‡Z PvB hv‡Z Avgiv G e¨vcv‡i wKQy Ki‡Z cvwi| GRb¨ Avcbvi mn‡hvwMZv Avgv‡`i GKvšÍ `iKvi| Avgiv Avcbvi mv‡\_ †h K\_v ¸‡jv ej‡ev †m ¸‡jv m¤c‡K© †Mvcb ivLv n‡e| G¸‡jv ïay GKUv M‡elYvi Kv‡R e¨envi Kiv n‡e| Avgiv A‡bK Av‡Mi K\_v g‡b ivL‡Z cvwi bv| wKš‘ Lye KvQvKvwQ mg‡qi K\_v g‡b ivL‡Z cvwi| †m Rb¨ MZ GK mßv†n Avcbvi gbgvbwmKZv †Kgb wQj †m e¨vcv‡i Avcbvi Kv‡QwKQy Rvb‡Z PvBe| (**N.B.**GK mßvn ej‡Z AvR hw` †mvgevi nq Z‡e MZ †mvgevi mKvj †\_‡K AvR‡K mKvj ch©š— mg‡q Avcbvi gb gvbwmKZv †Kgb wQj ev Avcwb †Kgb †eva K‡i‡Qb eywS‡q ejyb)|

Q1. Did anything unusual happen that bothered you during the last week?

If yes how many days? \_\_\_\_\_\_\_\_\_\_\_\_ days

1. Avgiv †QvULv‡Uv wel‡q mvaviYZ wei³ nBbv ZvB bv? MZ mßv‡n Ggb †Kvb w`b †M‡Q †h †QvULv‡Uv

wel‡qI Avcwb wei³ n‡q‡Qb? (hw` n¨vu nq Zvn‡j KZw`b)/\_\_\_/ days

**Q2.** Sometimes we don’t feel hungry.How many days did you not want to eat anything?\_\_\_\_ days

2. gv‡S gv‡S Avgv‡`i †L‡Z B‡”Q K‡i bv| MZ 1 mßv‡n Ggb †Kvb w`b †M‡Q †h Avcbvi †L‡Z B‡”QK‡iwb? (hw` n¨vu nq Zvn‡j KZw`b) /\_\_\_/ days

**Q3.** How many days did you feel so down that nobody could cheer you up? \_\_\_\_\_\_\_\_\_\_\_\_ days

3. MZ mßv‡n Ggb †Kvb w`b †M‡Q †h Avcbvi wb‡R‡K GZ `ytLx g‡b n‡q‡Q †h †KDB Avcbvi `ytL Kgv‡Z cvi‡e bv e‡j g‡b n‡q‡Q? (hw` n¨vu nq Zvn‡j KZw`b)/\_\_\_/ days

Q4. Sometimes we feel that we’re no good and other times we feel that we’re just as good as everyone else.

How many days in the last week did you feel that you were just as good as other people?\_\_\_\_\_\_\_\_\_ days

4. gv‡S gv‡S Avgv‡`i g‡b nq †h Avgv‡K w`‡q fv‡jv wKQy n‡e bv, Avevi G‡KK mgq g‡b nq †m AvwgI f‡jv wKQy Ki‡Z cvwi ev AvwgI KviI †P‡q Kg bv|

MZ 1 mßv‡n Avcbvi wK KL‡bv g‡b n‡q‡Q Ab¨iv hv cv‡i AvcwbI Zv cv‡ib ? (hw` n¨vu nq Zvn‡j KZw`b)/\_\_\_/ days

**Q5.** How many days could you not do anything attentively? \_\_\_\_\_\_\_\_\_\_\_\_ days

5. MZ 1 mßv‡n Ggb †Kvbw`b †M‡Q †h Avcwb †Kvb Kv‡RB gb emv‡Z cv‡ib wb? (hw` n¨vu nq Zvn‡j KZw`b)/\_\_\_/ days

**Q6.** How many days did you feel depressed? \_\_\_\_\_\_\_\_\_\_\_\_ days

6. MZ 1 mßv‡n Ggb †Kvb w`b †M‡Q †h Avcwb Lye gb giv ev nZvk wQ‡jb?

(hw` n¨vu nq Zvn‡j KZw`b)/\_\_\_/ days

**Q7.** How many days did you feel that easy work was just too difficult to do? \_\_\_\_\_\_\_\_\_\_\_\_ days

7 Avgv‡`i Rxe‡b A‡bK KvR Av‡Q mnR Avevi A‡bK KvR Av‡Q KwVb| MZ 1 mßv‡n wK Avcbvi Ggb†Kvb w`b †M‡Q †h mnR KvRI †Póv K‡i Ki‡Z n‡q‡Q ev Kó Ki g‡b n‡q‡Q? /\_\_\_/ days (hw` n¨vu nq Zvn‡j KZw`b)

**Q8.** How many days did you think that the future looks good? \_\_\_\_\_\_\_\_\_\_\_\_ days

8. MZ mßv‡n Avcbvi KL‡bv wK g‡b n‡q‡Q †h Avcbvi mvg‡bi w`b ¸wj‡Z fv‡jv wKQy nIqvi Avkv Av‡Q? /\_\_\_/ days

**Q9.** How many days did you think your life had been a failure? \_\_\_\_\_\_\_\_\_\_\_\_ days

9. MZ mßv‡n Ggb †Kvb w`b Avcbvi g‡b n‡q‡Q †h Avcwb Rxe‡b wKQy¡B Ki‡Z cv‡ibwb? /\_\_\_/ days(hw` n¨vu nq Zvn‡j KZw`b)

**Q10.** How many days did you feel scared that something bad was going to happen, even though it was not likely? \_\_\_\_\_\_\_\_\_\_\_\_ days

1. MZ 1 mßv‡n Ggb †Kvbw`b †M‡Q †h Lvivc wKQy NU‡Z cv‡i e‡j AvksKv K‡i‡Qb ev g‡b †Kvb fq KvR K‡i‡Q? (hw` n¨vu nq Zvn‡j KZw`b) /\_\_\_/ days

**Q11.** How many nights did you not sleep well and toss and turn? \_\_\_\_\_\_\_\_\_\_\_\_ nights

11 MZ 1 mßv‡n Ggb †Kvb ivZ ‡M‡Q †h Avcbvi iv‡Z fv‡jv Nyg nqwb, ïay Gcvk I cvk K‡i‡Qb ?

(hw` n¨vu nq Zvn‡j KZw`b) /\_\_\_/ nights

**Q12.** How many days did you feel happy? \_\_\_\_\_\_\_\_\_\_\_\_ days

12 MZ mßv‡n KZw`b Avcbvi wb‡R‡K myLx g‡b n‡q‡Q ? /\_\_\_/ days

**Q13.** How many days did you have no interest in talking to anyone? \_\_\_\_\_\_\_\_\_\_\_\_ days

13 MZ 1 mßv‡n Avcbvi Ggb †Kvb w`b †M‡Q †h KviI mv‡\_ K\_v ej‡Z G‡Kev‡iB B‡”Q K‡iwb?

(hw` n¨vu nq Zvn‡j KZw`b)/\_\_\_/ days

**Q14.** How many days did you feel lonely? \_\_\_\_\_\_\_\_\_\_\_\_ days

14. MZ 1 mßv‡n Avcbvi KLbI GKv GKv ev wbtm½ †j‡M‡Q? (hw` n¨vu nq Zvn‡j KZw`b) /\_\_\_/ days

**Q15.** How many days did you feel that no one cares about you? \_\_\_\_\_\_\_\_\_\_\_\_ days

15 MZ mßv‡n Ggb †Kvb w`b Avcbvi g‡b n‡q‡Q †h ‡KD Avcbvi †Lqvj K‡i bv ev, Avcbvi K\_v fv‡e

bv ? (hw` n¨vu nq Zvn‡j KZw`b)/\_\_\_/ days

**Q16.** How many days did you enjoy yourself? \_\_\_\_\_\_\_\_\_\_\_\_ days

16. MZ mßv‡n KZw`b Avcbvi g‡b d‚w©Z d‚w©Z fve wQ‡jv? /\_\_\_/ days

**Q17.** How many days did you feel like crying? \_\_\_\_\_\_\_\_\_\_\_\_ days

17. MZ mßv‡n KZw`b Avcbvi Lye Kvu`‡Z B‡”Q K‡i‡Q ? /\_\_\_/ days

**Q18.** How many days did you feel so sad that you had no interest in anything? \_\_\_\_\_\_\_\_ days

18. MZ 1 mßv‡n Ggb †Kvb w`b †M‡Q †h Avcbvi GZB gb Lvivc n‡q‡Q hvi Rb¨ †Kvb wKQy‡ZB Avcwb Avb›` cvbwb ev Avcbvi fv‡jv jv‡Mwb ? (hw` n¨vu nq Zvn‡j KZw`b) /\_\_\_/ days

**Q19.** How many days did you feel that people don’t like you? \_\_\_\_\_\_\_\_\_\_\_\_ days

19. MZ mßv‡n Avcbvi KL‡bv g‡b n‡q‡Q †h Avcbv‡K †KD cQ›` K‡i bv ? (hw` n¨vu nq Zvn‡j KZw`b) /\_\_\_/ days

**Q20.**  How many days could you not get going and didn’t feel like moving? \_\_\_\_\_\_\_\_\_ days

20. MZ mßv‡n Avcbvi Ggb †Kvb w`b †M‡Q †h Avcbvi ‡Kvb wKQy Ki‡Z B‡”Q K‡iwb ? (hw` n¨vu nq Zvn‡j KZw`b)/\_\_\_/ days

***Comments:***

Measure of the Home Environment

**Now I am interested to know about your home environment and behavior of you and others towards the development of your child.**

**এখনআপনারবাড়িরপরিবেশএবংবাচ্চারবিকাশ/বড়হওয়াসম্পর্কেআপনারএবংবাড়িরঅন্যান্দেরআচরননিয়েকিছুজানতেচাইবো।**

**Learning Stimulation**

1.a. How many children’s books or picture books do you have for (name)?(If the score is 0, skip Qs- 1.b. go Qs- 2)

আপনারev”Pvকে (শিশুরনাম ) দেখানোহয়এমনকয়টিছবিরবই (স্কুলএরবইছাড়া)আপনারবাড়িতেআছে?

n¨uv =1, bv=0, জানিনা =99

**1.b**. ছবিরবই কতোগুলো 

1. I am interested in learning about the things that (name) plays with when he/she is at home.

“আপনারশিশু(ev”Pvi bvg)বাড়িতেথাকাকালীনসময়েযেসমস্তজিনিসদিয়েখেলেছেসেসমস্তজিনিসএরনামজানতেআমিআগ্রহী”,

n¨uv =1, bv=0, জানিনা =99

|  |  |  |
| --- | --- | --- |
| a | Homemade toys (such as dolls, cars, or other toys made at home)?N‡i evbv‡bv Ggb ‡Kvb †Ljbv Av‡Q কি ? †hgbt cyZzj, গাড়ী বাঅন্যান্যখেলনাযাঘরেতৈরী | |  |
| b | Toys from a shop or manufactured toys?†`vKv‡bi †Kbv †Ljbv Av‡Q hv w`‡q †m †Lj‡Z cv‡i**? \*FCI** |  |
| c | Household objects (such as bowls or pots) or objects found outside (such as sticks, rocks, animal shells or leaves)?ঘরেরজিনিস (বাটিবা বোল )বা N‡ii বাইরে hv hv wRwbm cvIqv hvq (†hgb jvwV, cv\_i,cïcvwL, kvgyK,Mv‡Qi cvZv) hv w`‡q †m B”QvgZ †Lj‡Z cv‡i? |  |
| d | Things which play music or that you use to make music, for example, plastic toy phones for children, toy radio, dolls that sing, drum  আপনারশিশুকিযেসবখেলনাশব্দ,সুরতৈরী করেবাযেগুলোশব্দতৈরীকরতেপারেযেমনপ্লাস্টিকখেলনা,খেলনারেডিও, গানগেতে পারেএমনপুতুল, ড্রাম,প্লাস্টিকেরফোনবাএরকমখেলনাদিয়েখেলেছেকি? **\*FCI** |  |
| e | Things for drawing or writing, for example, pencils, pens, chalk  যেসবজিনিসদিয়েআকাআকিবালেখালেখিকরাযায়যেমনপেন্সিল, চক,কলম, ইত্যাদিদিয়েখেলেছে? **\*FCI** |  |
| f | Things for pretending, for example, dolls to play house, tins to pretend to cook  অনুকরণকরাযায়এমনকোনোখেলাবাকোনোকিছুসেজে  খেলেছে  কি, যেমনপুতুলদিয়েখেলা,  টিন  দিয়েরান্নারান্নাখেলা **\*FCI** |  |

**3:** Household books, magazines and newspapers(ঘরেথাকাবই, মাগাজিন এবংপত্রিকা ):

|  |  |  |
| --- | --- | --- |
| **No** | **Question** | **Code** |
| 1  a . | How many books do you have in your home right now?  এখনআপনার বাসায়কতোগুলোবইআছে ?**\*FCI** | n¨uv =1  bv=0  টিবই  জানিনা=99 |
| b. | How many magazines and newspapers do you have in your home right now?  আপনারএখন  বাসায়কতোগুলোম্যাগাজিন  এবংপেপার আছে ?**\*FCI** | n¨uv =1  bv=0  টিবই  জানিনা=99 |

**4:** Sometimes adults taking care of children have to leave the house to go shopping, wash clothes, or for other reasons and have to leave young children. (If the score is 0, skip Qs- 1.b. go Qs- 5)

অনেকসময়আপনার  র্শিশুকেবাসায়একারেখেবাইরেবাজারকরতেযান,  কাপড়ধুতেযানবাঅন্যকোনোকিছুকরতেযান,তখনআপনারশিশুটিবাসায়কারসাথেথাকে?

On how many days in the past week was (name) গতসপ্তাহেএমনকতদিনহয়েছে? Days (দিন)n¨uv =1, bv=0,

|  |  |  |
| --- | --- | --- |
| a | Left alone for more than an hour?  একঘন্টারবেশিসময় একারেখেছেন? |  |
| b | Left in the care of another child, that is, someone less than 10 years old, for more than an hour?  একঘন্টারবেশি সময়১০বছরএরছোটকাউকেসাথেরেখেযান ? |  |

**5.** In the past 3 days, did you or any household member over 15 years of age engage in any of the following activities with (name):MZ wZb w`‡b Avcwb ev evoxi eo †KD ( 15 eQ‡ii AvwaK e¨w³) ev”Pvi mv‡\_ wbæwjwLZ KvR¸‡jv K‡i‡Qb? n¨uv=1,bv=0 |\_\_\_|

If YES, ask: Who engaged in this activity with (name)? **c&ªwZ Kv‡Ri R‡b¨ n¨vu DË‡i †Mvj `vM w`b**

Circle all that apply.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Mother/মা** | **Father/বাবা** | **Others/অন্যকেউ** | **Total** |
|  | Read books to or looked at picture books with (name)?ev”Pv‡K eB c‡o ïwb‡q‡Qb ev Qwei eB †`wL‡q‡Qb? |  |  |  |  |
|  | Told stories to (name)?  ev”Pv‡K Mí e‡j†Qb| |  |  |  |  |
|  | Sang songs to (name) or with (name), including lullabies?  ev”Pvi mv‡\_ Mvb †M‡q‡Qb ? |  |  |  |  |
|  | Took (name) outside the home, compound, yard or enclosure?  ev”Pv‡K evoxi evB‡i wb‡h wM‡q‡Qb ? |  |  |  |  |
|  | Played with (name)?  ev”Pvi mv‡\_ †Ljbv w`‡q †L‡j‡Qb ? |  |  |  |  |
|  | Named, counted, or drew things to or with (name)?ev”Pv‡K mgq w`‡q wKQy wkwL‡q‡Qb | (†hgb †Kvb wKQyi bvg, msL¨v Mbbv, AvKuv AvwKu) | n¨vu | n¨vu | n¨vu | n¨vu |

**Spanking (** শিশুকে মারধরকরা **)**

6. Sometimes kids mind pretty well and sometimes they don’t. About how many times

have you spanked your child in the past week?

বাচ্চারামাঝেমাঝেখুবভালহয়েথাকেআবারমাঝেমাঝেথাকেনা।গতসপ্তাহেমোটকতবারআপনিআপনারবাচ্চাকেমেরেছেন?

ev”Pv hw` Ggb wKQy K‡i hv Avcwb cQ›` K‡ibbv ZLb mvavibZ Avcwb wK K‡ib? 

hw` gv e‡j gvi †`B Z‡e wRÄvmv Ki“b গতসপ্তাহেমোটকতবার মেরেছেন ?

bv=0, ১/২বার =1, ৩-৭বার=2 ৮বারবাতারবেশি=3, জানিনা=99

**Teaching**

**7.** Some parents spend time teaching their children new skills while other parents believe children learn best on their own. Which of the following best describes your attitude?

কিছুকিছুবাবামাতাদেরসন্তানদেরযেকোনোকাজবাদক্ষতাশেখানোরজন্যসময়দেনআবার কেউকেউ মনেকরেনশিশুরানিজেথেকেইকাজশিখতেপারবে.আপনিনিচেরমতামতগুলোরমধ্যেকোনটিরসাথে একমতপোষণকরেন?

Parent always teaches পিতা-মাতাদেরকেইসবসময়শিশুদেরকাজবাদক্ষতাশেখাতেহয়=1 

Parent usually teaches পিতা-মাতাদেরকেমাঝেমাঝে শিশুদেরকাজবাদক্ষতাশেখাতেহয়=2

Usually learn on own শিশুরাসচরাচর নিজেনিজেইকাজবাদক্ষতাশিখে=3

Always learn on ownশিশুরাসবসময়নিজেনিজেইকাজবাদক্ষতাশিখে=4

Don’t know / not sureজানিনা =99

**Other**

**8.** Children seem to demand attention when their parents are busy, doing housework, for example. How often do you talk to your child while you are working?

যখনবাবা-মাবিভিন্নকাজে বাস্ত  থাকেতখন শিশুরাতাদেরমনোযোগআকর্ষনেরচেষ্টাকরে,আপনিযখন ঘরেরকাজবা  অন্নান্য  কাজকরেন তখনআপনিকতটাসময়আপনারশিশুরসাথেকথাবলেনবাসাড়াদেন ?

Always talking সবসময়ই তারকথারউত্তরদেন=1

Often talking প্রায়ই তারকথারউত্তরদেন=2

Sometimes মাঝেমাঝেকথারউত্তরদেন=3

Rarely talk খুবকমকথা  বলেন=4

Never talkকখনইকথা বলেননা=5

Don’t know / not sure জানিনা=99

**9.** Does your child have a regular feeding schedule? 

আপনারশিশুরকিপ্রতিদিনখাবারএরনির্দিষ্টসময়সূচীআছে?

n¨uv=1,bv=0

**10.**Does your child see his/her father or father figure on a daily basis?  

আপনারশিশুকিপ্রতিদিনতারবাবাঅথবা বাবারমতকাউকেদেখে?

n¨uv=1,bv=0

**MacArthur Adapted Communicative Development Inventory**

**Words and Gestures (MWG)**

**Score : YES=1, NO=0**

|  |  |  |
| --- | --- | --- |
| **Very easy** | **Un**  **(Yes=1, no=0)** | **Say**  **(Yes=1, no=0)** |
| 1.Gw`‡K Avm/Come here |  |  |
| 2.Gw`‡K ZvKvI/ Look at me |  |  |
| 3.**DV /** Wake up |  |  |
| 4. Av¤§y AveŸy hv‡e /Go to mom or dad |  |  |
| 5. SzbSzwb /Rattle |  |  |
| 6. cvwb / gvg Water |  |  |
| 7. `ya, /Milk |  |  |
| 8. M­vm/Glass |  |  |
| 9. evwjk/Pillow |  |  |
| 10. Pvu` /Moon |  |  |
| 11. gv/Mommy |  |  |
| 12. evev /Daddy |  |  |
| 13.**`v`v/`v`x**Grand father or mother |  |  |
| 14. evey, Baby |  |  |
| 15. DwKUz°v /Peack-a-boo |  |  |
| 16. nvZZvwj /Clap hand |  |  |
| 17. LvIqv/To eat |  |  |
| 18. Kvgo †`Iqv/ To bite |  |  |
| 19. emv/ To sit |  |  |
| 20. Uv-Uv/ Bye bye |  |  |
| Total very easy |  |  |
|  | | |
|  | |

|  |  |  |
| --- | --- | --- |
| **Easy** | **Un**  **(Yes=1, no=0)** | **Say**  **(Yes=1, no=0)** |
| 21. e¨v\_v †c‡qQ /Are you hurt |  |  |
| 22. GUv gv‡K `vI/ Give it to mom |  |  |
| 23. Av`i Ki Rwo‡q ai /Love/hug me |  |  |
| 24. evey wnmy Ki‡e /Want to pass urine |  |  |
| 25.a‡ivbv/Don’t touch |  |  |
| 26.wgqvI/ Meow |  |  |
| 27. gyiMx/Chicken |  |  |
| 28. Mvwo/Car |  |  |
| 29. ej/ Ball |  |  |
| 30. fvZ/ Rice |  |  |
| 31. we¯‹zU/ Biscuit |  |  |
| 32. gywo/ Puff.rice |  |  |
| 33.c¨v›YU/ Pant |  |  |
| 34. Avqbv/ Mirror |  |  |
| 35. gqjv/ Its dirty |  |  |
| 36. `vuZgvRv/Brush teeth |  |  |
| 37. evwogviv /To bang |  |  |
| 38. ‡Ljv Kiv/To play |  |  |
| 39. nvUv/To walk |  |  |
| 40. bvPv/To dance |  |  |
| Total Easy |  |  |
|  | | |
| **Moderate** | **Un**  **(Yes=1, no=0)** | **Say**  **(Yes=1, no=0)** |
| 41. mvc /Snake | |  |  |
| 42. wLPzwo /Khichuri | |  |  |
| 43. gvsk/ Meat | |  |  |
| 44. KvuVvj/Jackfruit | |  |  |
| 45. byWyjm /Noodles | |  |  |
| 46. ‡PvL/ Eye | |  |  |
| 47. bvK /Nose | |  |  |
| 48. `vwo/ Beard | |  |  |
| 49.ivbœvNi /Kitchen | |  |  |
| 50. ‡Uwej /Table | |  |  |
| 51. ‡Mvqvj Ni/Cowshed | |  |  |
| 52. RM/Jug | |  |  |
| 53. Kjwm /Pitcher | |  |  |
| 54. ‡KwP/ Scissor | |  |  |
| 55. ev·/Box | |  |  |
| 56. ‡`vKvb/ Shop | |  |  |
| 57. MvQ/Tree | |  |  |
| 58. ¯‹zjNi/ School room | |  |  |
| 59.‡Lvjv/To open | |  |  |
| 60. ‡jLv /To write | |  |  |
| Total Moderate | |  |  |

|  |  |  |
| --- | --- | --- |
| Difficult words | **Un**  **(Yes=1, no=0)** | **Say**  **(Yes=1, no=0)** |
|  |
|  |  |  |
|  |  |
|  |  |
| 61. mveavb/ Be careful |  |  |
| 62. cyZzj †Ljv/ Play doll |  |  |
| 63. me¸‡jv, All |  |  |
| 64. Qov-KweZv ejv/ Tell ryhmes |  |  |
| 65. cvIqv/ To get |  |  |
| 66. wPov/ Dreid rice |  |  |
| 67. wkqv‡ji WvK/ Hua hu |  |  |
| 68. evN/ Tiger |  |  |
| 69. Kva/ Nvo, Shoulder |  |  |
| 70. GKUz c‡i/ Little bit later |  |  |
| 71. jy‡KvPzwi/Hide & seek |  |  |
| 72. jvwUg/Top (Toy) |  |  |
| 73. e„wó/ Rain |  |  |
| 74. Avjgvwi/ †mv‡Km, Almira/ showcase |  |  |
| 75. f¨vb Mvwo/ Van |  |  |
| 76. Lywš/ Khunti |  |  |
| 77. JU/ That |  |  |
| 78. AvuKv/ To draw |  |  |
| 79. †iwWI/Radio |  |  |
| 80. cv‡k/ Beside |  |  |
| Total score |  |  |
|  | | |
| **Very difficult words** | **Un**  **(Yes=1, no=0)** | **Say**  **(Yes=1, no=0)** |
| 81. **R¨v‡KU**/Jacket |  |  |
| 82. **†Kb**/Why |  |  |
| 83. **gwnjv/** Women |  |  |
| 84. **gvV/** Field |  |  |
| 85. **wfZ‡**i**/**Inside |  |  |
| 86. **gvbyl/**Person |  |  |
| 87. **å“/** Brow |  |  |
| 88. **evMvb/** Garden |  |  |
| 89. **¸wU**/ Block |  |  |
| 90. **‡Kgb/** How |  |  |
| 91. **wdZv/** Lace |  |  |
| 92. cwi®‹vi/ Clean |  |  |
| 93. **wP wP/** Chi chi |  |  |
| 94. `ycyi/Noon |  |  |
| 95. Zvi / Her, His |  |  |
| 96. **gwnl/** Buffelo |  |  |
| 97. NwU-e`wb/Small pitcer |  |  |
| 98. †ijMvwo/Train |  |  |
| 99. **MvRi/** Carrot |  |  |
| 100. **GKB/** Same |  |  |
| Total very difficult |  |  |
|  |  |  |
| **100.1. Total Scores** |  |  |

**Motor milestone survey form**

**Lvbv bs (**Household ID)

Will be filled according to ChildID 6-24 months

Note-1: FRO-i mnvqZvq FRA GB cwigvc wb‡e| FRAs will take this measurement with the help of FRO.

Note 2:GKB Lvbv‡Z 6-24 gvm eqmx GKvwaK wkï \_vK‡j cÖ‡Z¨‡Ki Rb¨ Avjv`v cÖkcÎ c~iY Ki“b| Please fill up as many separate questionnaires as many <36 months children are in a household.

**Section 1: Motor milestone development**

The data collector will observe some of the activities of the child listed here and may need to ask the mother/caregiver for assistance. Answer any questions the mother/caregiver has. Observe each item and note in the column next. Clarify items as follows **[**Z\_¨ msMÖKvix wj‡÷ D‡jøwLZ wkïi wKQz AvPib ch©‡eÿY Ki‡eb Ges G‡ÿ‡Î gv/cwiPh©vKvixi mn‡hvwMZvi cÖ‡qvRb n‡Z cv‡i| gv/cwiPh©vKvixi †Kvb cÖkœ \_vK‡j DËi w`b| cÖ‡Z¨KwU AvPib ch©‡eÿY Kiæb Ges cieZ©x Kjv‡g D‡jøL Kiæb| AvPib¸‡jv‡K wbgœwjwLZfv‡e e¨vL¨v Kiæb]

**No (inability)**, the child tried but failed to perform the test item because it surpassed his or her developmental level**[bv (AÿgZv),**wkïwU †Póv K‡iwQj wKš‘ cixÿYxq AvB‡Ug K‡i †`Lv‡Z cv‡i bvB KviY Bnv Zvi µg-weKv‡ki †j‡f‡ji †P‡q †ekx]

**Yes**, the child performed the test item according to the specific criteria **[n¨uv,**wkïwU cixÿYxq AvB‡Ug mywbw`©ó µvB‡Uwiqv/wbY©vqK Abyhvqx K‡i †`Lv‡Z †c‡i‡Q]

**Refused**, the child was calm and alert but just refused to cooperate**[cÖZ¨vL¨vb,**wkïwU kvšÍ Ges mRvM \_vKv ¯^‡Ë¡I cixÿYxq AvB‡Ug K‡i †`Lv‡Z A¯^xKvi K‡i‡Q]

**Unable to test**, the child could not be tested on this milestone because his or her emotional state (drowsiness, fussiness or crying) was interfering with testing, the child was sick or child’s caregiver was distraught**[cixÿ‡Y Aÿg,**ev”Pvi gvBj†÷vb cixÿv Kiv m¤¢e nq bvB KviY Zvi Av‡eM (NygNyg fve, Awb”Qv A\_ev Kvbœv) cixÿ‡Y evuav cÖ`vb KiwQj, ev”Pv Amy¯’ wQj A\_ev ev”Pvi cwiPh©vKvix Zvovûov KiwQj]

**Date of achievement**, the date that CHP entered in her record form. CHP records the date as caregiver reported and cross checked during her visit to the household. AR©‡bi ZvwiL, *wm.GBP.wc-i †iKW© dig †\_‡K cÖvß ZvwiL| cwiPh©vKvix †h Zvwi‡Li K\_v D‡jøL Ki‡e wm.GBP.wc Zv †iKW© Ki‡e Ges Lvbv‡Z cwi`k©‡bi mgq µm‡PK Ki‡e|*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **cixÿYxq AvB‡Ug Test item** | 1. **cixÿ‡Ki wi‡cvU©**   **Examiner Report** | 1. AR©‡bi ZvwiL   **Date of Achievement** | | |
|  | 0= No (inability)[bv (AÿgZv )]  1= Yes [n¨uv]  222= Unable to test[cixÿ‡Y  Aÿg]  666= Refused [cÖZ¨vL¨vb] | *Only enter dates for milestones achieved for the first time from the CHP’s record form. wm.GBP.wc-i †iKW© dig †\_‡K gvBj‡÷vb AR©‡bi cÖ\_g ZvwiLwU wjwce× Kiæb* | | |
|  | Skip column B in baseline and go to next question. | D | M | Y |
| M 101. Sitting without support-10 secs[Kv‡iv/†Kvb wKQzi mnvqZv Qvov em‡Z cv‡i (10 †m‡KÛ)] | 0 1 222 666 | \_\_ \_\_ | \_\_ \_\_ | \_\_ \_\_ |
| M 102. Hands-and-knees crawling -3 steps [nvZ I nvUzi mvnv‡h¨ nvgv¸wo w`‡Z cv‡i (Av‡M/c‡i 3 avc)] | 0 1 222 666 | \_\_ \_\_ | \_\_ \_\_ | \_\_ \_\_ |
| M 103. Standing with assistance-10 secs[Kv‡iv/†Kvb wKQzi mnvqZvq `vuwo‡q \_vK‡Z cv‡i (10 †m‡KÛ)] | 0 1 222 666 | \_\_ \_\_ | \_\_ \_\_ | \_\_ \_\_ |
| M 104. Walking with assistance-5 steps [Kv‡iv/†Kvb wKQzi mnvqZvq nvUu‡Z cv‡i (5 cv/ avc)] | 0 1 222 666 | \_\_ \_\_ | \_\_ \_\_ | \_\_ \_\_ |
| M 105. Standing aloneassistance[Kv‡iv/†Kvb wKQzi mnvqZv QvovGKv GKv `vouv‡Z cv‡i] | 0 1 222 666 | \_\_ \_\_ | \_\_ \_\_ | \_\_ \_\_ |
| M 106. Walking alone crawling- 5 steps[Kv‡iv/†Kvb wKQzi mnvqZvq QvovGKv GKv nuvU‡Z cv‡i (5 cv/ avc)] | 0 1 222 666 | \_\_ \_\_ | \_\_ \_\_ | \_\_ \_\_ |
| M 107. Squats without support[Kv‡iv/†Kvb wKQzi mnvqZv Qvov nuvUy fvR K‡i `vuov‡bv Ae¯’v †\_‡K †Muvovjxi Dci em‡Z cv‡i] | 0 1 222 666 | \_\_ \_\_ | \_\_ \_\_ | \_\_ \_\_ |
| M 108. Balances on right foot with support- 2 secs[Kv‡iv/†Kvb wKQzi mnvqZvq ïay Wvb cv‡qi cvZvi Dc†i `vuwo‡q \_vK‡Z cv‡i (2 †m‡KÛ)] | 0 1 222 666 | \_\_ \_\_ | \_\_ \_\_ | \_\_ \_\_ |
| M 109. Balances on left foot with support- 2 secs[Kv‡iv/†Kvb wKQzi mnvqZvq ïay evg cv‡qi cvZvi Dc†i `vuwo‡q \_vK‡Z cv‡i (2 †m‡KÛ)] | 0 1 222 666 | \_\_ \_\_ | \_\_ \_\_ | \_\_ \_\_ |
| M 110. Jumps forward - 4 inches[jvwd‡q Pvi BwÂ mvg‡b ‡h‡Z cv‡i] | 0 1 222 666 | \_\_ \_\_ | \_\_ \_\_ | \_\_ \_\_ |
| M 111. Balances on right foot for 2 seconds alone[Wvb cv‡qi cvZvi Dc†i GKv GKv `yB †m‡KÛ `vuwo‡q \_vK‡Z cv‡i] | 0 1 222 666 | \_\_ \_\_ | \_\_ \_\_ | \_\_ \_\_ |
| M 112. Balances on left foot for 2 seconds alone[evg cv‡qi cvZvi Dc†i GKv GKv `yB †m‡KÛ `vuwo‡q \_vK‡Z cv‡i] | 0 1 222 666 | \_\_ \_\_ | \_\_ \_\_ | \_\_ \_\_ |

Tower Test

* The child is invited to help the tester build a tower with wooden blocks.
* The child is scored in her/his ability to take turns with the tester.

[For this one we need to set a constant number of blocks and trials (make sure to record it, for example 8-10 blocks and two trials). Record the number of times the child respect turns with the tester].

প্রথমেপরীক্ষক শিশুকেকিছুকাঠের ব্লকদিয়ে বলবেন, “এসো, আমরাএখন একটাখেলাখেলবো|” তারপরবলুন, “এসো আমরাএকটাগাছবানাই| গাছটিবানানোরসময় একবারআমিব্লকদেবতারউপর তুমিব্লকদেবেএভাবে আমরাপালাকরেএকটিগাছতৈরীকরব।” এখানে দেখতেহবেশিশুটিআপনারনির্দেশ মতকথাশুনছে কিনা?আমরাআরো দেখবশিশুটিসাক্ষাতগ্রহণকারীরনির্দেশনাশুনছেকিনাএবংনিজেরআচরণএরউপর কন্ট্রোলকরতেপারেকিনা।এবারশিশুকেবলবেন “ তুমিমনেরাখবেআমিআগেব্লকদেয়ারপরই  তুমিআমারব্লকএরউপরআরেকটিব্লকবসাবে ”, যদিশিশুটিনির্দেশনামানেবাআগেআগেইব্লকদিতেচায়তবেসেকোনোস্কোরপাবেনা| এবার ৮টিব্লকদিয়েটাওয়ারতৈরীকরতেপারলেশিশুটিমোট৪বারব্লকদেয়ারটার্নবাসুযোগপাবে ,এখনশিশুটিকয়বারটার্নসঠিকভাবে দিতেপারলবাভুলকরলোতারেকর্ডকরতেহবে।

At the beginning, the tester will offer some wooden blocks to the child and will ask “Let‘s play a game now”, then she will say “let’s make a tree with these blocks. First I will place a block, then you have to put one the next on the top of it”. The tester needs to ensure whether the child understood the instruction clearly and following the rules accordingly during play. Remind the child “Remember you can place the block only when your turn comes after my turn”. If the child does not follow the instruction or becomes eager to place all the blocks by him, he will not get any score. If the child can make a tower with eight blocks, s/he will get 4 turns. Tester will record the number of correct turns, where the child followed instructions.

* সঠিকটার্ন (সঠিকভাবে পালাকরেদেয়া) : যদিশিশু আপনারনির্দেশমতআপনিব্লকদেয়ারপরতারউপরব্লকরাখে /Correct turns: The child followed instruction and waited until the tester placed her block on the top.
* ভুলটার্ন (ভুলভাবে পালাকরেদেয়া) : যদিশিশুআপনিব্লকদেয়ারআগেব্লকদিতেচায়বাকোনোনিয়মনামানে /Wrong turn: If the child breaks the rule and wants to place block before his turn.

|  |  |
| --- | --- |
| সঠিকউত্তরেরসংখ্যা এবংভুলউত্তরেরসংখ্যাদিতেহবে | |
| সঠিকউত্তরেরসংখ্যা (No of correct turns) | |\_\_|\_\_| |
| ভুলউত্তরেরসংখ্যা  (No of correct turns) | |\_\_|\_\_| |

**A not B test**

The tester presents the child with a board with two shallow wells, one on the right and one on the left. Then s/he hides a treat in one of the wells and covers both wells with opaque cups so that the child cannot see the treat. After distracting the child with a song for 5 seconds, the tester prompts the child to find the treat. The treat is hidden in the same place until the child searches in the correct place on two consecutive trials, after which the treat is hidden in the opposite well. Ten trials are given.The total score represents the number of trials (out of 10) in which the child searched in the correct place for the snack.

সাক্ষাত্কারী  প্রথমে  একটিবোর্ডএরউপর২টিছোট্  বাটিনিয়েনিবেন।এইবাটিগুলো, ১টাহাতেরবামদিকেএবংআরেকটি  বাটিহাতেরডানদিকে রাখতেহবে।এরপর  শিশুরপছন্দের যেকোনোএকটি জিনিস  ওই২টিবাটিরযেকোনো১টিরমধ্যে  লুকাতেহবেএবংএকটিঘোলাবাটিদিয়েএমনভাবে Xvকতে nবেযেনশিশুটিওইউপহারটি bv দেখতেপারে।এরপরশিশুটিকে৫সে. যেকোনোগানবাগল্পবলেতারমনোযোগকেঅন্যদিকে  সরিয়েফেলতেহবে। ৫সে. পর সাক্ষাত্কারীশিশুটিকেতার  উপহারটি  বেরকরতেবলবেন।উপহারটি একইদিকেলুকাতেহবে hZক্ষন্ bv শিশুটিপরপরদুইবারসঠিকভাবেবলতেপারে, এরপরঅন্যদিকেউপহারটিলুকাতেহবে।এভাবে১০বারট্রায়ালদেয়ারপরপ্রাপ্তনম্বর, ১০এরমধ্যে স্কোরকরতেহবে।

কোডক্যাটাগরি /Score Codes : সঠিকপ্রচেষ্টা Correct Trial-  **n¨vu (Yes)=**1, **bv (No)=0**

1. প্রচেষ্টা 1 (Trial 1)……………………………………………………………………. |\_\_|
2. প্রচেষ্টা২(Trial 1) …………………………………………………………………….|\_\_|
3. প্রচেষ্টা৩ (Trial 1) …………………………………………………………………….|\_\_|
4. প্রচেষ্টা  ৪(Trial 1) …………………………………………………………………….|\_\_|
5. প্রচেষ্টা৫(Trial 1) …………………………………………………………………….|\_\_|
6. প্রচেষ্টা৬(Trial 1) …………………………………………………………………….|\_\_|
7. প্রচেষ্টা৭(Trial 1) …………………………………………………………………….|\_\_|
8. প্রচেষ্টা৮(Trial 1) …………………………………………………………………….|\_\_|
9. প্রচেষ্টা৯(Trial 1) …………………………………………………………………….|\_\_|
10. প্রচেষ্টা১০(Trial 1) …………………………………………………………………….|\_\_|
11. **Total Score …….…………………………………………………………………….|\_\_|\_\_|**

**Ages and Stages Qquestionnaire-3**

***18-19 Months (17 months 16 days through 19 months 15 days)***

***25.7 Communication:***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SI** | **18-19 Months 25.7.23-25.7.29** | **Yes=2** | **Sometimes=1** | **Not yet=0** | **Not applicable= -97** | **Score** |
| **25.7.1** | Does your child imitate a two-word sentence? For example, when you say a two-word phrase, such as “Mama eat,” “Daddy play,” “Go home,” or “What’s this?” does your child say both words back to you? (MARK “YES” EVEN IF THE CAREGIVER RESPONDS THAT THE WORDS ARE DIFFICULT TO UNDERSTAND.)Avcwb 2wU kã w`‡q কথা ej‡j IwK ï‡b ï‡b †mB K\_vwU e†j? (†hgb gv hvq,evev †L‡j, evox hvI,) (Ii K\_v eyS‡Z wKQyUv Amyweav n‡jI n‡e|) (Probe- Avcwb Ii mvg‡b †Kvb K\_v ej‡j I wK Zv AbyKiY K‡i?)ev”Pvi ejv ev‡K¨i GKwU D`vniY ...25.7.23 |  |  |  |  |  |
| **25.7.2** | Does your child say eight or more words in addition to “Mama” or “Dada”? (IF “YES,” ASK THE CAREGIVER TO NAME THE WORDS THE CHILD CAN SAY AND KEEP COUNT TO BE SURE THERE ARE AT LEAST EIGHT. DO NOT SUGGEST OR OFFER WORDS)IwK Ógv, evevÓ Qvov Av‡iv 8wU ev Zvi †ekx kã ej‡Z cv‡i? (hw` nu¨v nq Zvn‡j bvg¸‡jv wR‡Ám Ki‡Z n‡e Ges ¸b‡Z n‡e †hb 8wU nq| gv‡K D`vnib †`qv hv‡e bv|) (Probe- Avcbvi ev”Pv wK wK kã ej‡Z cv‡i?) 25.7.24 |  |  |  |  |  |
| **25.7.3** | Does he point towards a picture in the book, scratch or try to take the picture?**IwK eB‡qi Qwe‡Z nvZ w`‡q †`Lvq, Qwe‡Z Pvco †`q A\_ev QwewU wb‡Z †Póv K‡i?** |  |  |  |  |  |
| **25.7.4** | Does he point towards things he want?**I wKQy PvB‡j wK †mUv AvOyj w`‡q †`Lvq?** |  |  |  |  |  |
| **25.7.5** | If you point to a picture of a ball (kitty, cup, hat, etc.) and ask your child, “What is this?” does your child correctly name at least one picture? (HE NEEDS TO NAME ONLY ONE PICTURE CORRECTLY.)†Kvb বলের Qwe †`wL‡q hw` wR‡Ám K‡ib Ó GwU wKÓ Zvn‡j wK †m mwVKfv‡e ej‡Z cv‡i? (Probe- বিড়াল, কাপ, টুপি  BZ¨vw`Aš—Z GKwU Qwe †`Lv‡Z cvi‡jI n‡e|) (Test) **25.7.27** |  |  |  |  |  |
| **25.7.6** | Without giving him clues by pointing or using gestures, can your child carry out at least three of these kinds of directions? (PLEASE ASK ABOUT THESE DIRECTIONS ONLY. OBJECTS IN BRACKETS CAN BE SUBSTITUTED WITH THOSE MORE FAMILIAR TO THE CHILD.)  a. “Put the [TOY] on the table.” b. “Close the door.” c. “Bring me a [TOWEL].”  d. “Find your [COAT].” e. “Take my hand.” f. “Get your [BOOK].”IwK bx‡Pi KvR¸‡jvi g‡a¨ Kgc‡¶ wZbwU KvR Bkviv Qvov ïay gy‡L ej‡jB Ki‡Z cv‡i?(Probe- bv †`wL‡q w`‡q ïay gy‡L ej‡j I †QvULvU wK wK KvR Ki‡Z cv‡i?) (Test)  K. †LjbvwU †Uwe‡ji Dci ivL N. †Zvgvi Rvgv Ly‡R Avb  L. `iRvUv eÜ Ki O. Avgvi nvZUv ai  M. MvgQv Uv Avgv‡K `vI P. †Zvgvi eBUv Avb25.7.28 |  |  |  |  |  |
| **25.7.7** | When you ask her to point to her nose, eyes, hair, feet, ears, and so forth, does your child correctly point to at least seven body parts? She can point to part of herself, you, or a doll.Ii †PvL, Kvb, bvK, Pzj, cv BZ¨vw` †`Lv‡Z ej‡j IwK Kgc‡¶ 7wU A½ †`Lv‡Z cv‡i? (Zvi wb‡Ri, Avcbvi A\_ev cyZz‡ji A½ †`Lv‡jI n‡e) (Probe- I wK wK A½ †`Lv‡Z cv‡i? ) (Test)25.7.29 |  |  |  |  |  |
| **25.7.8** | Does your child say two or three words that represent different ideas together, such as “See dog,” “Mommy come home,” or “Kitty gone”? (DO NOT COUNT WORD COMBINATIONS THAT EXPRESS ONE IDEA, SUCH AS “BYE-BYE,” “ALL GONE,” “ALL RIGHT,” AND “WHAT’S THAT?”) **Please give an example of your child’s word combinations:IwK wb‡R wb‡RB 2 ev 3 kã w`‡q ‡Kvb K\_v e‡j? wK wK e‡j? (kã¸‡jv†Z wfbœ wfbœ avibv \_vK‡Z n‡e, †hgb- KzKziUv †`L, gv GLv‡b Avm| GK RvZxq kã n‡j n‡e bv †hgb- Uv Uv)**  **ev”Pvi ejv ev‡K¨i GKwU D`vniY ...25.7.25** |  |  |  |  |  |
| **25.7.9** | Without showing him first, does your child point to the correct picture when you say, “Show me the kitty” or ask, “Where is the dog?” (HE NEEDS TO IDENTIFY ONLY ONE PICTURE CORRECTLY.)ev”Pv‡K e‡j bv w`‡q eB‡qi †Kvb Qwei bvg gy‡L ej‡j †mwK wVKgZ †`Lv‡Z cv‡i? (†hgb-weovjwU †`LvI , KzKziwU†Kv\_vq -Aš—Z GKwU Qwe †`Lv‡Z cvi‡jI n‡e|) (Test) 25.7.26 |  |  |  |  |  |
| 25.7.10 | Can he say words like “Me”, “My”, “Mine” and “You” correctly? (At least 2 should be correct)IwK ÓAvwgÓ, ÓAvgv‡KÓ, ÓAvgviÓ Ges ÓZzwgÓ ev GB ai‡bi kã ej‡Z cv‡i? (Kgc‡¶ 2wU mwVKfv‡e ej‡Z n‡e) |  |  |  |  |  |
| 25.7.11 | If asked to bring things he knows/uses from inside/outside the house, can he bring that? (Clothing, Ball, Glass etc that are not present at that room)I‡K Ii †Pbv/ e¨env‡ii †Kvb wRwbm Ab¨ Ni/evB‡i †\_‡K wb‡q Avm‡Z ej‡j IwK Zv wb‡q Avm‡Z cv‡i? (Rvgv, ej, M­vm BZ¨vw` hv GB N‡i †bB|) |  |  |  |  |  |
| 25.7.12 | Can he speak 15 or more words other then “Ma-Baba”? (If yes, then ask those words and count for at least 15. No example should be given to the mother) (Probe- What are the words your child can say?)IwK Ógv, evevÓ Qvov Av‡iv 15wU ev Zvi †ekx kã ej‡Z cv‡i? (hw` nu¨v nq Zvn‡j bvg¸‡jv wR‡Ám Ki‡Z n‡e Ges ¸b‡Z n‡e †hb 15wU nq| gv‡K D`vnib †`qv hv‡e bv|) (Probe- Avcbvi ev”Pv wK wK kã ej‡Z cv‡i?) |  |  |  |  |  |

*25.8 Gross Motor Skills*

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| --- | --- | --- | --- | --- | --- | --- |
| *SI* | 18-19 Months 25.8.24-25.8.31 | Yes=2 | Sometimes=1 | Not yet=0 | Not applicable= -97 | Score |
| 25.8.1 | Does your child walk well and seldom fall? GKUz AvaUz c‡o †M‡jI IwK fv‡jvfv‡e nvuU‡Z cv‡i? 25.8.24 |  |  |  |  |  |
| 25.8.2 | Does your child climb on an object such as a chair (OR ROCK, ETC.) to reach something she wants?  †Kvb wKQy Ki‡Z ev ai†Z PvB‡j IwK GKv GKv †Pqv‡ii Dci DV‡Z cv‡i? (†hgb- †Kvb †Ljbv Zv‡Ki Dci †\_‡K †bqvi Rb¨|) 25.8.25 |  |  |  |  |  |
| 25.8.3 | When you show him how to kick a large ball [OR OTHER OBJECT], does your child try to kick the ball by moving his leg forward or by walking into it? (IF CHILD ALREADY KICKS A BALL OR OTHER OBJECT, CHECK “YES” FOR THIS ITEM.)  GKwU eo ej‡K wKfv‡e jvw\_ w`‡Z nq hLb I‡K †`Lvb ZLb wK I GwM‡qwM‡q/cv mvg‡b evwo‡q ejwU jvw\_gv‡i/gvivi †Póv K‡i?(hw` ev”Pv Av‡M †\_‡K †Kvb wRwbm ev ej‡K jvw\_ gv‡i Zvn‡j DËi Õn¨vuÕ n‡e|) 25.8.26 |  |  |  |  |  |
| 25.8.4 | Does your child walk down stairs (AT LEAST ONE STEP) if you hold onto one of her hands?  IwK Ii GK nvZ w`‡q Avcbvi nvZ a‡i wmuwo (Kgc‡¶ wmuwoi 1 avc) w`‡q bvg‡Z cv‡i? 25.8.27 |  |  |  |  |  |
| 25.8.5 | Does your child run fairly well, stopping herself without bumping into things or falling †Kvb wKQyi mv‡\_ av°v bv †L‡q ev c‡o bv wM‡q IwK fvjfv‡e†`uŠo w`‡q wb‡R wb‡RB \_vg‡Z cv‡i? 25.8.28 |  |  |  |  |  |
| 25.8.6 | Does your child walk either up or down at least two steps by himself? (CHECK “YES” EVEN IF HE HOLDS ONTO THE WALL OR RAILING.  IwK wb‡R wb‡R Kgc‡¶ wmuwoi `yB avc DV‡Z A\_ev bvg‡Z cv‡i? ( †`qvj ev †iwjs a‡i ivL‡jI nu¨v †¯‹vi cv‡e|) 25.8.29 |  |  |  |  |  |
| 25.8.7 | Does your child jump with both feet leaving the floor at the same time? ওকিদুইপাদিয়েএকইসময়এফ্লোরথেকেলাফদিতেপারে ?  25.8.30 |  |  |  |  |  |
| 25.8.8 | Without holding onto anything for support, does your child kick a ball [OR SOME OTHER OBJECT] by swinging his leg forward? ওকিকোনোকিছুনাধরেসামনেথেকেবলবাঅন্যকিছু লাথি  দিতেপারে ? (Test)25.8.31 |  |  |  |  |  |
| 25.8.9 | Can he, with both feet, jump forward at least 3 inches (Show the measurement with hand)? (Probe- Can the child jump forward?)ওকি জোড়াপায়ে /দুই পা দিয়ে একই সময় সামনে৩ইঞ্চি মেজ্হে  থেকে লাফ দিতে পারে ? |  |  |  |  |  |
| 25.8.10 | Can he, without holding anything, fold his knees, pick up anything from the floor and stand up again (By himself)? IwK †Kvb wKQy bv a‡i nuvUz fvR K‡i e‡m ‡g‡S †\_‡K †Kvb †Ljbv Zy‡j Avevi (wb‡R wb‡R) `uvwo‡q hvq? |  |  |  |  |  |
| 25.8.11 | Can he climb up steps? (Taking support of wall or railing, right foot on one step, then left on the other-in this way) ওকিএকপাফেলেএকেকটিসিড়িউপরেউঠতেপারে? (†`qvj ev †iwjs a‡i ডান পাএকসিড়িতেবামপাএকসিড়িতেএভাবে ) |  |  |  |  |  |
| 25.8.12 | Without holding anything, can he swing his feet from back to front and kick the ball?IwK †Kvb wKQy bv a‡i ওকিপাপিছনথেকেসামনেএনে (swing) বলেলাথি  মারতেপারে? |  |  |  |  |  |

*25.9Personal- Social*

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| --- | --- | --- | --- | --- | --- | --- |
| *SI* | 18-19 Months 25.9.23-25.9.30 | Yes=2 | Sometimes=1 | Not yet=0 | Not applicable= -97 | Score |
| 25.9.1 | While looking at himself in the mirror, does your child offer a toy to his own image?  আয়নায়নিজেকেদেখলেওকিতারখেলনাটিআয়নায়দেখানিজেরছবিটাকে দিতেচায়? (খেলনাদিয়েআয়নায়বাড়িমারলেওÕn¨uvÕস্কোর পাবে ) (Test) 25.9.23 |  |  |  |  |  |
| 25.9.2 | Does your child come to you when he needs your help with something, such as [WINDING UP A TOY] or opening something [A BOTTLE, BANANA, ORANGE, SOME OTHER KIND OF FOOD]? ওকিতারকোনোপ্রয়োজনএবাকিছুখোলারজন্য  আপনারকাছেসাহায্যেরজন্যআসে? যেমন: বোতল, কলা, কমলা, বাঅন্যকোনোখাবার? 25.9.24 |  |  |  |  |  |
| 25.9.3 | Does your child copy the activities you do, such as [WASH DISHES, COOK, PREPARE FOOD, CARE FOR ANIMALS, ETC. OR…] wipe up a spill, sweep, shave, or comb hair? [NOTE: CHILDREN DO NOT HAVE TO DO THE ACTIVITIES PERFECTLY. THE POINT IS THEY TRY TO COPY THEM.]Avcwb hv K‡ib IwK Zv AbyKib/bKj K‡i? †hgb- Qj‡K c‡o hvIqv cvwb †gvQv, Svo– †`qv, ‡mf Kiv A\_ev Pzj AuvPov‡bv| 25.9.25 |  |  |  |  |  |
| 25.9.4 | Does your child drink without help from a cup or glass, putting it down again with little spilling? [CHILD CAN DRINK FROM A CUP WITHOUT SPILLING TOO MUCH]  IwK wb‡RB M­vm ev Kvc †\_‡K `ya †L‡q Zv wb‡P ivL‡Z cv‡i? (mvgvb¨ GKUz c‡o †M‡jI n‡e) 25.9.26 |  |  |  |  |  |
| 25.9.5 | Is he able to feed himself with a spoon or by his hands (without spilling)? (If the answer is yes, ask what does he eat?)I wK wb‡Ri nv‡Z ev PvgP w`‡q Lvevi (bv †d‡j) †L‡Z cv‡i? (hw` n¨uv e‡j, Zvn‡j wR‡Ám Kiyb wK wK Lvq? ) |  |  |  |  |  |
| 25.9.6 | If you do any of the following gestures, does your child copy at least one of them? (GESTURES MUST BE THESE EXACTLY; DO NOT SUBSTITUTE OTHER GESTURES.)  a. Open and close your mouth.  b. Blink your eyes.  c. Pull on your earlobe.  d. Pat your cheek  GB KvR¸wj Avcwb K‡i †`Lv‡j IwK Ki‡Z cv‡i? (Kgc‡¶ 1wU cvi‡Z n‡e) (Test)  K. gyL nv Ges eÜ Kiv L. †PvL wcU wcU Kiv  M. Kv†bi jwZ Uvbv N. Mv†j Pvco †`Iqv 25.9.29 |  |  |  |  |  |
| 25.9.7 | Does your child push a little shopping cart, stroller, or wagon, [OR OTHER OBJECT WITH WHEELS] steering it around objects and backing out of corners if he cannot turn?  I wK ‡Kvb †QvU †Vjvi Mvwo wewfbœ wRwb‡mi Pviw`‡K Nywi‡q ‡Lj‡Z cv‡i Ges ‡Kvb †KvYv‡Z Nyiv‡Z bv cvi†j wK †m MvoxUv †cQ‡b †U‡b wb‡q Av‡m? (Test) 25.9.30 |  |  |  |  |  |
| 25.9.8 | Is he able to feed himself with a spoon (some spilling acceptable)?Lvevi c‡o †M‡jI (†d‡j †Q‡o) I wK PvgP w`‡q wb‡R wb‡R †L‡Z cv‡i? |  |  |  |  |  |
| 25.9.9 | Does he hug human or animal like stuff toys?I wK gvbyl/ cÖvbx RvZxq big cyZzj Rwo‡q a‡i †L‡j? |  |  |  |  |  |
| 25.9.10 | Does he try to do the same when you take off his shoes, socks, caps?RyZv, †gvRv, Uzwc †Lvjvi mgq IwK Avcbvi mv‡\_ mv‡\_ Lyj‡Z †Póv K‡i? |  |  |  |  |  |
| 25.9.11 | To grab your attention or to show you something, does he pull your hand or clothing?Avcwb hv‡Z Ii w`‡K ‡Lqvj K‡ib A\_ev hw` Avcbv‡K wKQy †`Lv†Z Pvq ZLb wK Avcbvi nvZ ev Rvgv a‡i Uv‡b? |  |  |  |  |  |
| 25.9.12 | When playing with either a stuffed animal or doll [OR ITEM REPRESENTING THIS], does your child pretend to rock it, feed it, change its diapers, put it to bed, and so forth? hLb I big cyZzj ev cÖvbx RvZxq †Ljbv wb‡q †L‡j ZLb wK †m cyZzj‡K †`vjv‡bvi, LvIqv‡bvi, Kvco e`jv‡bvi A\_ev Nyg cvov‡bv BZ¨vw`i Awfbq K‡i †L‡j? 25.9.27 |  |  |  |  |  |

**DIGITS BACKWARD**

READ EACH DIGIT SPAN ONLY ONCE AT AN EVEN RATE OF 1 DIGIT PER SECOND.

READ PART A OF QUESTION; PAUSE FOR RESPONSE, THEN SCORE.

READ PART B OF QUESTION; PAUSE FOR RESPONSE, THEN SCORE.

IF MOTHER DOES NOT RESPOND, DO NOT ENCOURAGE FURTHER.

STOP WHEN CHILD MISSES PART A AND PART B OF ANY ONE QUESTION.

1.একটি ডিজিটস্পেন  বলারসময়একবারইবলতেহবেএবংপ্রতিটিডিজিটবলারসময়একসেকেন্ডসময়নিতেহবে

2. পার্টAকরারসময়কিছুটাসময়নিয়েতারপরস্কোরকরতেহবে

3.পার্টBকরারসময়কিছুটাসময়নিয়েতারপরস্কোরকরতেহবে

4.মাযদিকোনোউত্তরদিতেনাচায়তবেতাকেজোরকরাযাবেনা

5.পার্টAএবংBএরউত্তরযদিভুলহয়েযায়  তবেটেস্টবন্ধকরতেহবে

Now I am going to say some numbers, but when I stop, I want you to say them backward.  For example, if I say 9‑2‑7, what would you say? I said 9‑2‑7, so to say it backward you would say 7‑2‑9.  Now try these numbers.  Remember, you are to say them backward:  3‑6‑5.

এখনআমিকিছুনম্বরবলব,কিন্তুআমিবলাশেষকরলেআপনিউল্টোদিকথেকেবলাশুরুকরবেন**|**যেমনআমিযদিবলি৯-২-৭, তাহলেএমনিকিবলবেন?  যদিমাসঠিকবলেতাহলেআমরাটেস্টএচলেযাব**|**যদিমাভুলবলেতবেআমরাসঠিকটাবলেদেব**|**যেমনআমরাবলব, ৯-২-৭এরউল্টোদিকথেকেবলাশুরুকরলে তাহবে,৭-২-৯**|**এখনআপনিএইনম্বরগুলোউল্টোভাবেবলেনতো, দেখিএবার আপনিসঠিকটাবলতে পারেনকিনা এখনআপনিবলুন, ৩-৬-৫এরউল্টোকরলেকিহবে?

|  |  |  |
| --- | --- | --- |
|  | **Correct**  **(সঠিক)=1** | **Wrong**  **(ভুল)=0** |
| **1A. 2-5**  **1A. 2 ‑ 5** |  |  |
| **1B. 6-3**  **1B. 6 ‑ 3** |  |  |
| **IF BOTH A & B ARE CODED WRONG, STOP TEST.**  **যদি 1A এবং 1B দুটিই ভুলহয়তবেটেস্টটিবন্ধকরতেহবে** | | |
| **2A. 5-7-4**  **2A. 5 - 7 - 4** |  |  |
| **2B. 2-5-9**  **2B. 2 - 5 – 9** |  |  |
| **IF BOTH A & B ARE CODED WRONG, STOP TEST.**  **যদি 2A এবং 2B দুটিই ভুলহয়তবেটেস্টটিবন্ধকরতেহবে** | | |
| **3A. 7-2-9-6**  **3A. 7 - 2 - 9 - 6** |  |  |
| **3B. 8-4-9-3**  **3B. 8 - 4 - 9 – 3** |  |  |
| **IF BOTH A & B ARE CODED WRONG, STOP TEST.**  **যদি 3A এবং 3B দুটিই ভুলহয়তবেটেস্টটিবন্ধকরতেহবে** | | |
| **4A. 4-1-3-5-7**  **4A. 4 - 1 - 3 - 5 – 7** |  |  |
| **4B. 9-7-8-5-2**  **4B. 9 - 7 - 8 - 5 – 2** |  |  |

|  |  |  |
| --- | --- | --- |
| **IF BOTH A & B ARE CODED WRONG, STOP TEST.**  **যদি 4A এবং 4B দুটিই ভুলহয়তবেটেস্টটিবন্ধকরতেহবে** | | |
| **5A. 1-6-5-2-9-8**  **5A. 1 - 6 - 5 - 2 - 9 – 8** |  |  |
| **5B. 3-6-7-1-9-4**  **5B. 3 - 6 - 7 - 1 - 9 – 4** |  |  |
| **IF BOTH A & B ARE CODED WRONG, STOP TEST.**  **যদি 5A এবং 5B দুটিই ভুলহয়তবেটেস্টটিবন্ধকরতেহবে** | | |
| **6A. 8-5-9-2-3-4-2**  **6A. 8 - 5 - 9 - 2 - 3 - 4 – 2** |  |  |
| **6B. 4-5-7-9-2-8-1**  **6B. 4 - 5 - 7 - 9 - 2 - 8 – 1** |  |  |
| **IF BOTH A & B ARE CODED WRONG, STOP TEST.**  **যদি 6A এবং 6B দুটিই ভুলহয়তবেটেস্টটিবন্ধকরতেহবে** | | |
| **7A. 6-9-1-6-3-2-5-8**  **7A. 6 - 9 - 1 - 6 - 3 - 2 - 5 – 8** |  |  |
| **7B. 3-1-7-9-5-4-8-2**  **7B. 3 - 1 - 7 - 9 - 5 - 4 - 8 – 2** |  |  |

WASH Benefits Module 22

5 HOURS STRUCTURED OBSERVATIONS

HHID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Before you begin the observation ask about the people that are currently present in the household. This is so you know how to code each person that is present during the observation. [PDA will save each entry as Mother, Father according to the codes in col 1.]

Target Household Person Index:

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Person | 1. Sex   1.M  0.F | 1. Enter the age (in years) | 4.Does the child:   1. Crawl 2. Walk 3. None of the above |
| 1. Pregnant woman/Mother/ primary care giver 2. Father/ male care giver 3. Other adult(If 1-3, Skip col. 3) 4. Index child 5. Other Child |  |  |  |

Next, before you begin the observation take a look around the compound and locate possible hand washing stations. [PDA will save each entry as HWS 1, HWS 2 etc.]

Hand washing station index:

|  |  |  |
| --- | --- | --- |
| Hand washing station  HWS1  HWS2  HWS3 | Location  1…In/near main house (≤6 ft to entrance)  2…In/near latrine (≤6 ft to entrance)  3…In/near cooking area (≤6 ft to entrance)  4… >6 ft away from main house, latrine and cooking area | Hand cleansing agents present (LOOK AT HW)  [allow multiple options]   1. WATER (present directly from pump/tubewell/water source) 2. WATER (present in a container for handwashing purpose) 3. BAR SOAP (Body/hand Bar) 4. BAR SOAP (other) 5. POWDERED SOAP 6. SOAPY WATER 7. LIQUID SOAP 8. Ash 9. Mud/Sand 10. ICDDR,B provided drum with tap 11. Soapy water bottle 12. (B) ICDDR,B provided smaller bucket 13. (B) Other bucket 14. (B) Basin 15. Jug 16. None of the above |

Determine an appropriate location so that child defecation, feeding events and hand washing event can be detected. You are allowed to move during this observation. Always keep the primary care giver in the line of vision. There might be more than one event going on at the same time. Focus on one event at a time. Record details about each observation according to the guide. We will focus on the target household for this observation. If you have notes or comments about related events please record them in paper with the HH ID, during these 5 hours.

Start time: --------/--------hh/mm (24 hour format)

End time: --------/---------hh/mm (24 hour format)

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Who are you observing? [PDA: open HH person list] | 1. Which event are you observing? | 2. PDA to auto-record time at each observation | 3. Open sections within each event |
| 1. Open target index list 2. Other household  * Adult, M * Adult, F * < 5 Child, M * < 5 Child, F | 1. Toilet use / defecation | --------/---------hh/mm | 1 Defecation/ Feces Handling/ Disposal  2 Hand washing |
|  | 1. Other contact with feces |  | 1 Defecation/ Feces Handling/ Disposal  3 Hand washing |
|  | 1. Food handling    * + 1. Mashing food (bhorta)        2. Handling raw meat/fish        3. Cutting fruits        4. Cutting vegetables to be cooked        5. Cutting VEGETABLE FOR salad |  | 1 Hand washing |
|  | 1. Eating |  | 1. Other LNS event  2 Hand washing |
|  | 1. Eating (Index child) |  | 1 Hand washing  2 Infant feeding |
|  | 1. Washing hands |  | 1 Hand washing |
|  | 1. Water event |  | 1 Water |

Defecation/ Feces Handling/ Disposal Record end time [allow option]

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1. Whose feces is it? 2. [From person list] 3. Cow dung 4. Goat feces 5. Chicken feces 6. Other animal feces (if not known) | 2. Location of fecal contact  1… Inside toilet (skip col. 7)  2… In the courtyard  3… Inside the household  4… Outside the household but not in the courtyard (beside/behind)  5… Potty  6… Bush/Jungle/field   1. Other | 3. Person handling feces:  Open list  99. No one (skip to end) | 4. Feces disposed using (allow multiple options):   1. Hands only 2. Cloth/paper/leaves 3. Scrap material to scoop feces 4. Potty [do col.6, or else skip] 5. Local agricultural hoe 6. Sani scoop [do col.6, or else skip] 7. Did nothing 8. Other 9. Could not observe | 5. Disposal site:   * 1. Improved Latrine   2. Unimproved latrine   3. Open Pit / separate pit for child or animal feces   4. Bury it / Covered Pit   5. Undefined open site near the compound   6. Garbage disposal sites / dumps)   7. Bush / forest / field   8. Nearby water (pond, canal, river)   99. Could not observe | 1. Hardware cleaning 2. Cleaned at tube well 3. Cleaned in the latrine 4. Cleaned at nearby water source (pond) 5. Cleaned in the courtyard using self poured water 6. Did not clean during this event observation |

Hand washing Record end time [allow option]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. Were both hands cleansed?   1. Yes 2. No [skip to end]   99.Could not observe [skip to end] | 2. When were the hands cleansed?  (mostly applicable for food preparation times)   1. Before 2. After | 2. Hand cleansing materials:   1. Water only 2. Bar soap 3. Powdered Soap and water 4. Soapy water and rinse water 5. Soapy water only 6. Sanitizer 7. Other, Specify 8. Could not observe | 3. How were the hands washed? [multiple options]  1 Y 0 N   1. palms 2. back of hands 3. between fingers of hands 4. under fingernails | 4. How were hands dried?   1. Not Dried 2. Air dried 3. Towel/Cloth 4. Clothing   99.Could not observe | 5. Hand washing station index number  [PDA open HW list to choose from] skip col 6  (put 99 if at a place not indexed) | 6.Location if not at indexed HWS  Record first option that fits  1…In/near main house (≤6 ft to entrance)  2…In/near latrine (≤6 ft to entrance)  3…In/near cooking area (≤6 ft to entrance)  4… >6 ft away from main house, latrine and cooking area |

Water Event

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. What are you observing? | Where did respondent take the water from? | What type of storage container is it?  [multiple options] | Treatment/treated | Handling  [multiple response] |
| 1. Water collection 2. Water treatment 3. Water handling 4. Water storage 5. Drinking event | 1. BROUGHT DIRECTLY FROM WATER SOURCE 2. BROUGHT DIRECTLY FROM STORAGE CONTAINER 3. BROUGHT DIRECTLY FROM WATER FILTER 4. STORED WATER WAS COVERED | 1. 5L icddrb Kolshi 2. <5l container 3. >5L container 4. Hari (wide container) 5. Jug 6. Glass | 1. Aquatabs 2. Boiling 3. Straining 4. Did not treat 5. Could not determine | * + - 1. rinsed glass/container with drinking water before filling       2. washed hands with water (no soap) before drinking water was obtained       3. washed hands with soap before drinking water obtained       4. hands touched / contacted the drinking water during retrieval       5. container/glass dipped into water container       6. ladle used to obtain water       7. water poured from container       8. water poured from tap |

Infant Feeding/Eating Record end time [allow option]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. Type of food (allow multiple options)   1. Breastfed 2. LNS (fill Col 3,4,5 else skip) 3. Water/sugar water/honey water 4. Milk 5. Formula 6. Boiled rice 7. Khichuri (rice, lentil, potato, tomato, brinjal, beans) 8. Semolina/Porridge /Grains 9. Lentil 10. Eggs 11. Juice 12. Other liquids (ex. soup) 13. leafy vegetable 14. orange or yellow fruits/vegetables 15. other fruits/veg 16. Cheese/yogurt 17. Meat/fish/eggs 18. Packaged food (biscuits, chips, candy)   99. Other foods/drinks not observed | 2. Person feeding (allow multiple options)   1. Child (self) 2. Primary Caregiver, F 3. Primary caregiver, M 4. Secondary Caregiver F 5. Secondary caregiver, M 6. <6 year Child, F 7. <6 year Child, M 8. ≥7-15 year Child, F 9. ≥7-15 year Child, M 10. Other Adult, F   16. Other Adult, M | 3. How was LNS served:  1. Mixed into food with a spoon  2. Mixed into food by hand.  3. Fed directly from the packet | 4. How was LNS fed to child:  1. By hand  2. By spoon  3. Direct from packet | 5. Consumption:  1. Consumed full packet  2. Partial and thrown away  3. Partial and eaten later |

Other LNS event

|  |  |  |
| --- | --- | --- |
| 1. Did they consume LNS?   1. Yes 2. No [skip to end]   99.Could not observe [skip to end] | 2. Who consumed or took the LNS? | 3.How much was consumed? |
|  | 1. [From person list] | 1. Just a taste 2. Partial packet consumed 3. Whole packet consumed 4. Whole packet taken, consumption not observed |

Additional questions at the end of observation time: 1 Y 0 N

1. Did you feed LNS to your child today before I arrived?
2. Are you planning to feed LNS to your child later this afternoon or this evening?

WASH Benefits Module 50

Lead exposure in-depth interview guide

Note: Ask questions to the mother and the person in the household with the most knowledge regarding the exposure

Questions for mother

1. How long have youlived in the current location?
2. How much of the rice that you eat comes from the fields that your household farm?
3. During which season do you purchase rice that is grown from somewhere else?
4. How much of the vegetables that you eat come from the fields your household farm?
5. Which vegetables do you purchase in the local market?
6. During which season do you purchase these vegetables?
7. How much of the fruits that you eat come from your household farm?
8. Which fruits do you purchase in the local market?
9. During which season do you purchase these fruits?
10. Do you or anyone in your household work with paint, solder, industrial waste or batteries?
    1. If yes, how often do you work with it?
    2. Are any of the batteries the type used in cars, trucks or motorcycle that contain acid?
    3. How are these batteries handled?
11. Do you or anyone in your household work inmanufacturing or recycling goods? If yes, explain. Detail any contact with metals, solvents, chemicals, exhaust.
12. How close is the nearest road that motor vehicles use regularly to your home?
13. What foods do your purchase that come in a metal can? How often do you consume each of these foods?
14. How often do you wear kohl (makeup)? From where do you obtain the makeup? Probe details on whether it is a manufactured product or made. If it is a manufactured product, record the brand name of the product.
15. Does your house have tin roofs or tin walls? How long have you had them?
16. What material is your cooking pot made from?
17. What materials are your dinner plates made from? Are they painted?
18. What material is your water pot made from?

Questions for person most knowledgeable regarding household farming

1. How many harvests of rice does your land produce each year?
2. What other crops do you grow on your land (including small gardens)?
3. How often did you apply fertilizer on your land in the last year?
4. How do you decide how much fertilizer to use?
5. Did you use the same type of fertilizer for each application? If there were different types, probe and explicate the differences, e.g. different types of fertilizers for different times of year or for different crop?
6. What are the names of the types of fertilizers that you used? If there is more than one name, describe the roles of the different types.
7. How do you decide which fertilizer to use?
8. How do you decide how much fertilizer to use?
9. What packaging does the fertilizer come in?
10. Do you have to mix or otherwise prepare the fertilizer? If yes,
    1. Who is involved? (e.g. other family members?)
    2. Where is it mixed?
    3. Please describe the process.
11. What do you do with the leftover fertilizer packaging? Probe: Any re-use the packaging/container?
12. Who applies the fertilizer?
13. Describe the process of applying the fertilizer.
14. What do you do with leftover fertilizer?
15. How often did you apply pesticide on your land in the last year?
16. Did you use the same type of pesticide for each application? If there were different types, probe and explicate the differences, e.g. different types of pesticides for different times of year? for different crops? for different pests?
17. What are the names of the types of pesticides that you used? If there is more than one name, describe the roles of the different types.
18. Did you use pesticides before you saw any pests or do you always wait until you see pests? Why do you follow this practice?
19. How do you decide which pesticide to use?
20. How do you decide how much pesticide to use?
21. What packaging does the pesticide come in?
22. Do you have to mix or otherwise prepare the pesticide? If yes,
    1. Who is involved? (e.g. other family members?)
    2. Where is it mixed?
    3. Please describe the process.
23. What do you do with the leftover pesticide packaging? Probe: Any re-use the packaging/container?
24. Who applies the pesticide?
25. Describe the process of applying the pesticide.
26. What do you do with leftover pesticide?
27. How often did you apply herbicide on your land in the last year?
28. If he/she applied herbicide, why did you apply it?
29. Did you use the same type of herbicide for each application? If there were different types, probe and explicate the differences, e.g. different types of herbicides for different times of year? for different crops? for different pests?
30. What are the names of the types of herbicides that you used? If there is more than one name, describe the roles of the different types.
31. Did you use herbicides before you saw any weeds or do you always wait until you see weeds? Why do you follow this practice?
32. How do you decide which herbicide to use?
33. How do you decide how much herbicide to use?
34. What packaging does the herbicide come in?
35. Do you have to mix or otherwise prepare the herbicide? If yes,
    1. Who is involved? (e.g. other family members?)
    2. Where is it mixed?
    3. Please describe the process.
36. What do you do with the leftover herbicide packaging? Probe: Any re-use the packaging/container?
37. Who applies the herbicide?
38. Describe the process of applying the herbicide?
39. What do you do with leftover herbicide?
40. How often did you apply fungicide on your crops in the last year?
41. If he/she applied fungicide, why did you apply it?
42. Did you use the same type of fungicide for each application? If there were different types, probe and explicate the differences, e.g. different types of fungicides for different times of year? for different crops? for different pests?
43. What are the names of the types of fungicides that you used? If there is more than one name, describe the roles of the different types.
44. Did you use fungicides before you saw any fungus or do you always wait until you see fungus? Why do you follow this practice?
45. How do you decide which fungicide to use?
46. How do you decide how much fungicide to use?
47. What packaging does the fungicide come in?
48. Do you have to mix or otherwise prepare the fungicide? If yes,
    1. Who is involved? (e.g. other family members?)
    2. Where is it mixed?
    3. Please describe the process.
49. What do you do with the leftover fungicide packaging? Probe: Any re-use the packaging/container?
50. Who applies the fungicide?
51. Describe the process of applying the fungicide?
52. What do you do with leftover fungicide?
53. Did you apply any other chemicals to crops/lands in the last year that we have not already discussed? If yes, explicate what else he/she used, how often, its name, and why it was used.

WASH Benefits Module 51

Agrochemical salesman in-depth interview guide

1. How long have you worked in the current location?
2. How many types of fertilizer do you sell?
3. What names do you and farmers use to refer to the different types of fertilizers?
4. Why do farmers purchase different types of fertilizers?
5. Where do you secure each type of these fertilizers?
6. Where are each type of these fertilizers manufactured?
7. Which fertilizer is your biggest seller? Why?
8. How many types of pesticide do you sell?
9. What names do you and farmers use to refer to the different types of pesticides?
10. Why do farmers purchase different types of pesticides?
11. Where do you secure each type of these pesticides?
12. Where are each type of these pesticides manufactured?
13. Which pesticide is your biggest seller? Why?
14. How many types of herbicide do you sell?
15. What names do you and farmers use to refer to the different types of herbicides?
16. Why do farmers purchase different types of herbicides?
17. Where do you secure each type of these herbicides?
18. Where are each type of these herbicides manufactured?
19. Which herbicide is your biggest seller? Why?
20. How many types of fungicide do you sell?
21. What names do you and farmers use to refer to the different types of fungicides?
22. Why do farmers purchase different types of fungicides?
23. Where do you secure each type of these fungicides?
24. Where are each type of these fungicides manufactured?
25. Which fungicide is your biggest seller? Why?

WASH Benefits Module 52

Lead exposure case-control questionnaire

Note: Ask questions to the mother and the person in the household with the most knowledge regarding the exposure

Questions for mother

1. How long have you lived in the current location? \_\_\_\_\_\_\_
2. How much of the rice that you eat comes from the fields that your household farm?
   1. None
   2. Some but less than half
   3. About half
   4. More than half, but not all
   5. All
3. How much of the vegetables that you eat come from the fields your household farm?
   1. None
   2. Some but less than half
   3. About half
   4. More than half, but not all
   5. All
4. How much of the fruits that you eat come from your household farm?
   1. None
   2. Some but less than half
   3. About half
   4. More than half, but not all
   5. All
5. Do you work at least a few times per year with any of these materials? (answer each separately Yes = 1, No = 0)
   1. Paint \_\_\_
   2. Solder \_\_\_
   3. Industrial waste \_\_\_
   4. Truck, car or motorcycle batteries \_\_\_
   5. Manufacturing metals \_\_\_
   6. Solvents \_\_\_
   7. Chemicals \_\_\_
   8. Exhaust fumes \_\_\_\_\_\_
   9. Recycling goods \_\_\_\_\_
6. Does anyone in your household work at least a few times per year with any of these materials? (answer each separately Yes = 1, No = 0)
   1. Paint \_\_\_
   2. Solder \_\_\_
   3. Industrial waste \_\_\_
   4. Truck, car or motorcycle batteries \_\_\_
   5. Manufacturing metals \_\_\_
   6. Solvents \_\_\_
   7. Chemicals \_\_\_
   8. Exhaust fumes \_\_\_\_\_\_
   9. Recycling goods \_\_\_\_\_
7. How close is the nearest road that motor vehicles use regularly to your home?
   1. < 50 meters
   2. 51 – 200 meters
   3. 201 – 500 meters
   4. 501 – 1,000 meters
   5. > 1,000 meters
8. How often do you consume food that comes from a metal can?
   1. Never
   2. A few times per year
   3. About once per month
   4. About once per week
   5. Most days
9. How often do you wear kohl (makeup) that you purchase from a store?
   1. Never
   2. A few times per year
   3. About once per month
   4. About once per week
   5. Most days
10. Does you house have tin roofs or tin walls?
    1. Yes
    2. No
11. If yes, How long have you had them? \_\_\_\_\_\_
12. What materials are your cooking pot made from? (answer each separately Yes = 1, No = 0)
    1. Aluminum
    2. Unpainted clay / ceramic
    3. Painted clay / ceramic
    4. Cast iron
13. What materials are your plates, serving dishes and utensils made from? (answer each separately Yes = 1, No = 0)
    1. Aluminum
    2. Unpainted clay / ceramic
    3. Painted clay / ceramic
    4. Cast iron
    5. plastic

Questions for person most knowledgeable regarding household farming

1. How many harvests of rice does your land produce each year? \_\_\_
2. What other crops do you grow on your land (including small gardens)? (answer each separately Yes = 1, No = 0)
   1. Lentils
   2. Chick peas (chola)
   3. Egg plant
   4. Tomato
   5. Cucumbers
   6. Lady fingers
   7. Lettuce
   8. Onions
   9. Carrots
   10. Potatoes
   11. Mango
   12. Komla
   13. Lychee
   14. Jackfruit
   15. Banana
   16. Other : Specgy

Fertilizer Questions

1. How many times did you apply fertilizer on your land in the last year? \_\_\_\_
2. I will read a list of available fertilizers. Please tell me how many times you applied each of these types of fertilizer on the land you used for growing rice in the last year.
   1. Type A (Type names will be identified in the qualitative study)
   2. Type B
   3. Type C
   4. Type D
   5. Type E
   6. Other \_\_\_\_\_\_\_
3. I will again read the list of available fertilizers. Please tell me how many times you applied each of these types of fertilizer on the land you used for growing other crops in the last year.
   1. Type A (Type names will be identified in the qualitative study)
   2. Type B
   3. Type C
   4. Type D
   5. Type E
   6. Other \_\_\_\_\_\_\_
4. Who handled the fertilizer while preparing to apply it? (answer each separately Yes = 1, No = 0)
   1. Father of the youngest child in the household
   2. Mother of the youngest child in the household
   3. Sibling of the youngest child in the household
   4. Grandparent of the youngest child in the household
   5. Cousin of the youngest child in the household
   6. Uncle of the youngest child in the household
   7. Aunt of the youngest child in the household
   8. Other
5. Where was the fertilizer prepared for application
   1. In the house
   2. Near the house
   3. In the field
   4. Other
6. What did you do with the leftover fertilizer?
   1. Did not have any
   2. Stored it in the house
   3. Gave it away or sold it
   4. Other
7. What did you do with the leftover fertilzer packaging? (answer each separately Yes = 1, No = 0)
   1. Stored it at home
   2. Used it to store food
   3. Used it to store water
   4. Used it to store household goods
   5. Let the children play with it
   6. Discarded it
8. Who applied the fertilizer to the land? (answer each separately Yes = 1, No = 0)
   1. Father of the youngest child in the household
   2. Mother of the youngest child in the household
   3. Sibling of the youngest child in the household
   4. Grandparent of the youngest child in the household
   5. Cousin of the youngest child in the household
   6. Uncle of the youngest child in the household
   7. Aunt of the youngest child in the household
   8. Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pesticide Questions

1. How many times did you apply pesticide on your land in the last year? \_\_\_\_
2. I will read a list of available pesticides. Please tell me how many times you applied each of these types of pesticide on the land you used for growing rice in the last year.
   1. Type A (Type names will be identified in the qualitative study)
   2. Type B
   3. Type C
   4. Type D
   5. Type E
   6. Other \_\_\_\_\_\_\_
3. I will again read the list of available pesticides. Please tell me how many times you applied each of these types of pesticide on the land you used for growing other crops in the last year.
4. Type A (Type names will be identified in the qualitative study)
5. Type B
6. Type C
7. Type D
8. Type E
9. Other \_\_\_\_\_\_\_
10. Who handled the pesticide while preparing to apply it? (answer each separately Yes = 1, No = 0)
11. Father of the youngest child in the household
12. Mother of the youngest child in the household
13. Sibling of the youngest child in the household
14. Grandparent of the youngest child in the household
15. Cousin of the youngest child in the household
16. Uncle of the youngest child in the household
17. Aunt of the youngest child in the household
18. Other
19. Where was the pesticide prepared for application
20. In the house
21. Near the house
22. In the field
23. Other
24. What did you do with the leftover pesticide?
25. Did not have any
26. Stored it in the house
27. Gave it away or sold it
28. Other
29. What did you do with the leftover pesticide packaging? (answer each separately Yes = 1, No = 0)
30. Stored it at home
31. Used it to store food
32. Used it to store water
33. Used it to store household goods
34. Let the children play with it
35. Discarded it
36. Who applied the pesticideto the land? (answer each separately Yes = 1, No = 0)
37. Father of the youngest child in the household
38. Mother of the youngest child in the household
39. Sibling of the youngest child in the household
40. Grandparent of the youngest child in the household
41. Cousin of the youngest child in the household
42. Uncle of the youngest child in the household
43. Aunt of the youngest child in the household
44. Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Herbicide Questions

1. How many times did you apply herbicide on your land in the last year? \_\_\_\_
2. I will read a list of available herbicides. Please tell me how many times you applied each of these types of herbicide on the land you used for growing rice in the last year.
3. Type A (Type names will be identified in the qualitative study)
4. Type B
5. Type C
6. Type D
7. Type E
8. Other \_\_\_\_\_\_\_
9. I will again read the list of available herbicides. Please tell me how many times you applied each of these types of herbicide on the land you used for growing other crops in the last year.
10. Type A (Type names will be identified in the qualitative study)
11. Type B
12. Type C
13. Type D
14. Type E
15. Other \_\_\_\_\_\_\_
16. Who handled the herbicide while preparing to apply it? (answer each separately Yes = 1, No = 0)
17. Father of the youngest child in the household
18. Mother of the youngest child in the household
19. Sibling of the youngest child in the household
20. Grandparent of the youngest child in the household
21. Cousin of the youngest child in the household
22. Uncle of the youngest child in the household
23. Aunt of the youngest child in the household
24. Other
25. Where was the herbicide prepared for application
26. In the house
27. Near the house
28. In the field
29. Other
30. What did you do with the leftover herbicide?
31. Did not have any
32. Stored it in the house
33. Gave it away or sold it
34. Other
35. What did you do with the leftover herbicide packaging? (answer each separately Yes = 1, No = 0)
36. Stored it at home
37. Used it to store food
38. Used it to store water
39. Used it to store household goods
40. Let the children play with it
41. Discarded it
42. Who applied the herbicideto the land? (answer each separately Yes = 1, No = 0)
43. Father of the youngest child in the household
44. Mother of the youngest child in the household
45. Sibling of the youngest child in the household
46. Grandparent of the youngest child in the household
47. Cousin of the youngest child in the household
48. Uncle of the youngest child in the household
49. Aunt of the youngest child in the household
50. Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fungicide Questions

1. How many times did you apply fungicide on your land in the last year? \_\_\_\_
2. I will read a list of available fungicides. Please tell me how many times you applied each of these types of fungicide on the land you used for growing rice in the last year.
3. Type A (Type names will be identified in the qualitative study)
4. Type B
5. Type C
6. Type D
7. Type E
8. Other \_\_\_\_\_\_\_
9. I will again read the list of available fungicides. Please tell me how many times you applied each of these types of fungicide on the land you used for growing other crops in the last year.
10. Type A (Type names will be identified in the qualitative study)
11. Type B
12. Type C
13. Type D
14. Type E
15. Other \_\_\_\_\_\_\_
16. Who handled the fungicide while preparing to apply it? (answer each separately Yes = 1, No = 0)
17. Father of the youngest child in the household
18. Mother of the youngest child in the household
19. Sibling of the youngest child in the household
20. Grandparent of the youngest child in the household
21. Cousin of the youngest child in the household
22. Uncle of the youngest child in the household
23. Aunt of the youngest child in the household
24. Other
25. Where was the fungicide prepared for application
26. In the house
27. Near the house
28. In the field
29. Other
30. What did you do with the leftover fungicide?
31. Did not have any
32. Stored it in the house
33. Gave it away or sold it
34. Other
35. What did you do with the leftover fungicide packaging? (answer each separately Yes = 1, No = 0)
36. Stored it at home
37. Used it to store food
38. Used it to store water
39. Used it to store household goods
40. Let the children play with it
41. Discarded it
42. Who applied the fungicideto the land? (answer each separately Yes = 1, No = 0)
43. Father of the youngest child in the household
44. Mother of the youngest child in the household
45. Sibling of the youngest child in the household
46. Grandparent of the youngest child in the household
47. Cousin of the youngest child in the household
48. Uncle of the youngest child in the household
49. Aunt of the youngest child in the household
50. Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_

WASH Benefits Module 53

In-Depth Interview Guidelines

In-depth environmental assessment (assessment of exposure pathways to fecal contamination, association with diarrhea and sanitation coverage in Bangladesh)

Drinking water sources, handling and storage practices

* Can you tell me about how you collect and store drinking water?
* What is your primary/main source of drinking water? (probe- type,tubewell, pond and others,their conditions, secondary and other sources, seasonal impacts. Emphasize tubewell and pond water). Observe the source and describe objectively.
* Who from your household is responsible to collect drinking water? (probe- primary and secondary collectors, when and why?)
* How is the collected water stored and for how long?Note the common storage containers. Give me an example of typical collection and storage of water and usage by the household members.
* How can these water sources or stored water be contaminated by human and/or animal feces? What are the possible pathways that could contaminate the water by humanfeces including children feces and/or animal feces(draw a map of assumed paths of fecal flow)?
* How do young children in your household get water for drinking?
* What, if any, are the difficulties associated with collecting and storing safe water?

Availability, treating, scarcityand consumption of water

* Can you tell me if your household ever experiences drinking water scarcity? What do you do in those times?
* Do members of your household consume water differently? How?
* Water treating or purifying behaviors:Do you do anything to your drinking water to make it safer to drink? What are the common water treatment methods in your household?
* Tell me about typical consumption of water by each of your household members including children by age group?
* Tell me yesterday's practices and consumption (note date, temperature, season etc.)

Contamination of hands and handwashing practices

* How frequently and when do you wash your hands? probe- key times (before having different types of food, after using toilet and cleaning child's anus). Illustrate a typical day's practices (may be yesterday or today).
* Do you think either/both of your hands could be contaminated by human feces? Probe- handwashing during these key times(draw a map from which activities fecal contamination may occur to hands)
* What agent do you use to wash your hands? Probe- why and when with what?
* How often do you clean your young children’s hands? When and how?
* How often do your young children wash their own hands? When and how?
* Do you think your children’s hands could be contaminated by human feces?
* Do you find handwashing with soap difficult or easy? Why?

Contamination of soil

* Does your household do anything to keep your courtyard clean? Probe – what is done, how often?
* How could courtyard soil be contaminated by human feces? Probe- open defecation by children and adults, during day/night or during rain. Locate spots and describe.
* Where do young children in your compound defecate? When and why? Who disposes of those feces, how and where? Is there any variation in these practices? What are the differences and why? Observe feces disposal sites. Probe- each sites.
* Is there any child potty available in households in this household?
* Tell me about how often your children come into contact with soil and feces?
* Child and animal feces
* Type of animal, children from neighboring households
* How frequently do your children (by age group) spend time in courtyard or verandah and for how long? Who else accompanies them? Do children play alone or in groups? Observe- floor materials (concrete or mud), is there any child potty in the household available?
* How much time do your children spend on thecourtyard ground and why? Who watches over children's behavior when they play in courtyard? Probe- absence and present of primary and secondary caregivers.
* What do the caregivers do when a child puts something from courtyard ground/soil into their mouth?
* What do the caregivers think when a child puts something from soil into their mouth?

Contamination of food

* Please tell me about food preparation and preservation processes followed by your household? What is your role in preparing and storing daily food? Probe- main food and snacks, occasional/seasonal foods.
* How do you store those foods and for how long? Probe- when and why?
* Who is responsible for maintaining food storage and hygiene in your household? Probe- social and economic power structure in the household (mother/father-in-laws, husbands).
* How do prepared and stored food gets into contact with hands? What do you do to keep your food safe? Probe- hand hygiene before preparing food, heating and reheating before serving food to child, child consumption of food and feeding methods. Who feeds, when and how?

Free roaming domestic animals

* How many domestic animals do you have? Make a count. Identify the majority.
* Who takes care of animals and animal sheds?
* When and why are animal feces visible in compound/inside household and for how long?
* How can a child come into contact with animals?
* Is there any chance that a child can put animal feces from the courtyard ground into their mouth? Probe- which animals, when and where?
* What do parents do if a child puts animal feces in their mouth? Please describe.

Contamination via flies

* What do you think about the presence of different flies in your house and surrounding environment? Ask specifically about type (size, color, other characteristics).
* Why are these flies found around/inside the household? Where do they come from? When is the fly density high and why?
* Is there a chance that these flies can land on food? How frequently? Probe- time and season.
* Do you feel that flies pose any health risks to your household? Why or why not?

Availability and type of toilet facility

* Please tell me about your household’s sanitation practices. Where do the household members usually defecate? Probe- practice open defecation, individual or shared latrine.
* How many latrines do you have? Probe- type and other facilities available for each toilet.Map the compound marking toilets and distances from drinking water source, pond or other water sources and from living room, kitchen etc.
* Who is responsible for cleaning and maintaining the toilet? Probe- man, women, specific roles, frequency.
* What are the hardware available in this household to dispose of feces from courtyard or inside the house? Probe- child and animal feces, adult human feces, feral animal feces.
* What happens during different seasons of the year? Probe- when latrine pit is full, feces float over pan, during rainy season, when latrine is broken.
* Where do the feces from the latrinein your household end up? In ditches, ponds, drains, small rivers, other water bodies.
* What do you find difficult about managing sanitation in your household? Please describe.
* What is easy about managing sanitation in your household? Please describe.

WASH Benefits Module 54

Focus Group Discussion Guidelines

In-depth environmental assessment (assessment of exposure pathways to fecal contamination, association with diarrhea and sanitation coverage in Bangladesh)

Drinking water sources, handling and storage practices

* What are the primary/main sources of drinking water in this area? Probe- type,tubewell, pond and others,their conditions, secondary and other sources, seasonal impacts. Emphasize tube-well and pond water. Observe the source and describe objectively.
* What are the common drinking water collection and storage methods? Rank these methods and probe all methods for clarification and understanding.
* Who from the households is usually responsible to collect and store drinking water? (probe- primary and secondary collectors, when and why?
* How can these water sources or stored water be contaminated by human and/or animal feces? What are the possible pathways that could contaminate the water by human feces including children feces and/or animal feces?(draw a map of assumed paths of fecal flow, check with the maps drawn from in-depth interviewsforupdate/modification)

Availability, treating, scarcityand consumption of water

* When is there drinking water scarcity in this area?
* What do the household members do at that time?
* How much difference is there in collecting, storing and consuming water?
* What are the common or popular water treating or purifying methods in this area? Describe to me the most popular or common method.
* Are there certain times of the year when treating or purifying water is more or less common?
* Tell me about typical consumption of water by household members. Probe- men, women, children by age group?

Contamination of hands and handwashing practices

* How frequently and when do people wash their hands? Probe- three key times (before having different types of food, after using toilet and cleaning child's anus). Describe a typical person's handwashing practices (could be a caregiver/homemaker).
* Do people think that either/both of their hands could be contaminated by human feces? Probe- handwashing during these key times. (draw a map from which activities fecal contamination may occur to hands)
* Do people wash the left or right hands more often? When and why?
* What agentsare available in this area that people use to wash their hands? Probe- all agents, rank on availability and frequency of use, why and when with what?
* How frequently do young children have their hands washed by their caregivers?
* How often do young children wash their own hands?
* Do people think that young children’s hands could be contaminated by human and/or animal feces? Who from the household can encourage or influence handwashing? Probe- Grandfather, father-in-law, husband, school going children?

Contamination of courtyard, soil of surrounding household environment

* How could courtyard soil become contaminated by human feces? Probe- open defecation by children and adults, elderly, sick, during day/night or during rain, locatespots and describe. Ask for an example that they can explain. Draw a map with sources of feces and contamination.
* Where do young children defecate? When and why? Who disposes of those feces, how and where?Probe- common, fixed, temporary sites.
* Is there any variation in feces disposal practices? What are the differences and why? Observe feces disposal sites. Probe- each site.
* Are there child potties available in households in this community?
* In which place do young children spend most of their time other than lap of adults? Describe the places
* How frequently dochildren (by age group) spend time in courtyard or verandah and for how long?
* Who else accompanies them? Do children play alone or in groups in household or courtyard?
* Tell me about how often children from this community come into contact with soil and feces.
* Courtyard or veranda or household floor soil
* Child and animal feces
* Type of animals, children from neighboring households
* How much time do children spend on the courtyard ground and why? by age group
* <3 years
* 3-6 years
* 6+ years
* Who watches over children's behavior when they play in courtyard? Probe- absence and present of primary and secondary caregivers.
* What are the materials that young children can put into their mouth when playing or resting on the ground? List those materials, rank and describe.
* What do the caregivers do when a child puts something from courtyard ground/soil into their mouth?
* What do the caregivers think when a child puts something from soil into their mouth?

Contamination of Food

* Tell me about the food preparation methods are used in this area?
* What are the common food storing methods in this area? Rank and identify the main method and explain.
* Who plays the most important role in preparing and storing daily food? Who designates these people and why? Probe- main food and snacks, occasional/seasonal foods.
* Who from the household is responsible for maintaining food storage and hygiene in your area? Probe- social and economic power structure in the household (mother/father-in-laws, husbands).
* Who decides food preparation methods and why?
* What are the ways hands contact prepared and stored food? Whose hands get frequent contact? When, how and why? Explain at least one way.
* When is food for young children prepared during the day? How long is food stored?
* What do people do to keep their food safe? Probe- hand hygiene before preparing food, heating and reheating before serving food to child, child consumption of food and feeding methods. Who feeds, when and how?

Free roaming domestic animals

* How many domestic animals doesa typical household have in your area? Make a count. Identify the majority. Make at least 3 categories. Probe to cover all categories.
* Who takes care of animals and animal sheds and disposes of animal feces?
* When and why are animal feces visible in compound/inside household and for how long?
* How can a child come into contact with animals? Which animals do they like? Do parents allow children to touch animals?
* When are the chances that a child can put animal feces from the courtyard ground into their mouth? Probe- which animals, when and where?
* What do parents do if a child puts animal feces in their mouth? Why or why not?
* Are animals allowed in the house? In food preparation areas?

Contamination via flies

* What do people think of flies visible around their household environment?
* What are the types of flies you see around your household environment?
* Which one is most dangerous and why? Describe the most dangerous (size, color and other characteristics).
* What are the reasons for presence of different flies in house, courtyard and surrounding environment? Ask specifically type (size, color, other characteristics).
* Why are these flies found around/inside the household? Where do they come from? When is the fly density high and why?
* Is there a chance that these flies can land on food? How frequently? Probe- time and season.

Availability and type of toilet facility

* Where do the people in this area usually defecate? Probe- practice open defecation, individual or shared latrine.
* How many latrines does a household usually own? Probe- type and other facilities available for each toilet.Map the compound marking toilets and distances from drinking water source, pond or other water sources and from living room, kitchen etc.
* Who is responsible for cleaning and maintaining the toilet? Probe- man, women, specific roles, frequency.
* What are the hardware available in this community to dispose of feces from courtyard or inside the house? Probe- child and animal feces, adult human feces, feral animal feces?
* How does sanitation change during the different seasons of the year? Probe- when latrine pit is full, feces floats over pan, during rainy season, when latrine is broken.
* Where do the feces from the latrines end up? In ditches, ponds, drains, small rivers, other water bodies?
* What is easy about managing sanitation in your household? Please describe.

EE Sample Collection Form – Section 1: Child Identification & Medical History

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 1. Cluster ID and Mother ID | ### and ## | |\_\_|\_\_|\_\_| **and** |\_\_|\_\_| |
| 2. ID of MT/FRA/FRO | ## | |\_\_|\_\_| |
| 3. Name of MT/FRA/FRO (choose 1): | 1. Balay Chand Sikder  2. Mary Marget  3. ParimolSarker  4. Dipali Rani Das  5. SaniaAkter Dolly  6. SyedaFatemaKhatun  7.Md. AltafurRahman  8. AmalSarker  9. Nasrin Sultana  10. Md. NurulAIam  11. Fatema Begum Sumi  12. SyedaLuthfaFamida  13. Shahjahan Ali  16. NitaiHalder |  |
| 4. Date of Data Collection | DD/MM/YYYY | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| |
| 5. Consent  Note: If consent given, skip next question. If no consent, answer Q6  and skip to end. | Y/N | |\_\_| |
| 6. Why Was Consent Not Given? | 1. Migration  2. Household head Is not home  3. Primary caregiver Is not home  4. Child is not home  5. Child is sick  6. Household head refused  7. Primary caregiver refused  8. Too busy  9. No reason given  10. Other | |\_\_|\_\_| |
| 7. Verify Primary Caregiver’s Identity: Does Caregiver Match Household and Cluster ID?  Note: If no, then skip rest of form and alert SFRO that our team is in the wrong location. | Y/N | |\_\_| |

EE Sample Collection Form – Section 1: Child Identification & Medical History

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 8. Identification of Primary Caregiver | 1. Child’s Mother  2. Child’s Maternal Grandparents  3. Child’s Paternal Grandparents  4. Child’s Maternal Aunt/Uncle  5. Child’s Paternal Aunt/Uncle  6. Child’s Father (And His New Partner/Wife)  7. Other: Specify | |\_\_| |
| 9. Mobile Number of Household Head | ###########  99. Don’t know/not available | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|  |\_\_|\_\_| |
| 10. Mobile Number of Primary Caregiver | ###########  99. Don’t know/not available | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|  |\_\_|\_\_| |
| 11. Number of Eligible Children | # of Eligible Children | |\_\_| |
| 12. Child Full Name |  |  |
| 13. Child Nickname |  |  |
| 14. Gender of Child | 1. Male  2. Female | |\_\_| |
| 15. Date of Birth | DD/MM/YYYY | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| |
| 16. Source of Date of Birth (DOB) | 1. Confirmed DOB by valid vaccination card  2. Mother/Relative remember DOB  3. Both 1 & 2  99. Don’t know | |\_\_|\_\_| |
| 17. Age | ### Days | |\_\_|\_\_|\_\_| Days |
| 18. ASK: “How long ago did [CHILD NAME] take any antibiotics? (Provide examples from the ‘List of Common Antibiotics and Medicine’ in the EE Sampling Handbook) | ## Days  ## Months  88. Never  99. Don’t know | |\_\_|\_\_| Days  |\_\_|\_\_| Months  |\_\_|\_\_| |
| 19. ASK: “Can you tell us how many times in the last 3  months this child has used antibiotics?”  Note: If answer to Q19 is 0, 88, or 99, then skip to Q22. If answer to Q19 is>0, then answer Q20 and Q21. | ## Times  88. Never  99. Don’t know | |\_\_|\_\_| Times  |\_\_|\_\_| |

EE Sample Collection Form – Section 1: Child Identification & Medical History

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
|  | 20. ASK: “Please try and recall the name of  each antibiotic this child used in the last 3  months (90 days before collection date) | 21. Ask: “How many total days did this child use  this antibiotic?”  (For Each Episode) |
|  | 1. Cotrimoxazole  2. Amoxycillin  3. Flucloxacillin  4. Ciprofloxacin  5. Erythromycin  6. Azythromycin  7. Nalidixic acid  8. Doxycycline  9. Betapen (Penicillin)  10. Chloramphenicol  11. Metronidazole  12. Other: Specify  99. Don’t know | ## Days  99. Don’t Know |
| Episode 1 | |\_\_|\_\_| (choose from list above) | |\_\_|\_\_| Days |
| Episode 2 | |\_\_|\_\_| (choose from list above) | |\_\_|\_\_| Days |
| Episode 3 | |\_\_|\_\_| (choose from list above) | |\_\_|\_\_| Days |
| Episode 4 | |\_\_|\_\_| (choose from list above) | |\_\_|\_\_| Days |
| Episode 5 | |\_\_|\_\_| (choose from list above) | |\_\_|\_\_| Days |
| 22. ASK: “Has this child had malaria in the last 1 month?” | 1. Yes, diagnosed in a clinic/by a physician  2. Yes, not diagnosed in a clinic/ by a physician  3. No  4. Not applicable  99. Don’t know | |\_\_|\_\_| |
| 23. ASK: “Has this child had malaria in the last 6 months?” | 1. Yes, diagnosed in a clinic/by a physician  2. Yes, not diagnosed in a clinic/by a physician  3. No  4. Not applicable  99. Don’t know | |\_\_|\_\_| |

EE Sample Collection Form – Section 1: Child Identification & Medical History

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 24. ASK: FOR CHILDREN 6 MONTHS AND OVER “In the last 6 months, has [CHILD NAME] received a pill or drug for intestinal worms?” (Provide examples from the ‘List of Common Antibiotics and Medicine’ in the EE Sampling Handbook)Note: If child is <6 months old, enter 3 and skip to end. If answer to Q24 is 2 or 99, then skip Q25-27 and answer Q 28-29. | 1. Yes  2. No  3. Not applicable  99. Don’t know | |\_\_|\_\_| |
| 25. ASK: “Where did [CHILD NAME] receive the drug for intestinal worms?” | 1. At Home / In Village  2. At A Clinic or Health Facility  3. At A School  4. From icddr,b  99. Don’t know | |\_\_|\_\_| |
| 26. ASK: “Approximately how long ago did [CHILD NAME] receive the deworming drug?” | ## Days  ## Months  99. Don’t know | |\_\_|\_\_| Days  |\_\_|\_\_| Months  |\_\_|\_\_| |
| 27. ASK: “Please try and recall the name of the deworming drug [CHILD NAME] took.” (Provide examples from the ‘List of Common Antibiotics and Medicine’ in the EE Sampling Handbook) | 1. Albendazole  2. Mebendazole  3. Other: Specify  99. Don’t know | |\_\_|\_\_| |
| 28. ASK: “Does [CHILD NAME] typically wear shoes/socks/sandals?” | 1. Yes  2. No  99. Don’t know | |\_\_|\_\_| |
| 29. OBSERVE: Is child wearing shoes/socks/sandals? | 1. Yes  2. No  99. Don’t know | |\_\_|\_\_| |

EE Sample Collection Form – Section 1: Child Identification & Medical History

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

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| --- | --- | --- | --- | --- | --- |
| **ASK: “Thank you. Now I am going to ask you some questions about the health of your [child/children]. Please answer each question as accurately as you can. If you don’t know the answer to a question, say “I don’t know”. We will begin with [NAME OF CHILD].”** | | | | | |
| ASK: “Did [NAME OF CHILD] have [SYMPTOM]: | A | B | C | D | E |
| **Today**  1. Yes  2. No  99. Don’t know | **Yesterday**  1. Yes  2. No  99. Don’t know | **Day before Yesterday**  1. Yes  2. No  99. Don’t know | **In the last 7 days** (since this day last week)  1. Yes  2. No  99. Don’t know | **In the last 2 weeks** (since this day 2 weeks ago)  1. Yes  2. No  99. Don’t know |
| **30. Fever** |  |  |  |  |  |
| **31. Diarrhea** |  |  |  |  |  |
| **32. 3 or more bowel movements in 24 hours** |  |  |  |  |  |
| **33. Number of bowl movements each day** | |\_\_|\_\_|times | |\_\_|\_\_|times | |\_\_|\_\_|times |  |  |
| **34. Watery or soft stool (unformed)** |  |  |  |  |  |
| **35. Blood in the stool** |  |  |  |  |  |
| **36. Skin rash (anywhere on the body)** |  |  |  |  |  |
| **37. Constant cough** |  |  |  |  |  |
| **38. Congestion / runny nose** |  |  |  |  |  |
| **39. Panting / wheezing / difficulty breathing** |  |  |  |  |  |
| **40. Bruising, scrapes or cuts** |  |  |  |  |  |
| **41. Toothache / teething** |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 42. ASK: “How long ago did [CHILD NAME] have diarrhea?”  Note: Q42 will be asked if Q31 turns out yes for column D and/or E (ie, Q42 will not be asked for col A, B and C of Q31. Also validate Q42 by number of days. For example, if Q42 is asked for col D, the validation is not more than 7 days and if Q42 is asked col E, the validation is not more than 14 days. | ## Days  77. Not applicable  99. Don’t know | D | E |
| **In the last 7 days** (since this day last week) | **In the last 2 weeks** (since this day 2 weeks ago) |
| |\_\_|\_\_| Days | |\_\_|\_\_| Days |
| 43. ASK: “During that specific episode of diarrhea, how many consecutive days did it last?”  Note:Q43 is linked to Q42, i.e., Q43 will be asked only when Q42 is asked. Also validate Q43 by number of days. For example, if Q43 is asked for col D, the validation is not more than 7 days and if Q43 is asked col E, the validation is not more than 14 days. | ## Days  77. Not applicable  99. Don’t know | D | E |
| **In the last 7 days** (since this day last week) | **In the last 2 weeks** (since this day 2 weeks ago) |
| |\_\_|\_\_| Days | |\_\_|\_\_| Days |

EE Sample Collection Form – Section 2: Anthropometry

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 1. Cluster ID and Mother ID | ### and ## | |\_\_|\_\_|\_\_| **and** |\_\_|\_\_| |
| 2. ID of MT/FRA/FRO | ## | |\_\_|\_\_| |
| 3. Name of MT/FRA/FRO (choose 1): | 4. Dipali Rani Das  5. SaniaAkter Dolly |  |
| 4. Date of Data Collection | DD/MM/YYYY | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| |
| 5. Number of Eligible Children | # of Eligible Children | |\_\_| |
| 6. Child Full Name |  |  |
| 6A. Type of Scale Used for Weight Measurement | 1. Seca 383 (Infant Scale)  2. Seca 874 (Mother-Infant Scale)  3. Seca 354 (Infant Scale New) | |\_\_| |
| 7. Weight of Child – Measurement #1 | Weight (kg)##**.**### | |\_\_|\_\_|**.**|\_\_|\_\_|\_\_| kg |
| 8. Weight of Child – Measurement #2 | Weight (kg) ##**.**### | |\_\_|\_\_|**.**|\_\_|\_\_|\_\_| kg |
| 9. Weight of Child – Measurement #3 | Weight (kg) ##**.**### | |\_\_|\_\_|**.**|\_\_|\_\_|\_\_| kg |
| 10. **Median** Weight of The Child | Weight (kg) ##**.**### | |\_\_|\_\_|**.**|\_\_|\_\_|\_\_| kg |
| 11. Was Child Wearing Clothing During Weight Measurement?  (Multiple answers) | 1. No clothes  2. Underpants/shorts  3. Shirt  4. Pants/trousers  5. Dress/frock  6. Other: Specify | |\_\_|  |\_\_|  |\_\_|  |\_\_| |

EE Sample Collection Form – Section 2: Anthropometry

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 12. Length or Height?  (If ≥ 2 years of age, measure the child’s height; if < 2 years of age, measure the child’s length) | 1. Length measured  2. Height measured | |\_\_| |
| 13. Length/Height of Child – Measurement #1 | Length/Height (cm)  ###**.**# | |\_\_|\_\_|\_\_|**.**|\_\_| cm |
| 14. Length/Height of Child – Measurement #2 | Length/Height (cm)  ###**.**# | |\_\_|\_\_|\_\_|**.**|\_\_| cm |
| 15. Length/Height of Child – Measurement #3 | Length/Height (cm)  ###**.**# | |\_\_|\_\_|\_\_|**.**|\_\_| cm |
| 16. Head Circumference of Child – Measurement #1 | Circumference (cm)  ##.# | |\_\_|\_\_|**.**|\_\_| cm |
| 17. Head Circumference of Child – Measurement #2 | Circumference (cm)  ##.# | |\_\_|\_\_|**.**|\_\_| cm |
| 18. Head Circumference of Child – Measurement #3 | Circumference (cm)  ##.# | |\_\_|\_\_|**.**|\_\_| cm |
| 19. Mid Upper Arm Circumference of Child – Measurement #1 | Circumference (cm)  ##.# | |\_\_|\_\_|**.**|\_\_| cm |
| 20. Mid Upper Arm Circumference of Child – Measurement #2 | Circumference (cm)  ##.# | |\_\_|\_\_|**.**|\_\_| cm |
| 21. Mid Upper Arm Circumference of Child – Measurement #3 | Circumference (cm)  ##.# | |\_\_|\_\_|**.**|\_\_| cm |
| 22. Anthropometry Data Obtained?  Note: If Q22 is 1, skip to end. | 1. All  2. Partial  3. None | |\_\_| |
| 23. Why Was Anthropometry Data Not Collected? | 1. Child Did Not Cooperate  2. Household Head Refused  3. Primary Caregiver Refused  4. Other | |\_\_| |

EE Sample Collection Form – Section 3: Blood Sample Collection

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 1. Cluster ID and Mother ID | ### and ## | |\_\_|\_\_|\_\_| **and** |\_\_|\_\_| |
| 2. ID of MT/FRA/FRO | ## | |\_\_|\_\_| |
| 3. Name of MT/FRA/FRO (choose 1): | 1. Balay Chand Sikder  2. Mary Marget  3. ParimolSarker  14. Md. Shariful Islam  15. Shimul Das  16. NitaiHalder |  |
| 4. Date of Sample Collection | DD/MM/YYYY | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| |
| 5. Number of Eligible Children | # of Eligible Children | |\_\_| |
| 6. Child Full Name |  |  |
| 7. Date of Child’s Last Meal/Snack/Breastfeed | DD/MM/YYYY | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| |
| 8. Time of Child’s Last Meal/Snack/Breastfeed | 24-hour scale  Hours :Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 9. Enter Information About Child’s Last Meal/Snack/Breastfeed | 1. Breast Milk Only  2. Snack Only  3. Meal Only  4. Meal and Snack Only  5. Snack and Breast Milk Only  6. Meal and Breast Milk Only  7. Meal, Snack, and Breast Milk | |\_\_| |
| 10. Blood Collection Tube Sample Obtained?  Note:  If no blood draw, then Q14 is asked and rest of form skipped. | 1. all (5 ml)  2. partial (< 5 ml)  3.none (0 ml) | |\_\_| |

EE Sample Collection Form – Section 3: Blood Sample Collection

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 11. Estimate of Blood Volume Collected in Tube | # ml | |\_\_|**.**|\_\_|ml |
| 12. Blood Spots Samples Obtained? | 1. all (6 spots)  2. partial (< 6 spots)  3. none (0 spots) | |\_\_| |
| 13. Number of FULLY SaturatedSpots Obtained | # Spots | |\_\_| Spots |
| 13b. Anemia Measurement | ###.# | |\_\_||\_\_|**.**|\_\_| g/dl |
| 14. Why Was Sample Not Obtained?  Note:  If Q10 or Q 12 are 2 or 3, then Q14 is asked. If Q10 or 12 is 1, then Q 14 is skipped. | 1. Parent not available  2. Parent refused  3. Child not available  4. Volume insufficient  5. Vein visibility  6. Other: Specify | |\_\_| |
| 15. Blood Collection: End Time | 24-hour scale  Hours : Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 16. Cold Chain Start Time  Note:This is the time when sample has been placed in cold box (for tube) or room temperature box (for spots). | 24-hour scale  Hours : Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 16b. Cooler box Temperature Data Logger ID | #### | |\_\_|\_\_|\_\_|\_\_| |

|  |  |  |
| --- | --- | --- |
| 17. Centrifugation Start Time  Note: Only for child venous blood samples (types B and X). | 24-hour scale  Hours : Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 18. Duration of Centrifugation  Note: Only for child venous blood samples (type B). | Minutes  ## | |\_\_|\_\_| |
| 19. Plasma Sample Hemolyzed?  (Plasma is red, not yellow)  Note: Only for child venous blood samples (type B). | Y/N | |\_\_| |
| 20. PBMC Processing: Start Time | 24-hour scale  Hours : Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 21. PBMC Processing: Number of Cells |  |  |

EE Sample Collection Form – Section 3: Blood Sample Collection

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Samples: | | | | | | | |
| 22. Sample ID  Note:  IDs for all aliquots of blood samples expected in a HH are automatically generated when cluster ID and mother ID are entered in Q1. | 23. Random ID  Note:  Random ID that is linked to the specific sample ID is retrieved from barcode ID database and appears automatically. | 24. Sample  Type  Note:  Field staff selects sample type from dropdown menu. | 25. Aliquots | 26. Samples H & B  -80⁰C  Freezer  Storage:  Start Time | 27. PBMC  -80⁰CFreezer  Storage:  Start Time | 28. PBMC  Liquid  Nitrogen  Storage:  Start Date | 29. PBMC  Liquid  Nitrogen  Storage:  Start Time |
| Cluster (###) + Mother ID (##) + Baseline (B) + Eligible Child (#) + Sample Type + Aliquot (#) |  | H (Whole)  B (Plasma)  X (PBMC)  P (Filter) |  | 24-hour scale  Hours : Minutes | 24-hour scale  Hours : Minutes | DD/MM/YYYY | 24-hour scale  Hours : Minutes |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|H01 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | H | No Aliquot  Partial Aliquot Full Aliquot | |\_\_|\_\_|**:**|\_\_|\_\_| |  |  |  |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|H02 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | H | No Aliquot  Partial Aliquot Full Aliquot |  |  |  |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|B01 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | B | No Aliquot  Partial Aliquot Full Aliquot |  |  |  |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|B02 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | B | No Aliquot  Partial Aliquot Full Aliquot |  |  |  |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|B03 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | B | No Aliquot  Partial Aliquot Full Aliquot |  |  |  |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|B04 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | B | No Aliquot  Partial Aliquot Full Aliquot |  |  |  |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|B05  ***(Optional Aliquot)*** | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | B | No Aliquot  Partial Aliquot Full Aliquot |  |  |  |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|B06  ***(Optional Aliquot)*** | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | B | No Aliquot  Partial Aliquot Full Aliquot |  |  |  |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|B07  ***(Optional Aliquot)*** | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | B | No Aliquot  Partial Aliquot Full Aliquot |  |  |  |  |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|X01 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | X | No Aliquot  Partial Aliquot Full Aliquot |  | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| | |\_\_|\_\_|**:**|\_\_|\_\_| |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|X02 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | X | No Aliquot  Partial Aliquot Full Aliquot |  |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|P01 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | P | No Aliquot  Partial Aliquot Full Aliquot |  |  |  |  |

EE Sample Collection Form – Section 4: Stool Sample Collection

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 1. Cluster ID and Mother ID | ### and ## | |\_\_|\_\_|\_\_| **and** |\_\_|\_\_| |
| 2. ID of MT/FRA/FRO | ## | |\_\_|\_\_| |
| 3. Name of MT/FRA/FRO (choose 1): | 4. Dipali Rani Das  5. SaniaAkter Dolly  6. SyedaFatemaKhatun  7.Md. AltafurRahman  8. AmalSarker  9. Nasrin Sultana  10. Md. NurulAIam  11. Fatema Begum Sumi  12. SyedaLuthfaFamida  13. Shahjahan Ali |  |
| 4. Date of Sample Collection (when FRA picks up tube) | DD/MM/YYYY | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| |
| 5. Number of Eligible Children | # of Eligible Children | |\_\_| |
| 6. Child Full Name |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Samples: | | | |
| 7. Sample ID | 8. Random ID | 9. Sample type | 10. Aliquots |
| Cluster (###) + Mother ID (##) + Baseline (B) + Eligible Child (#) + Sample Type + Aliquot (#) | Note:  Random ID that is linked to the specific sample ID is retrieved from barcode ID database and appears automatically. | Note:  Field staff selects sample type from dropdown menu. | Note:  If sample has been fully collected, next question is skipped. |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|S01 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | S | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|S02 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | S | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|S03 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | S | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|S04 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | S | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|S05 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | S | No Aliquot  Partial Aliquot  Full Aliquot |

EE Sample Collection Form – Section 4: Stool Sample Collection

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 11. Why Was It Not Fully Collected?  Note:In Q10, If Partial Aliquot collected, Q11 is asked. In Q10, if No Aliquotcollected,then  Q11 is asked and skip to end. | 1. Parents not available  2. Parents refused  3. Subject not available  4. Child did not defecate  5. Defecation volume insufficient  6. Other: Specify | |\_\_| |
| 12. Date of Defecation  Note:This is only applicable for stool samples as stool collection containers are left in  householdsthe day before sample collection. | DD/MM/YYYY | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| |
| 13. Time of Defecation  Note:Exact or approximate time is entered. | 24-hour scale  Hours: Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 14. FRA Present During Defecation?  Note:FRA presence or absence during defecation is indicated. | 1. Yes  2. No | |\_\_|\_\_| |
| 15. Cold Chain Start Time  Note: This is the time when sample has been placed in cold box. | 24-hour scale  Hours : Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 16. OBSERVE: Consistency of Collected Stool Sample | 1. Normal stool  (Formed, soft, semi-solid, moist)  2. Diarrheal stool  (Unformed, watery)  3. Constipated stool  (Formed, hard, dry) | |\_\_| |
| 17. OBSERVE: Color of Collected Stool Sample | 1. Yellow  2. Brown  3. Black  4. Green  5. White  6. Red  7. Other: Specify | |\_\_| |

**EE Sample Collection Form – Section 4: Stool Sample Collection**

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 18. OBSERVE: Any Abnormal Characteristics of Collected Stool Sample | 1. Yes, Mucus  2. Yes, Blood  3. Yes, Worms  4. Yes, Other: Specify  5. No | |\_\_| |
| 19. ASK: “Does [CHILD NAME] currently have diarrhea?”  (Diarrhea = 3 or more unformed stools in a 24-hour period)  Note: If Q19 is 1, then ask next question and skip to end. If Q19 is 2 or 99, then skip to Q21. | 1. Yes  2. No  99. Don’t know | |\_\_|\_\_| |
| 20. ASK: How many consecutive days has this child had diarrhea?”  Note: Exact or approximate number of days is entered. | ## Days | |\_\_|\_\_| Days |
| 21. ASK: “How long ago did [CHILD NAME] have diarrhea?”  Note: Exact or approximate number of days is entered. If Q21 answer is >0 and NOT 88 or 99, then Q22 is asked. If Q21  answer is 0, 88, or 99, then skip to end. | ## Days  88. Never  99. Don’t know | |\_\_|\_\_| Days |
| 22. ASK: “During that specific episode of diarrhea, how many consecutive days did it last?”  Note: Exact or approximate number of days is entered. | ## Days  99. Don’t know | |\_\_|\_\_| Days |
| 23. ASK: Where was stool sample collected from? | 1. Diaper provided  2. Katha (blanket/cloth)  3. Bed sheet  4. Potty  5. Other: Specify  77. Not applicable | |\_\_| |
| 24. ASK: Was the stool in contact with urine (in the diaper/potty/katha/etc.)? | 1. Yes  2. No  99. Don’t know | |\_\_|\_\_| |
| 25. Cooler box Temperature Data Logger ID | #### | |\_\_|\_\_|\_\_|\_\_| |

EE Sample Collection Form – Section 5: Urine Sample Collection

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 1. Cluster ID and Mother ID | ### and ## | |\_\_|\_\_|\_\_| **and** |\_\_|\_\_| |
| 2. ID of MT/FRA/FRO | ## | |\_\_|\_\_| |
| 3. Name of MT/FRA/FRO (choose 1): | 4. Dipali Rani Das  5. SaniaAkter Dolly  6. SyedaFatemaKhatun  7.Md. AltafurRahman  8. AmalSarker  9. Nasrin Sultana  10. Md. NurulAIam  11. Fatema Begum Sumi  12. SyedaLuthfaFamida  13. Shahjahan Ali  14. Md. Shariful Islam |  |
| 4. Date of Sample Collection | DD/MM/YYYY | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| |
| 5. Number of Eligible Children | # of Eligible Children | |\_\_| |
| 6. Child Full Name |  |  |
| 7. Consent  Note: If yes, then skip next question. | Y/N | |\_\_| |
| 8. Why Was Consent Not Given?  Note:If Q7 is no, then answer this question and skip to end. | 1. Household head/primary caregiver not available  2. Household head/ primary caregiver refused  3. Subject not available  4. Genital skin disease  5. Other: Specify | |\_\_| |
| 9. Volume of Lactulose-MannitolFed to Child | Volume (ml) = average weight X 2 (maximum of 20 ml)  ##.# | |\_\_|\_\_|**.**|\_\_| ml |
| 10. Lactulose-Mannitol Batch Number | ### | |\_\_|\_\_|\_\_| |
| 11. Fasting Start Time | 24-hour scale  Hours : Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 12. Fasting End Time | 24-hour scale  Hours : Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 13. Urine Collection Start Time | 24-hour scale  Hours : Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |

**EE Sample Collection Form – Section 5: Urine Sample Collection**

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 14. Urination episode  Note:Urine episode number is automatically  generated starting from 1. Q14 and the next  questions (Q15, Q16, Q17, Q18) will loop  continuously until end of urine collection time. | 15. Time of Collection | 16. Volume of Each Urination | 17. Estimated Volume Lost | 18. Stool in Bag? |
| **Urination Episode**  **#** | 24-hour scale  Hours : Minutes | Volume (ml)  ### | 1. None  2. < ½  3. ½  4. > ½  5. All | Y/N |
| **1** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_|ml | |\_\_| | |\_\_| |
| **2** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |
| **3** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |
| **4** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |
| **5** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |
| **6** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |
| **7** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |
| **8** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |
| **9** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |
| **10** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |

EE Sample Collection Form – Section 5: Urine Sample Collection

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 19. Urine Collection End Time for 2-Hour Urine Sample | 24-hour scale  Hours : Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 20. Total Urine Volume After 2 Hours | Volume (ml)  ### | |\_\_|\_\_|\_\_| ml |
| 21. Total Number of Thimerasol Drops Added After 2 Hours | Number of drops  ## | |\_\_|\_\_| Drops |
| 22. Number of Loose Stools During 2-Hour Collection | # loose stools | |\_\_| Loose Stools |
| 23. Total Volume of All Aliquots From 2-Hour Urine Collection | Volume (ml)  ### | |\_\_|\_\_| ml |
| 24. Urine Collection End Time for 5-Hour Urine Sample | 24-hour scale  Hours: Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 25. Total Urine Volume After 5 Hours | Volume (ml)  ### | |\_\_|\_\_|\_\_| ml |
| 26. Total Number of Thimerasol Drops Added After 5 Hours | Number of drops  ## | |\_\_|\_\_| Drops |
| 27.Number of Loose Stools During 5-Hour Collection | # of loose stools | |\_\_|Loose Stools |
| 28. Total Volume of All Aliquots From 5-Hour Urine Collection | Volume (ml)  ### | |\_\_|\_\_| ml |
| 29. Did Child Eat During First 1-Hour Fasting Period?  (Before LM dose) | Y/N | |\_\_| |
| 30. Did Child Eat During Last 0.5-Hour Fasting Period?  (Immediately after LM dose) | Y/N | |\_\_| |

EE Sample Collection Form – Section 5: Urine Sample Collection

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Samples: | | | | | |
| 31. Sample ID  Note:  IDs for all aliquots of urine samples expected in a HH are automatically generated when cluster ID and mother ID are entered in Q1.**(Aliquots 01-06 after 2 hrs urine collection. Aliquots 07-12 after 5 hrs urine collection)** | 32. Random ID  Note:  Random ID that is linked to the specific sample ID is retrieved from barcode ID database and appears automatically | 33. Sample Type  Note:  Field staff selects sample type from dropdown menu. | 34. Aliquots  Note:  If sample has been fully collected, next question is skipped. For sample type U, full aliquot = 2 ml per cryovial. | 35. Why was it not fully collected?  Note:  If Q34 is No Aliquot or Partial Aliquot, then Q 35 is asked.  1. Child did not urinate  2. Urination volume insufficient  3. Leakage  4. Partial: Parent Refused  5. Other: Specify | 36. Cold Chain Start Time  Note:  This is the time when sample has been placed in cold box.  24-hour scale  Hours : Minutes |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U01 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot | |\_\_| 2 Hours | |\_\_|\_\_|**:**|\_\_|\_\_| |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U02 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U03 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U04 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U05 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U06 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U07 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot | |\_\_| 5 Hours | |\_\_|\_\_|**:**|\_\_|\_\_| |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U08 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U09 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U10 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U11 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U12 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |

|  |  |  |
| --- | --- | --- |
| 37. Why was urine collection stopped before 5 hours?    Note:  Skip if both 2 and 5 hour urine collection completed. | 1. Baby crying a lot  2. Baby developed a rash at U-bag attachment site  3. Other parent came home and refused  4. Another family member arrived and encouraged mother to refuse  5. Mother and child left to visit another place  6. Other: Specify  77. Not applicable | |\_\_| |
| 38. Cooler box Temperature Data Logger ID | #### | |\_\_|\_\_|\_\_|\_\_| |

**EE Sample Collection Form – Section 5A: Pre-LM Urine Sample Collection**

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 39. Cluster ID and Mother ID | ### and ## | |\_\_|\_\_|\_\_| **and** |\_\_|\_\_| |
| 40. Date of Sample Collection | DD/MM/YYYY | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| |
| 41. **Pre-LM** Urine Collection Start Time | 24-hour scale  Hours : Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 42. **Pre-LM**Urination episode  Note:Urine episode number is automatically  generated starting from 1. Q42 and the next  questions (Q43, Q44, Q45, Q46) will loop  continuously until end of urine collection time. | 43. Time of Collection | 44. Volume of Each Urination | 45. Estimated Volume Lost | 46. Stool in Bag? |
| **Urination Episode**  **#** | 24-hour scale  Hours : Minutes | Volume (ml)  ### | 1. None  2. < ½  3. ½  4. > ½  5. All | Y/N |
| **1** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |
| **2** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |
| **3** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |
| **4** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |
| **5** | |\_\_|\_\_|**:**|\_\_|\_\_| | |\_\_|\_\_|\_\_| ml | |\_\_| | |\_\_| |

**EE Sample Collection Form – Section 5A: Pre-LM Urine Sample Collection**

**Cluster ID |\_\_|\_\_|\_\_| Mother ID |\_\_|\_\_|**

|  |  |  |
| --- | --- | --- |
| 47. **Pre-LM** Urine Collection End Time | 24-hour scale  Hours : Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 48. Total Urine Volume of **Pre-LM** Urine | Volume (ml)  ### | |\_\_|\_\_|\_\_| ml |
| 49. Total Number of Thimerasol Drops Added to **Pre-LM** Urine | Number of drops  ## | |\_\_|\_\_| Drops |
| 50. Number of Loose Stools During **Pre-LM** Urine Collection | # loose stools | |\_\_| Loose Stools |
| 51. Total Volume of All Aliquots From **Pre-LM** Urine Collection | Volume (ml)  ### | |\_\_|\_\_| ml |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Samples: | | | | | |
| 52. Sample ID  Note:  IDs for all aliquots of urine samples expected in a HH are automatically generated when cluster ID and mother ID are entered in Q1.  **(Aliquots 13-18 after Pre-LM urine collection)** | 53. Random ID  Note:  Random ID that is linked to the specific sample ID is retrieved from barcode ID database and appears automatically | 54. Sample Type  Note:  Field staff selects sample type from dropdown menu. | 55. Aliquots  Note:  If sample has been fully collected, next question is skipped. For sample type U, full aliquot = 2 ml per cryovial. | 56. Why was Pre-LM urine not fully collected?  Note:  If Q55 is No Aliquot or Partial Aliquot, then Q56 is asked.  1. Child did not urinate  2. Urination volume insufficient  3. Leakage  4. Partial: Parent Refused  5. Other: Specify | 57. Cold Chain Start Time  Note:  This is the time when sample has been placed in cold box.  24-hour scale  Hours : Minutes |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U13 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot | |\_\_| Pre-LM Urine | |\_\_|\_\_|**:**|\_\_|\_\_| |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U14 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U15 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U16 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U17 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|E|\_\_|U18 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | U | No Aliquot  Partial Aliquot  Full Aliquot |

**Wash Benefit Module 63: EE Microbiome Collection Form**

|  |  |  |
| --- | --- | --- |
| 1. Cluster ID and Mother ID | ### and ## | |\_\_|\_\_|\_\_| **and** |\_\_|\_\_| |
| 2. ID/NAME of FRA | ## | |\_\_|\_\_|  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3a. Is this a Daily, Weekly or a Monthly visit?  Note: If Q3 is 1, then skip Q20-22, Q26-29, and Q30-41 b-e (keep 31a, 32a, 33a, etc). | 1. Daily (V2-V6)  2. Weekly (V1, V7, V8)  3. Monthly (P) | |\_\_| |
| 3b. What is the sample number? | ## (from 00 to 13) | |\_\_|\_\_| |
| 4. Has the EE team been here within 1 week?  Note: If Q4 is 1 and Q3 is 2 or 3, skip to Q5b and then skip to end after Q6. | 1. Yes  2. No | |\_\_| |
| 5a. Date of Sample Collection (when FRA picks up tube)  Note: If Q4 is 2, skip Q5b after answering 5a | DD/MM/YYYY | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| |
| 5b. Date of EE Stool Sample Collection | DD/MM/YYYY | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| |
| 6. Child Full Name |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Samples: | | | |
| 7. Sample ID | 8. Random ID | 9. Sample type | 10. Aliquots |
| Cluster (###) + Mother ID (##) + MicrobiomeDaily/Weekly (V) or (Monthly (P) + Sample Number (##) + Sample Type + Aliquot (#) | Note:  Random ID that is linked to the specific sample ID is retrieved from barcode ID database and appears automatically. | Note:  Field staff selects sample type from dropdown menu. | Note:  If sample has been fully collected, next question is skipped. |
| |\_\_|\_\_|\_\_|\_\_|\_\_|V|\_\_|\_\_|S01 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | S | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|V|\_\_|\_\_|S02 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | S | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|V|\_\_|\_\_|S03 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | S | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|V|\_\_|\_\_|S04 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | S | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|V|\_\_|\_\_|S05 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | S | No Aliquot  Partial Aliquot  Full Aliquot |
| |\_\_|\_\_|\_\_|\_\_|\_\_|V|\_\_|\_\_|T01 | |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | T | No Aliquot  Partial Aliquot  Full Aliquot |

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| --- | --- | --- |
| 11. Why Was It Not Fully Collected?  Note:In Q10, If Partial Aliquot collected, Q11 is asked. In Q10, if No Aliquot collected,then  Q11 is asked and skip to end. | 1. Parents not available  2. Parents refused  3. Subject not available  4. Child did not defecate  5. Defecation volume insufficient  6. Other: Specify | |\_\_| |
| 12. Date of Defecation  Note:This is only applicable for stool samples as stool collection containers are left in  householdsthe day before sample collection. | DD/MM/YYYY | |\_\_|\_\_| **/** |\_\_|\_\_| **/** |\_\_|\_\_|\_\_|\_\_| |
| 13. Time of Defecation  Note:Exact or approximate time is entered. | 24-hour scale  Hours: Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 14. FRA Present During Defecation?  Note:FRA presence or absence during defecation is indicated. | 1. Yes  2. No | |\_\_|\_\_| |
| 15. Cold Chain Start Time  Note: This is the time when sample has been placed in cold box. | 24-hour scale  Hours : Minutes | |\_\_|\_\_|**:**|\_\_|\_\_| |
| 16. OBSERVE: Consistency of Collected Stool Sample | 1. Normal stool  (Formed, soft, semi-solid, moist)  2. Diarrheal stool  (Unformed, watery)  3. Constipated stool  (Formed, hard, dry) | |\_\_| |
| 17. OBSERVE: Color of Collected Stool Sample | 1. Yellow  2. Brown  3. Black  4. Green  5. White  6. Red  7. Other: Specify | |\_\_| |
| 18. OBSERVE: Any Abnormal Characteristics of Collected Stool Sample | 1. Yes, Mucus  2. Yes, Blood  3. Yes, Worms  4. Yes, Other: Specify  5. No | |\_\_| |

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| 19. ASK: “Does [CHILD NAME] currently have diarrhea?”  (Diarrhea = 3 or more unformed stools in a 24-hour period)  Note: If Q19 is 1, then ask next question and skip to Q23 If Q19 is 2 or 99, then skip to Q21. | 1. Yes  2. No  99. Don’t know | |\_\_|\_\_| |
| 20. ASK: How many consecutive days has this child had diarrhea?”  Note: Exact or approximate number of days is entered. | ## Days | |\_\_|\_\_| Days |
| 21. ASK: “How long ago did [CHILD NAME] have diarrhea?”  Note: Exact or approximate number of days is entered. If Q21 answer is >0 and NOT 88 or 99, then Q22 is asked. If Q21  answer is 0, 88, or 99, then skip to Q23. | ## Days  88. Never  99. Don’t know | |\_\_|\_\_| Days |
| 22. ASK: “During that specific episode of diarrhea, how many consecutive days did it last?”  Note: Exact or approximate number of days is entered. | ## Days  99. Don’t know | |\_\_|\_\_| Days |
| 23. ASK: Where was stool sample collected from? | 1. Diaper provided  2. Katha (blanket/cloth)  3. Bed sheet  4. Potty  5. Ground  6. Foil  7. Other: Specify | |\_\_| |
| 24. ASK: Was the stool in contact with urine (in the diaper/potty/katha/etc.)? | 1. Yes  2. No  99. Don’t know | |\_\_|\_\_| |
| 25. Cooler box Temperature Data Logger ID | #### | |\_\_|\_\_|\_\_|\_\_| |

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| 26. ASK: “Can you tell us how many times in the last 1  month this child has used antibiotics that you didn’t already tell us about?”  Note: If answer to Q26 is 0, 88, or 99, then skip to Q29. If answer to Q26 is> 0, then answer Q27 and Q28. | ## Times  88. Never  99. Don’t know | |\_\_|\_\_| Times  |\_\_|\_\_| |
|  | 27. ASK: “Please try and recall the name of  each antibiotic this child used in the last 1  month(30 days before collection date) | 28. Ask: “How many total days did this child use this antibiotic?”  (For Each Episode) |
|  | 1. Cotrimoxazole  2. Amoxycillin  3. Flucloxacillin  4. Ciprofloxacin  5. Erythromycin  6. Azythromycin  7. Nalidixic acid  8. Doxycycline  9. Betapen (Penicillin)  10. Chloramphenicol  11. Metronidazole  12. Other: Specify  99. Don’t know | ## Days  99. Don’t Know |
| Episode 1 | |\_\_|\_\_| (choose from list above) | |\_\_|\_\_| Days |
| Episode 2 | |\_\_|\_\_| (choose from list above) | |\_\_|\_\_| Days |
| Episode 3 | |\_\_|\_\_| (choose from list above) | |\_\_|\_\_| Days |
| 29. ASK: “Has this child had malaria in the last 1 month that you didn’t already tell us about?” | 1. Yes, diagnosed in a clinic/by a physician  2. Yes, not diagnosed in a clinic/ by a physician  3. No  4. Not applicable  99. Don’t know | |\_\_|\_\_| |

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| ASK: “Thank you. Now I am going to ask you some questions about the health of your [child/children]. Please answer each question as accurately as you can. If you don’t know the answer to a question, say “I don’t know”. We will begin with [NAME OF CHILD].” | | | | | |
| ASK: “Did [NAME OF CHILD] have [SYMPTOM]: | A | B | C | D | E |
| **Today**  1. Yes  2. No  99. Don’t know | **Yesterday**  1. Yes  2. No  99. Don’t know | **Day before Yesterday**  1. Yes  2. No  99. Don’t know | **In the last 7 days** (since this day last week)  1. Yes  2. No  99. Don’t know | **In the last 2 weeks**(since this day 2 weeks ago)  1. Yes  2. No  99. Don’t know |
| 30. Fever |  |  |  |  |  |
| 31. Diarrhea |  |  |  |  |  |
| 32. 3 or more bowel movements in 24 hours |  |  |  |  |  |
| 33. Number of bowl movements each day | |\_\_|\_\_|times | |\_\_|\_\_|times | |\_\_|\_\_|times |  |  |
| 34. Watery or soft stool (unformed) |  |  |  |  |  |
| 35. Blood in the stool |  |  |  |  |  |
| 36. Skin rash (anywhere on the body) |  |  |  |  |  |
| 37. Constant cough |  |  |  |  |  |
| 38. Congestion / runny nose |  |  |  |  |  |
| 39. Panting / wheezing / difficulty breathing |  |  |  |  |  |
| 40. Bruising, scrapes or cuts |  |  |  |  |  |
| 41. Toothache / teething |  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
|  | 42. ASK: “Where does the child normally spend their time?”  (Multiple Answers – Check all that apply) | 43. ASK: “How much of each day does the child spend at this location?”  (hours or percent) |
| 1. In this compound | |\_\_| |  |
| 2. At neighboring compounds | |\_\_| |  |
| 3. At a relative’s compound; Specify relative and approximate distance from home | |\_\_| |  |
| 4. At the market | |\_\_| |  |
| 5. In the fields | |\_\_| |  |
| 6. Other: Specify place | |\_\_| |  |
| 44. ASK: “Has the child been to any *other* locations in the past day?”  Note: If answer to Q44 is 2 or 99, then skip to Q46. If answer to Q44 is 1, then answer Q45. | 1. Yes  2. No  99. Don’t know | |\_\_|\_\_| |
| 45. ASK: “Please tell me the other locations.” |  |  |
|  | 46. ASK: “Who has cared for the child in the past day?”  (Multiple Answers – Check all that apply) | 47. ASK: “How much of the day was this person caring for the child?” |
| 1. Child’s Mother | |\_\_| |  |
| 2. Child’s Father | |\_\_| |  |
| 3. Child’s Maternal Grandparents | |\_\_| |  |
| 4. Child’s Paternal Grandparents | |\_\_| |  |
| 5. Child’s Maternal Aunt/Uncle | |\_\_| |  |
| 6. Child’s Paternal Aunt/Uncle | |\_\_| |  |
| 7. Older Sister | |\_\_| |  |
| 8. Older Brother | |\_\_| |  |
| 9. Other: Specify | |\_\_| |  |

OBSERVATION CODES FOR USE BEFORE, DURING AND AFTER EE BLOOD DRAW:

i³ msMÖn Kivi mgq , Av‡M I c‡i ch©‡e¶Y †KvW Gi e¨envi

|  |  |
| --- | --- |
| **Reactivity Code** | **Observed Behavior** |
| **0-No reactivity** | No negative or positive facial affect and/or vocalizations |
| **1-Mild negative reactivity** | Infant is fussy, whiny, frowning, furrowed brow, crinkled nose, mouth slightly open or pressed lips |
| **2-Moderate negative reactivity** | Crying, wide squared mouth, eyes can be open or partially opened. |
| **3-High negative reactivity** | Screams, wails, eyes are partially closed or completely closed, may have wide or open mouth. Can include breath-holding, tears, face may change colors. Same facial expression as moderate, but with greater intensity. |
| **4 -Positive reactivity** | Smiling, bright eyes, raised cheeks, can be closed mouth or slightly parted, may be accompanied by positive vocalization |
| **5- Recovery** | Child’s recovery from stressful event, self-soothing behaviors and extent comforted by caregiver |

|  |  |
| --- | --- |
| **cÖwZwµqvi †KvW** | **AvPiY ch©‡e¶Y** |
| **0- †Kvb cÖwZwµqvi †bB** | †Kvb †bwZevPK ev BwZevPK gy‡Li AbyfzwZ/ Avwfe¨w³ †bB |
| **1- nvjKv †bwZevPK cÖwZwµqv** | wkïwU GKUz bovPov Ki‡Q , Kvbœv Ki‡Q, å“ KzP‡K Av‡Q, jjvU †eu‡K Av‡Q, bvK KzP‡K  Av‡Q ,gyL nvjKv Ljv A\_ev †VvuU †P‡c Av‡Q |
| **2-ga¨g †bwZevPK cÖwZwµqv** | Kvbœv Ki‡Q, gyL nv n‡q Av‡Q, †PvL †Lvjv ev Aa© †Lvjv |
| **3- D”P †bwZevPK cÖwZwµqv** | wPrKvi Kiv, AvZ©bv` Kiv, †PvL A‡a©K eÜ ev cy‡ivcywi eÜ, eo K‡i nv Kiv gyL †Lvjv| †Rv‡i k¦vm †bqv , †Pv‡L cvwb  Ujgj Kiv , gy‡Li is cwieZ©b nqv| ga¨g †bwZevPK cÖwZwµqv gZ GKB gy‡Li Awfe¨vw³, wKš‘ ZxeªZv †ekx |
| **4- BwZevPK cÖwZwµqv** | nv‡m¨¾j †PvL , nvwm nvwm gyL, †VvuU eÜ ev evuKv‡bv, Ges BwZevPK Awfe¨w³ |
| **4- Av‡ivM¨** | wkïwU †Ubkb c~Y© KvRwU Lwe fvjfv‡e m¤c~Y© K‡i‡Q , †m Zvui ¯^vfvweK AvPiY K‡i‡Q Ges  cwiPh©v Kvwii Kv‡Q ¯^vfvweK wQj |

TEMPERAMENT MEASURE (FEAR AND SOOTHABILITY).

AvPiY Gi cwigvc ( fq Ges ¯^vfvweKZv )

**Fear:** fq

|  |
| --- |
| **Items** |
| 49. *when this child tries to do something new (as exploring a new object), shows a little fear at the beginning*  hLb wkïwU bZzb †Kvb wKQz Kivi †Póv K‡i ( bZzb welq AbymÜvb K‡i) , cÖ\_‡g GKUz fq cvq |
| 50. *when you take this child to a new place at first he looks afraid*  *hLb Avcwb wkï wU‡K cÖ\_g †Kvb bZzb RvqMvq wb‡q hvb, †m cÖ\_‡g fq cvq* |
| 51. *this child gets upset if there are changes in his activities inside or outside the house*  *N‡ii evB‡i ev wfZi G hw` wkï wUi MwZwewai †Kvb cwieZ©b nq Z‡e* †m gb Lvivc K‡i |
| 53. *this child gets uncomfortable or cries the first time he is put to bed for a nap at a new place*  †m A¯^w¯—Ki Abyfe K‡i *hLb* bZzb †Kvb RvqMvq Nyg cvov†bv nq | |
| 55. *when this child listens to loud sounds (screams, radio, a honk of a car, dogs barking, etc.), he gets startled, screams or cries*  hLb wkïwU †Kvb †Rv‡i kã ( wPrKvi , †iwWIi kã, Mvwoi nb© Gi kã, KzKzi Gi WvK Gi  kã BZ¨vw` ) †m wPrKvi ev Kvbœv ïi“ K‡i |
| 56. *this child cries if he listens to other children cry*  wkïwU wK Ab¨ wkïi Kvbœv ï‡b Kvbœv ïi“ K‡i |
| 57. *when the child is being bathed and the temperature of the water of the bath tub is changed, this child gets startled*  wkïwU‡K †Mvmj Kiv‡bv n‡j ev †Mvm‡ji cvwbi ZvcgvÎv cwieZ©b n‡j †m Kvbœv ïi“ K‡i |
| 58. *if during the day this child gets upset with something, at night when he is sleeping he will cry, complain or wake up often*  mvivw`‡b hw` wkïwU †Kvb Kvi‡b gbLvivc K‡i , Zvn‡j iv‡Z wK †m Kvbœv KvwU K‡i Ges  †\_‡K †\_‡K †R‡M D‡V |
| 59. *when strangers caress him, this child cries*  hLb †Kvb bZzb gvbyl Zv‡K hZœ †bq †m Kvbœv KvwU K‡i |
| 60. *the first reaction of this child is to get a hold of something strongly if he gets scared*.  hw` †m fq cvq cÖ\_‡gB †m †Kvb wKQz†K AvuK‡o ai‡Z Pvq |
| Total |

**Soothability:**

|  |
| --- |
| **Items** |
| 101. *when this child is upset because his face is being washed, he calms down if he is talked to, singed to, or given something to play with*  101. GB ev”PvwUi gyL †avqv‡bv nq ZLb †m gb Lvivc K‡i| Avevi hLb Zv‡K †Ljvi K\_v ejv nq ev †Ljvi Rb¨ wKQz †`qv nq ZLb kvšÍ n‡q hvq | |
| 102. *when this child is upset because his diaper is being changed, he calms down if he is talked to, singed to, or given something to play with*  102. GB ev”PvwUi Wvqcvi cwieZb Kiv nq ZLb †m gb Lvivc K‡i| Avevi hLb Zv‡K †Ljvi K\_v ejv nq ev †Ljvi Rb¨ wKQz †`qv nq ZLb kvšÍ n‡q hvq | |
| 103. *if this child is crying because he is hungry he calms down if he is held in arms or talked to*  103. GB ev”PvwU ÿzavq Kv‡` Avevi ZLb kvšÍ n‡q hvq hLb Zv‡K †Kv‡j †bqv nq ev K\_v ejv nq| |
| 104. *if this child is upset or frightened by a sudden noise, he calms down on his own*  104. nVvZ k‡ã GB ev”PvwU fxZ n‡q hvq Avevi Avcbv Avcwb kvšZ n‡q hvq| |
| 105. *when this child is upset or frightened by the presence of a stranger, he calms down on his own*  105. bZzb AwZ\_x ‡`L‡j GB ev”PvwU fxZ n‡q hvq Avevi Avcbv Avcwb kvšÍ n‡q hvq| |
| 107. *when he is upset, this child calms down if he is rocked or held in arms*  107. GB ev”PvwU gb Lvivc K‡i Avevi hLb Zv‡K †Kv‡j †bqv nq ZLb kvšÍ n‡q hvq| |
| 108. *when this child is upset because a toy is taken away from him, he calms down by himself*  108. GB ev”PvwU gb Lvivc K‡i hLb Zvi †Ljbv wb‡q †bqv nq Avevi Avcbv Avcwb kvšZ n‡q hvq| |
| 109. *this child stops crying if a cracker, bread or other food is given to him*  109. GB ev”PvwU‡K iywU ev Ab¨ †Kvb Lvevi w`‡j †m Kvbœv \_vwg‡q †`q | |
| 111. *when this child is upset, he calms down if a toy is given to him*  111. GB ev”PvwU hLb gb Lvivc K‡i ZLb †Ljbv w`‡j †m Avevi kvšZ n‡q hvq| |
| 112. *when this child is angry, he calms down easily if he is taken for a ride* (or carried)  112. GB ev”PvwU hLb †i‡M hvq, ZLb Zv‡K †Kvb wKQz‡Z Pov‡j ev Nyi‡Z †M‡j †m mn‡RB Avevi kvšZ n‡q hvq | |
| Total |

WASH Benefits Module 22

Household Latrine Survey

Note: Ask these Questions to any adult family member

(GB cÖkœ¸‡jv j¨vwUªb m¤ú‡K© Z\_¨ w`‡Z cvi‡e Lvbvi Ggb †Kvb cÖvß eq¯‹ m`m¨‡K wRÄvm Ki‡Z n‡e)

**Section-1: Household unique identifier**

* 1. evox bs (Bari ID): .. .. .. .. .. .. .. … .. .. .. .. .. .. .. .. .. .. .. … .. .. .. .. .. .. .. .. .. .. .. .. .. . ..

1.2 Lvbv bs**(**Household ID):

**(Please follow the specific code sheet)**

1.3BDwbq‡bi bvg (Union name):

1.4**wVKvbv** (Address): Lvbv cÖav‡bi bvg:

(Name of household head)

Lvbv cÖav‡bi evevi/¯^vgxi bvg:

(Father’s/ husband’s name)

mv¶vZKvi cÖ`vbKvixi bvg:

(Name of respondent)

mv¶vZKvi cÖ`vbKvixi mv‡\_ Lvbv cÖav‡bi m¤úK©:

(Relation with HH head)

1.evev (father) 2.gv (mother) 3.eofvB (elder brother) 4. `v`v ((grand-father))

5. `v`x (grand-mother) 6. PvPv (uncle) 7. PvPx (unty) 8. gvgv (maternal uncle)

77. Ab¨vb¨:

evoxi bvg:

(Bari Name)

Mªvg:

(Village)

evoxi Ae¯’vb (we¯ÍvwiZ wjLyb):

Location (specify)

1.5mv¶vZKvi MÖnYKvixi bvg Ges †KvW (Interviewer name & code):

1.6 Z\_¨ msMÖ‡ni ZvwiL (Date of data collection/observation/spot check): / /

**Section 2: Respondent and household demographics**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Lvbvi m`m¨‡`i bvg [**List of household members (name)]**  **(Lvbvi me‡P‡q †QvU ev”Pv‡K w`‡q ïi“ Ki‡Z n‡e)** | eqm [Age] | wj½ [Sex]  1. Male  2. Female | | wk¶v [Education]  99-Rvwbbv 88-**cÖ‡hvR¨ bq** | ‡ckv  [Occupations] | j¨vwUªb e¨envi  (Latrine user)  1.yes; 2.No |
| **1.** |  |  | |  |  |  |
| **2.** |  |  | |  |  |  |
| **3.** |  |  | |  |  |  |
| **4.** |  |  | |  |  |  |
| **5.** |  |  | |  |  |  |
| **6.** |  |  | |  |  |  |
| **7.** |  |  | |  |  |  |
| **8.** |  |  | |  |  |  |
| **9.** |  |  | |  |  |  |
| **10.** |  |  | |  |  |  |
| **11.** |  |  | |  |  |  |
| **12.** |  |  | |  |  |  |
| **13.** |  |  | |  |  |  |
| **14.** |  |  | |  |  |  |
| **15.** |  |  | |  |  |  |
| Occupation Code:   1. **K…lK** [Farmer/Cultivator] 2. **N‡i KvR K‡i** [Homemaker] 3. **K…wl kªwgK** [Agri-labor] 4. **kªwgK (K…wl kªwgK Qvov)**  [Non-agri labor] 5. **‡eZbfy³ Kg©Pvix (miKvix/cÖvB‡fU/Gb.wR.I)** [Salaried job (Govt./Private/NGO)] 6. **ivRwg¯¿x** [Mason (*Rajmistri*)] 7. **KvV wg¯¿x** [Carpenter] 8. **f¨vb/wiKkv PvjK** [Van/Rickshaw puller] 9. **‡R‡j** [Fisherman] 10. **‡bŠKv PvjK/gvwS** [Boatman] 11. **Kg©Kvi** [Blacksmith] 12. **¯^Y©Kvi** [Goldsmith] 13. **Kzgvi/Kz¤¢Kvi** [Potter (soil smith)] 14. **gywP** [Shoe polish /maker] 15. **‡`vKvb`vi** [Shopkeeper] 16. **‡dwiIqvjv** [Vendor (*Feriwala/howker*)] 17. **¶y`ª e¨emvqx (g~jab <=10000)** [Petty trader, capital <=10000] 18. **e¨emvqx(g~jab >10000)** [Business, capital >10000] 19. **`wR©** [Tailor] 20. **WªvBfvi** [Driver] | | | |  | 1. **KzUxi wkí** [Cottage industry] 2. **‡cvjwUª/ e¨emvi Rb¨ cï jvjb-cvjbKvix**  [Poultry /livestock rearer] 3. **‰e`y¨wZK wg¯¿x** [Electrician] 4. **‡nvwgIc¨vw\_ Wv³vi** [Homeopath] 5. **Ava¨vwZK wPwKrmK/ KweivR/ ISuv** [Spiritual healer/kabiraj/ Ojha] 6. **‡ckv`vi Wv³vi/DwKj** [Professional practitioner (Doctor/lawyer)] 7. **Bgvg/ ag©hvRK** [Imam/priest] 8. **AemicÖvß PvKzixRxex** [Retired service holder] 9. **QvÎ** [Student] 10. **‡eKvi** [Unemployed] 11. **A¶g** [Disabled] 12. **Kv‡Ri †jvK** [Domestic maid / servant] 13. **Rwg`vi (km¨ Drcv`b A\_ev Ab¨ †Kvb Kv‡R K…lK‡`i Rwg eM©v †`q)**   [Landlord (Provide land for farmers for sharecropping or others)]   1. **we‡`‡k \_v‡K** [Staying abroad] 2. **g„Z/wb‡LuvR**  [Died/untraced]   99.  **Rvwbbv**  [Don’t know]  88. **cÖ‡hvR¨ bq** [Not applicable]  77. **Ab¨vb¨ (eY©bv wjLyb)** [Others (specify]  ..........................…………………………………… | | | |

**Self-reported data**

**Section-3: Access to latrine**

1. Avcbvi/Avcbvi cwiev‡ii m`m¨‡`i wK j¨vwUªb e¨env‡ii my‡hvM Av‡Q [Do you/family members have access to a latrine]?

1. n¨vu [Yes] 2. bv[No]

(hw` DËi n¨vu nq Zvn‡j cÖkœ-2 G hvb A\_ev 'bv' nq Zvn‡j cÖkœ-2 G hvb Zvici ‡mKkb-5 G hvb) [if answer is ‘no’, then ask ques-2 and skip to section-5]

1. Avcbvi/Avcbvi cwiev‡ii m`m¨iv †Kv\_vq cvqLvbv K‡ib [Where do you/family members defecate]?

1**.** DVv‡b [yard] 2.**DVv‡bi evwn‡i †Lvjv RvqMv‡Z** [Open space outside the front yard]

3. **‡Svc-Sv‡o/R½‡j [**Bush/jungle] 4.j¨vwUªb **/Uq‡j‡U** [In toilet]

77. **Ab¨vb¨ (eY©bv wjLyb)** [Other (Please describe)].................................

1. j¨vwUªb wK Avcbvi [Do you own the latrine (that you use)]?

1. n¨vu [Yes] 2.bv[No]

(hw` DËi n¨vu nq Zvn‡j cÖkœ-4 G hvb A\_ev bv nq Zvn‡j **cÖkœ-6** G hvb )[if answer is ‘No’ skip to **quest-6**]

1. j¨vwUª‡bi gvwjKvbvi aib (Type of ownership)?

1. GKK gvwjKvbv (self own) 2. ‡hŠ\_ gvwjKvbv (jointly own)

(hw` DËi GKK gvwjKvbv nq Zvn‡j **†mKkb-4** G hvb) [if self own, go to **section-4**]

1. hw` j¨vwUªbwU †hŠ\_gvwjKvbvq nq Zvn‡j Askx`vi †K?

1. AvZ¥xq (GKB evoxi g‡a¨) [relative] 2. cÖwZ‡ekx [neighbor] 77.**Ab¨vb¨** [Other].................................

1. Avcwb/Avcbvi cwiev‡ii m`m¨iv wK Ab¨ Lvbv/evoxi j¨vwUªb e¨envi K‡ib [Do you/family members use another household’s latrine]?

1. n¨vu [Yes] 2. bv [No]

(hw` DËi n¨vu nq Zvn‡j 7 bs cªkœ wRÄvmv Ki“b Ges †mKkb-5 G hvb, hwZ DËi bv nq Zvn‡j †mKkb-4 G hvb)

(If answer is ‘yes’, ask question-7 and skip to section-5, if answer is ‘no’, skip to section-4)

1. ‡Kvb Lvbvi j¨vwUªb Avcwb/Avcbvi cwiev‡ii m`m¨iv †kqvi K‡ib (ev”Pviv mn) (AvZ¥xq bv cÖwZ‡ekxi j¨vwUªb Zv Rvb‡Z n‡e)

[Which household do you share this latrine (including children)]?

1. AvZ¥xq (GKB evoxi g‡a¨) [relative] 2. cÖwZ‡ekx [neighbor] 77.**Ab¨vb¨** [Other].................................

**Section-4: Duration of latrine use and pit emptying**

1. Avcwb/Avcbvi cwiev‡ii m`m¨iv KZ gvm a‡i GB j¨vwUªb e¨envi Ki‡Qb [How long have you been using this latrine]?

(w`b/eQi †h‡Z Zv gv‡m wjL‡Z n‡e)

MM

1. GLb †h j¨vwUªb e¨envi Ki‡Qb Zvi †Kvb wcU/MZ© wK KLbI Lvwj Kiv n‡q‡Q ? [Did you ever empty a pit of existing latrine]

1. n¨vu[Yes] 2.bv [No]

(hw` DËi n¨vu nq Zvn‡j cÖkœ- 10 G hvb A\_ev bv nq Zvn‡j cªkœ-15 †Z P‡j hvb)[if ‘no’, skip to question-15]

1. KZ evi GB j¨vwUª‡bi wcU Lvwj Kiv n‡q‡Q? [How many times did you empty pit of existing latrine]
2. me© †kl K‡e GB j¨vwUª‡bi wcU Lvwj Kiv n‡qwQj? [When did you last empty the pit of existing latrine] MM

**(hw` †hŠ\_ gvwjKvbvq nq Zvn‡j cÖkœ: 12 Ki‡Z n‡e)**[if answer is Jointly own then ask to **quest-12**]

1. me© †kl Kvi Li‡P GB j¨vwUª‡bi wcU Lvwj Kiv n‡qwQj? [Who bear the cost for last empty the pit]

1. wb‡Ri 2.cÖwZ‡ekx 3.AvZ¥xq

1. wK fv‡e wcU Lvwj Kiv n‡qwQj[How did you empty]?

1. wb‡R/cwiev‡ii m`m¨ [By yourself] 2.myBcvi fvov K‡i [By hiring sweeper] 77. Ab¨vb¨[Other].. .. .. .. .. .. ..

1. hw` myBcvi fvov Kiv nq Zvn‡j me© †kl wcU Lvwj Ki‡Z KZ UvKv LiP n‡qwQj [If, emptied hiring a sweeper, how much does it cost for empty the pit last time]? UvKv [Taka]
2. MZ GK eQ‡i Avcbvi/Avcbv‡`i j¨vwUªb wK †givgZ Kiv n‡q‡Q [Did you ever repair latrine structure]?

1. n¨vu [Yes] 2. bv [No]

(hw` DËi n¨vu nq Zvn‡j cÖkœ-16 A\_ev bv nq, Zvn‡j ‡mKkb-5 G P‡j hvb)[if answer is ‘no’, skip to secktio-5]

1. MZ GK eQ‡i Avcbvi/Avcbv‡`i j¨vwUªb KZevi †givgZ Kiv n‡q‡Q [How many times did you repair the structure (within last one year)?
2. ‡Kvb Ask me †P‡q †ekx †givgZ K‡i‡Qb Ges KZ evi [Which part did you repair most]?

1. ‡`qvj/ †eov [Walls/fences]

2. `iRv [Door]

3. Qv` [Roof]

77. Ab¨vb¨ [Other].. … … … … … … … … … … … … … … … … … … … … … … …

1. me© †kl †Kvb Ask †givgZ K‡i‡Qb [Which part did you repair last]?

1. ‡`qvj/ †eov [Walls/fences]

2. `iRv [Door]

3. Qv` [Roof]

77. Ab¨vb¨ [Other-describe] . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

1. ‡K ‡givgZ K‡iwQj [Who repaired it]?

1. wb‡R/cwiev‡ii m`m¨ [By yourself] 2. kªwgK fvov K‡i [hire daily labor]

77. Ab¨vb [other]..............................

1. me© †kl †givg‡Z KZ LiP n‡qwQj [How much did it cost to repair (last time repaired)]?

UvKv [Taka]

**Section-5: consent on latrine upgrade**

1. hw` Avgiv M‡elYvi cÖ‡qvR‡b bZzb j¨vwUªb ¯’vcb K‡i w`‡Z PvB, Avcwb wK Zv‡Z ivRx n‡eb [If we want to set up a new latrine for research purpose, will you agree]?

1. n¨vu [Yes] 2. bv [No]

[hw` DËi n¨vu nq Zvn‡j cÖkœ-23 G hvb A\_ev bv n‡j cªkœ-22 G hvb, hw` j¨vwUªb bv \_v‡K Zn‡j cÖkœ 21 I 22 `y‡UvB cÖ‡hvR¨ n‡e][if answer is ‘No’ skip to **quest-22**]

1. hw` DËi (21 bs cÖ‡kœi) bv nq Zvn‡j Kvib eY©bv Ki“b (we¯ÍvwiZ): … … … … … … … … … … … … … … … … … … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

1. hw` Avgiv Avcbvi j¨vwUªb M‡elYvi cÖ‡qvR‡b ms¯‹vi Ki‡Z PvB, Avcwb wK Zv‡Z ivRx n‡eb [If we want to upgrade your existing latrine for research purpose, will you agree]?

1. n¨vu [Yes] 2. bv [No]

[hw` DËi n¨vu nq Zvn‡j cÖkœ-25 G hvb,DËi bv n‡j cÖkœ-24 G hvb][if answer is ‘No’ skip to **quest-24**]

1. hw` DËi (23 bs cÖ‡kœi) bv nq Zvn‡j Kvib eY©bv Ki“b (we¯ÍvwiZ): … … … … … … … … … … … … … … … … … … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

1. j¨vwUªb ¯’vc‡bi Rb¨ Avcbvi KZUzKz RvqMv Av‡Q (AvZ¥xq-¯^Rb I cÖwZ‡ekx mn)(wb‡Ri gvwjKvbvq bvI n‡Z cv‡i wKšÍ AvZ¥xq/cÖwZ‡ekxi RvqMvq cvqLvbv ¯’vc‡bi AbygwZ Av‡Q) [How much land do you have access to install a latrine]? [Including neighbor, relative and kin] (†Wwm‡gj)[decimal]

1. j¨vwUªb ¯’vc‡bi Rb¨ Avcbvi wb‡Ri gvwjKvbvaxb KZUzKz RvqMv Av‡Q[How much land do you own to install a latrine]?

(†Wwm‡gj)[decimal]

(hw` j¨vwUªb ¯’vc‡bi Rb¨ wb‡Ri RvqMv \_v‡K Zvn‡j cÖkœ-31 G †h‡Z n‡e, RvqMv bv \_vK‡j cÖkœ-27 G †h‡Z n‡e) [if HH own land for latrine installation then skip to quest-31]

1. Avcbvi AvZ¥xq-¯^Rb Ges cÖwZ‡ekxiv wK (Zv‡`i RvqMvq) j¨vwUªb ¯’vc‡bi AbygwZ †`‡eb

[Would your neighbors and relatives (kin group) permit you to install a latrine in their land]

1. n¨vu [Yes] 2. bv [No]

[hw` DËi n¨vu nq Zvn‡j cÖkœ-31 G hvb. DËi bv n‡j cªkœ 28 G hvb][if answer is ‘No’ skip to **quest-28**]

1. hw` DËi (27 bs cÖ‡kœi) bv nq Zvn‡j Kvib eY©bv Ki“b (we¯ÍvwiZ)[Describe if answer is no to quest-27]:

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

1. Avcbvi AvZ¥xq-¯^Rb Ges cÖwZ‡ekxiv wK (Zv‡`i RvqMvq) ¯’vwcZ j¨vwUªb Kg c‡¶ `yB (2) eQi e¨env‡ii AbygwZ †`‡eb

[Would your neighbors and relatives (kin group) permit you to use that latrine at least 2 year]?

1. n¨vu [Yes] 2. bv [No]

[hw` DËi n¨vu nq Zvn‡j cÖkœ-31 G hvb, bv n‡j cÖkœ 30 hvb][if answer is ‘No’ skip to **quest-30**]

1. hw` DËi (29 bs cÖ‡kœi) bv nq Zvn‡j Kvib eY©bv Ki“b (we¯ÍvwiZ[Describe if answer is no to quest-29]… … … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

1. ‡h RvqMvq bZzb j¨vwUªb /wcU ¯’vbcb Kiv n‡e Zvi wbKU eZ©x cvwbi Drm¸‡jv we¯ÍvwiZ eb©bv Ki“b (cwbi Dr†mi bvg I `~iZ¡):

[nearest water sources and distance from proposed duel pit latrine place]

|  |  |  |
| --- | --- | --- |
| cvwbi Dr‡mi bvg  (Source of water) | `~iZ¡(cÖ¯ÍvweZ bZzb j¨vwU¨b/wcU ¯’vc‡bi RvqMv)  (Distance) | MfxiZv(wUDe-I‡qj n‡j)  (Depth-if tub-well) |
|  |  |  |
|  |  |  |
|  |  |  |

**Section-6: Observation of household latrines (by FRA or data collector)**

1. Lvbvq KZ¸‡jv j¨vwUªb e¨eüZ n‡”Q (wbqwgZ/AwbqwgZ) [How many latrines is in-use? (regular/ irregular)]
2. Lvbvq †h j¨vwUªb¸‡jv e¨eüZ n‡”Q (wbqwgZ/AwbqwgZ) Zvi aib [Type of latrines is in-use in HH? (regular/ irregular)]

j¨vwUªb-1[Latrine: 1] aib[Type:] . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

j¨vwUªb-2[Latrine: 2] aib[Type:] . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

¯^v¯’¨ m¤§Z-U‡q‡jU (Improved sanitation facilities)**-**

d¬vk-Uq‡jU A\_ev cvwb †X‡j d¬vm Kiv Uq‡jU [Flush or pour flush toilet flushed to]:

Uq‡jUwU‡Z cqtwb®‹vkb cvB‡ci mv‡\_ ms‡hvM K‡i ‡`qv [Piped sewer system] 01

Uq‡jUwU‡Z †mcwUK U¨vsK emv‡bv Av‡Q [Septic tank] 02

‡mcwUK U¨vsK bvB wKšÍ d¬vm K‡i ev cvwb †X‡j cvqLvbv `y‡i wc‡Ui g‡a¨ mwi‡q †`qv hvq 03

[Flush to pit latrine (Off set)]

wcU-Uq‡jU (¯­ve Ges IqvUvi wmj Av‡Q) [Pit latrine with slab & water seal] 04

wcU-Uq‡jU (¯­ve Av‡Q wKš‘ IqvUvi wmj ‡bB Z‡e XvKbv †`qvi e¨e¯’v Av‡Q) 05

[Pit latrine with slab & no water seal but with a lid]

wcU-Uq‡jU (¯øve Ges d¬¨c Av‡Q wKš‘ IqvUvi wmj ‡bB)   
[Pit latrine with slab and flap, no water seal]………………………………………….…45

**evqy PjvPj Dc‡hvMx DbœZ j¨vwUªb** [Ventilated Improved Pit (VIP) latrine]………………………46

Kg‡cvwós Uq‡jU **(cvqLvbv Ges cÖmªve Kivi Rb¨ Avjv`v Avjv`v Ni Ges mv‡\_ Avjv`v ‡Kv\_vI cvwbi e¨ve¯’v Av‡Q)**

[Composting toilet, *(Composting toilet ensure separation of urine, water and excreta)*] 06

**(cvqLvbv Ges cÖmªve Kivi Rb¨ Avjv`v Avjv`v Ni Ges mv‡\_ Avjv`v ‡Kv\_vI cvwbi e¨ve¯’v Av‡Q)**

d¬vk-U‡q‡jU A\_ev cvwb †X‡j d¬vm Kiv Uq‡jU hv †Kvb Lvj, †Wªb, b`x BZ¨vw`i mv‡\_ ms‡hvRb

Kivi d‡j A¯^v¯’¨Ki Ae¯’vi m„wó K‡i \_v‡K 07

[Flush or pour flush toilet connected to somewhere else (canal, ditch, river, etc.)]

wcU/MZ© cvqLvbv, ¯­ve ‡bB Ges †hLvb †\_‡K gkv/gvwQ hvIqv Avmv Ki‡Z cv‡i Ges `~M©Ü Qovq 08

[Pit latrine without slab/open pit]

wcU/MZ© cvqLvbv ¯­ve Av‡Q Z‡e,IqvUvi wmj ‡bB A\_ev IqvUvi wmj fv½v Ges †Kvb XvKbvI †bB 09

[Pit latrine with slab & no water seal/broken water seal and no lid]

SzjšÍ cvqLvbv [Hanging toilet/latrine] 10

†Lvjv cvqLvbv/ Uq‡jU (**Open defecation**):

‡Kvb cvqLvbv †bB/R½‡j/‡Sv‡c Sv‡o/ †Lvjv RvqMvq [No facility/bush/field] 11

**Ab¨vb¨ (wbw`©ó K‡i wjLyb)** [Others: Specify] 77

1. j¨vwUª‡bi Dcwi KvVv‡gvi we¯ÍvwiZ eb©bv [ structure of latrine]

j¨vwUªb-1[Latrine: 1]

1.‡`qvj/ †eov [Walls/fences] . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

2.`iRv [Door] . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

3.Qv` [Roof] . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

j¨vwUªb-2[Latrine: 2]

1.‡`qvj/ †eov [Walls/fences] . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

2.`iRv [Door] . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

3.Qv` [Roof] . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

1. wbqwgZ Lvevi cvwbi Drm (†imcb‡W›U wPwýZ Ki‡eb) [Source of regular drinking water (as defined by the respondents)]?

1. **AMfxi wUDeI‡qj (250 wd‡Ui Kg)**[Shallow tube well] (<250 feet**)**

2. **Mfxi wUDeI‡qj (250 wd‡Ui †ekx)**[Deep tube well]. (250+ feet)

3. **b`x/eva/†jK/cyKzi/†mP bvjv‡\_‡K Rxevbygy³Kib cvwb**

[Pathogen treatment plant (Pond Sand Filter)]: River/dam/lake/ponds/stream/canal/irrigation channel.]

4. **b`x/eva/†jK/cyKzi/†mP bvjv‡\_‡K mivmwi msM„nxZ cvwb**

**[**Directly from River/dam/lake/ponds/stream/canal/irrigation channel]

77. Ab¨vb¨ [Other] (eY©bv Ki“b): . . . . . . . . . . . . . . . . . . . . . . . .

1. j¨vwUªb (me‡P‡q †ekx e¨eüZ nq †h j¨vwUªbUv) I Lvevi cvwbi Dr‡mi g‡a¨ `~iZ¡ (AvbygvwbK) [Distance (approximately) between latrine (mostly in use) and drinking water source (tube-well)]?

**(wb‡Ri/AvZ¥xq/cÖwZ‡ekxi gvwjKvbvi Lvevi cvwbi Dr†mi `~i“Z¡)**

<30 K`g/cv[steps] (30 K`‡gi †ekx n‡j gvcvi `iKvi bvB) > 30 Gi †ekx (>more than 30 steps]

1. eZ©gvb j¨vwUª‡b KqwU wcU Av‡Q (eZ©gv‡b e¨eüZ n‡”Q ev Lvbvi m`m¨iv †h j¨vwUªb †ekx e¨envi K‡i) [Number of pit in existing latrine? (currently in use, mostly used by the household)]
2. wc‡U KZwU wis e¨eüZ n‡q‡Q (cÖkœ Ki‡Z n‡e) [Number of rings used in the pit? (need to ask)]
3. wis Gi eZ©gvb Ae¯’v wK (†h wis ¸‡jv †`Lv hvq) [What is the current condition of the rings]?

wcU-1 [Pit-1]: 1. fvj [Functional] 2. fv½v[Broken]

wcU-2 [Pit-2]: 1. fvj [Functional] 2. fv½v[Broken]

1. hw` wis fv½v nq, Zvn‡j Zvi we¯ÍvwiZ eY©bv Ki“b [If ring is broken, describe the situation]?

wcU-1 [Pit-1]: . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

wcU-2 [Pit-2]: . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

1. wcU †\_‡K wK cvqLvbv evB‡i †ei n‡”Q[Does feces spill out from the pit]?

1. n¨vu[Yes] 2. bv [No]

(hw` DËi n¨vu nq Zvn‡j cÖkœ-42 G hvb A\_ev ÕbvÕ n‡j 45 bs cÖ‡kœ P‡j hvb) [if answer is ‘yes’ then describe (question-42), otherwise skip to question-45]

1. cvqLvbv †ei n‡q †Kv\_vq ci‡Q [Where the spilled feces get to]? … … … … … … … … … … … … … … … … … … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

1. wc‡Ui Pvi cv‡k cvqLvbv †`Lv hv‡”Q wK [Is there feces visible around the pit]?

1. n¨vu[Yes] 2. bv [No]

1. cvqLvbv wK fv‡e wcU Gi evB‡i †ei n‡”Q Zv eY©bv Ki“b [Describe how does feces come out from the pit]? . … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

1. j¨vwUª‡bi ¯­v‡ei [Floor] eZ©gvb Ae¯’v wK [What is the current condition of latrine slab]?

1. fvj [Functional] 2. fv½v[Broken]

1. hw` ¯­ve [Floor] fv½v nq ev Lvivc nq Zvn‡j Zvi eY©bv Ki“b[If slab is damaged or broken describe it]? … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

1. ¯­v‡e [Floor] wK cvqLvbv †`Lv hv‡”Q [Are there any visible feces on the slab]?

1. n¨vu[Yes] 2. bv [No]

(hw` DËi n¨vu nq Zvn‡j cÖkœ-48 G hvb A\_evÕbvÕ nq Zvn‡j 49 bs cÖ‡kœ P‡j hvb) [if answer is ‘no’, skip to the question-48]

1. hw` n¨vu nq, Zvi eY©bv Ki“b (†Kvb As‡k †`Lv hv‡”Q, cwigvb) [If yes, describe it? (which part it appears, quantity… … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …… … … … … … … … … … … … … … … … …

1. c¨v‡b cvqLvbv †`Lv hv‡”Q wK [Is there any feces appear on the pan]?

1. n¨vu[Yes] 2.bv [No] 3.bvB[No pan]

(hw` DËi n¨vu nq Zvn‡j cÖkœ- 50 G hvb A\_evÕbvÕn‡j 51 bs cÖ‡kœ P‡j hvb)[if answer is ‘no’, skip to the question-50]

1. hw` n¨vu nq, Zvi eY©bv Ki“b [If yes, describe it]? . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

1. j¨vwUª‡b wK IqvUvi wmj/mvBdzb †`Lv hv‡”Q [Is there is any water seal/siphon appear in the latrine]?

1. n¨vu[Yes] 2. bv [No] 3. bvB[No water seal]

(hw` †`Lv m¤¢e nq †`L‡Z n‡e, c¨vb cvqLvbvq cwic~b© \_vK‡j †`Lv bvI †h‡Z cv‡i| cwic~Y© \_vK‡j j¨vwUª‡b cvwb †X‡j †`L‡Z n‡e| hw` DËi n¨vu nq Zvn‡j cieZx© cÖ‡kœ P‡j hvb) [if it is possible to watch, if latrine is overflow it may not be visible. If the answer is ‘yes’ proceed]

1. IqvUvi wmj/mvBdzb Gi eZ©gvb Ae¯’v wK [What is the current condition of the water seal]?

1.fvj [Functional] 2.fv½v[Broken]

1. hw` fv½v nq, Zv eY©bv Ki“b (Gi g‡a¨ cvwb †bB, Gi ga¨ w`‡q wc‡Ui cvqLvbv mivmwi †`Lv hv‡”Q, MZ© †`Lv hv‡”Q) [If broken, describe it (no water in it, pit content appears through the water seal, big hollow appears etc.)]? . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

**Interviewer instruction sheet**

1. hw` †Kvb Lvbvq j¨vwUªb bv \_v‡K Zv‡K bZzb j¨vwUª‡bi Rb¨ we‡ewPZ n‡e (**bZzb j¨vwUªb n‡”Q DcwiKvVvg mn mg¯Í Dcv`vb bZzb** )|
2. hw` j¨vwUª‡bi Dcwi KvVv‡gvi ïay Qv`/`iRv/†eov bv \_v‡K Zvn‡j Zv ‡govgZ K‡i †`qv Rb¨ we‡ewPZ n‡e|
3. hw` j¨vwUª‡bi Dcwi KvVv‡gv b®U n‡q hvq (e¨env‡ii AbychwM, GKB mv‡\_ Dci w`‡q cvwb c‡i, `iRv fv½v, †eov fv½v) Zvn‡j bZzb Dcwi KvVv‡gv †`qv n‡e Rb¨ we‡ewPZ n‡e|
4. ‡Kvb j¨vwUª‡bi GKUv wcU/MZ© \_vK‡j Zv Wy‡qj wcU j¨vwUª‡b iƒcvšÍi K‡i †`qv Rb¨ we‡ewPZ n‡e (hw` cÖ\_g wcU/eZ©gvb wcU fvj \_v‡K)|
5. ‡Kvb j¨wUª‡bi eZ©gvb wcU (wis I ¯­ve fv½v/ wis fv½v Ges cvqLvb evB‡i ci‡Q) Zvn‡j Zv‡K bZzb j¨vwUªb †`qv Rb¨ we‡ewPZ n‡e|
6. hw` †Kvb j¨vwUª‡b 3 Uvi Kg (1 ev 2 Uv) wis \_v‡K Zvn‡j bZzb j¨vwUª‡bi Rb¨ we‡ewPZ n‡e|
7. me j¨vwUª‡bi mvBdzb †`qvi Rb¨ we‡ePbv Kiv n‡e|

Appendix: 4 Data Collection Forms Bengali

**Iqvm †ewbwdUm Kgb gwWDj-1**

**wkïi Rb¥ ZvwiL, eqm Ges wj½**

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. K¬v÷vi AvBwW:** | 🞎🞎🞎🞎 |
| **0.2. Lvbv AvBwW:** | 🞎🞎🞎 |
| **0.3. wkïi AvBwW:** | 🞎🞎🞎🞎🞎🞎 |

**†eBRjvB‡bi mgq †h mKj Lvbvq <36 gv‡mi wkï Av‡Q**

|  |  |  |
| --- | --- | --- |
| **C.101**  **Z\_¨ msMÖ‡ni ZvwiL** | **w`b/gvm/eQi** | 🞎🞎/🞎🞎/🞎🞎 |
| **C.102**  **wkïi Ae¯’v** | 1 = **Dcw¯’Z**  2 = **GLbI Rb¥MÖnb K‡i bvB (M‡f© Av‡Q)>> C.108 bs cÖ‡kœ P‡j hvb** | 🞎 |
| **C.103**  **wkïi Rb¥ ZvwiL** | **w`b/gvm/eQi** | 🞎🞎/🞎🞎/🞎🞎 |
| **C.104**  **Rb¥ Zvwi‡Li Drm** | 1 = **wUKv KvW© †\_‡K**  2 = **gv/AvZ¥x‡qi KvQ †\_‡K**  3 = 1 **Ges** 2 **Dfq**  4 = **gv/AvZ¥x‡qi KvQ †\_‡K Ges B‡f›U K¨v‡jÛvi e¨envi K‡i** | 🞎 |
| **C.105**  **D‡jøwLZ eqm** | # **eQi**, ## **gvm** | A.🞎**eQi** |
|  |  | B.🞎🞎**gvm** |
| **C.106**  **M‡elYvq e¨eüZ eq‡mi Drm** | 1 **Rb¥ ZvwiL** (C.103)  2 **D‡jøwLZ eqm** (C.105) | 🞎 |
| **C.107**  **wkïi wj½** | 1 = **cyiæl**  2 = **gwnjv** | 🞎 |
| **Mf©eZx gv‡q‡`i Rb¨:** |  |  |
| **C.108 Avcbvi me©‡kl gvwm‡Ki ZvwiL KZ?** | 88 / 88 / 88 = **me©‡kl Mf©avi‡bi ci †\_‡K GLb ch©šÍ gvwmK nq bvB**  99 = **Rvwb bv/wbwðZ bB** | 🞎🞎/🞎🞎/🞎🞎  **w`bgvmeQi** |
| **C.109**  **Mf©avi‡bi mgq** | **c~Y©gv‡m MYYv Kiæb**  99 = **Rvwb bv/wbwðZ bB** | 🞎**c~Y©gvm** |
| **C.110**  **Mf©avi‡bi mg†qi Drm** | 1 = **ïaygvÎ gv‡qi KvQ †\_‡K**  2 = **gv Ges †ckv`vi ¯^v¯’¨Kg©xi KvQ †\_‡K, †Kvb AvjUªv‡mvbMÖvg Kiv nqwb**  3 = **gv Ges †ckv`vi ¯^v¯’¨Kg©xi KvQ †\_‡K, †Kvb AvjUªv‡mvbMÖvg Kiv nqwb** | 🞎 |

**Iqvm †ewbwdUm Kgb gwWDj-2**

**cvZjv cvqLvbv Ges Amy¯’Zvi jÿY**

**†eBRjvB‡bi mgq †h mKj Lvbvq <36 gv‡mi wkï Av‡Q**

**DËi`vZv: wkïi cÖv\_wgK cwiPh©vKvix (cÖv\_wgK cwiPh©vKvix †mB n‡e †h ev”Pvi mv‡\_ †ekx mgq KvUvq| †ekxifvM mgq gv n‡q \_v‡K)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Identification** | | |  | | |
| **0.1. K¬v÷vi AvBwW:** | | | 🞎🞎🞎🞎 | | |
| **0.2. Lvbv AvBwW:** | | | 🞎🞎 | | |
| **0.3. wkïi AvBwW:** | | | 🞎🞎🞎🞎🞎🞎 | | |
|  |  | | **A** | **B** | | **C** | **D** |
|  | Avcbvi wkïi (bvg ejyb) wK wb‡gœv³ ‡Kvb Amyweav wQ‡jv? | | AvR  **1=** n¨uv  **0=** bv  **999=** Rvwb bv | MZKvj  **1=** n¨uv  **0=** bv  **999=** Rvwb bv | | 2 w`b Av‡M  **1=** n¨uv  **0=** bv  **999=** Rvwb bv | MZ 7 w`‡b (AvR †\_‡K)  **1=** n¨uv  **0=** bv  **999=** Rvwb bv |
| **C.201** | R¡i | |  |  | |  |  |
| **C.202** | cvqLvbv cvZjv | |  |  | |  |  |
| **C.203** | MZ 24 N›Uvq 3 evi ev Zvi †ekx cvqLvbv K‡i‡Q wKbv | |  |  | |  |  |
| **C.204** | cÖwZw`b KZevi cvqLvbv K‡i | |  |  | |  |  |
| **C.205** | cvwbi gZ ev big cvqLvbv | |  |  | |  |  |
| **C.206** | i³ wM‡q‡Q wKbv | |  |  | |  |  |
| **C.207** | ‡ik (kix‡ii †h †Kvb RvqMvq) | |  |  | |  |  |
|  |  | |  |  | |  |  |
| **C.208** | memgq Kvwk | |  |  | |  |  |
| **C.209** | bvK eÜ/bvK w`‡q cvwb cov | |  |  | |  |  |
| **C.210** | k¦vm †bIqvi mgq ‡kuv †kuv K‡i AvIqvR ev k¦vmKó? (†h †Kvb ai‡bi k¦vmKó, Z‡e bvK eÜ \_vKvi Kvi‡Y k¦vmKó n‡j Zv ev` w`‡Z n‡e) | |  |  | |  |  |
| **C.211** | Bruising, scrapes or cuts | |  |  | |  |  |
| **C.212** | `uvZ e¨v\_v | |  |  | |  |  |

**C.213**

hw` C.202 Gi DËi n¨uv nq: KLb cvZjv cvqLvbv ïiæ n‡qwQj?

w`‡b ev mßv‡n MYYv Kiæb| hw` <14 w`b nq Zwn‡j w`‡b MYYv Kiæb|

A 🞎🞎 B🞎

1 w`b Av‡M

2 mßvn Av‡M

**Iqvm †ewbwdUm Kgb gwWDj-3**

**K„wg**

**Gb‡ivj‡g‡›Ui mgq †h mKj Lvbvq 12-36 gv‡mi wkï Av‡Q**

School-aged children that provide stool specimens

**DËi`vZv: wkïi cÖv\_wgK cwiPh©vKvix (cÖv\_wgK cwiPh©vKvix †mB n‡e †h ev”Pvi mv‡\_ †ekx mgq KvUvq| †ekxifvM mgq gv n‡q \_v‡K)**

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. K¬v÷vi AvBwW:** | 🞎🞎🞎🞎 |
| **0.2. Lvbv AvBwW:** | 🞎🞎🞎 |
| **0.3. wkïi AvBwW:** | 🞎🞎🞎🞎🞎🞎 |

**K„wg**

🞎(MZ 6 gv‡mi g‡a¨ wkïwU (bvg ejyb) †Kvb K…wgbvkK Jla †L‡qwQj Kx?

1 n¨uv

2 bv (**C401**bs cÖ‡kœ P‡j hvb)

99 Rvwb bv/wbwðZ bv(**C401**bs cÖ‡kœ P‡j hvb)

🞎†Kv\_v †\_‡K K…wgbvkK Jla †L‡qwQj?

1 evox‡Z/MÖv‡g

2 nvmcvZvj/¯^v¯’¨‡K‡›`ª

3 ¯‹z‡j

99 Rvwb bv/wbwðZ bv

🞎(K…wgbvkK JlawU †Kvb eo cÖPvibvi gva¨‡g †L‡qwQj Kx?)

1 n¨uv

2 bv

99 Rvwb bv/wbwðZ bv

AvbygvwbK KZ mgq Av‡M K…wgbvkK Jla †L‡qwQj?

hw` m¤úªwZ/GK gv‡mi Kg nq, Zvn‡j mßv‡n †iKW© Kiæb

99 Rvwb bv/wbwðZ bv

A 🞎gvm (0-6)

B 🞎🞎mßvn **[Open this only when option A is 1]**

**Iqvm †ewbwdUm Kgb gwWDj-4**

**Gb‡\_ªv‡cv‡gwUªK cwigvcK**

**†eBRjvB‡bi mgq †h mKj Lvbvq <3 gv‡mi wkï Av‡Q**

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. K¬v÷vi AvBwW:** | 🞎🞎🞎🞎 |
| **0.2. Lvbv AvBwW:** | 🞎🞎🞎 |
| **0.3. wkïi AvBwW:** | 🞎🞎🞎🞎🞎🞎 |

|  |  |  |
| --- | --- | --- |
| **C.401**  **Gd.Avi.G AvBwW** | ## | 🞎🞎 |
| **C.402**  **Gd.Avi.G-i bvg** | **cy‡iv bvg** |  |
| **C.403**  IRb ‡bIqvi mgq ev”Pvi gv fvix Kvco c‡owQj Kx? | 1 = nvjKv Kvco  2 = †mv‡qUvimn nvjKv Kvco  3 = fvix Kvco | 🞎 |
| **C.404**  gv‡qi IRb  cwigvc#1 | IRb(†KwR)  0 =IRb †bIqv m¤¢e nq wb | 🞎🞎.🞎 |
| **C.405**  gv‡qi IRb  cwigvc#2 | IRb(†KwR)  0 =IRb †bIqv m¤¢e nq wb | 🞎🞎.🞎 |
| **C.406**  gv‡qi IRb  cwigvc#3  (hw` cwigvc#1 Ges cwigvc#2 Gi g‡a¨ **≥ 0.1** †KwRcv\_©K¨ \_v‡K) | IRb(†KwR)  0 =IRb †bIqv m¤¢e nq wb | 🞎🞎.🞎 |
| **C.407**  IRb ‡bIqvi mgq ev”Pv †Kvb Kvco c‡owQj Kx? | 0 = †Kvb Kvco †bB  1 = ïaygvÎ kvU©  2 = ïaygvÎ c¨v›U  3 = kvU© Ges c¨v›U Dfq | 🞎 |
| **C.408**  gv+ev”Pvi IRb  cwigvc#1 | IRb(†KwR)  0 =IRb †bIqv m¤¢e nq wb | 🞎🞎.🞎 |
| **C.409**  gv+ev”Pvi IRb  cwigvc#2 | IRb(†KwR)  0 =IRb †bIqv m¤¢e nq wb | 🞎🞎.🞎 |
| **C.410**  gv+ev”Pvi IRb  cwigvc#3  (hw` cwigvc#1 Ges cwigvc#2 Gi g‡a¨ **≥ 0.1** †KwRcv\_©K¨ \_v‡K) | IRb(†KwR)  0 =IRb †bIqv m¤¢e nq wb | 🞎🞎.🞎 |
| **C.411 – C.413**  reserved for child weight measurement without mother (follow-up visits) |  |  |
| **C.414**  ev”Pvi D”PZv  cwigvc#1 | D”PZv(†mwg)  0=D”PZv †bIqv m¤¢e nqwb | 🞎🞎🞎.🞎 |
| **C.415**  ev”Pvi D”PZv  cwigvc#2 | D”PZv(†mwg)  0=D”PZv †bIqv m¤¢e nqwb | 🞎🞎🞎.🞎 |
| **C.416**  ev”Pvi D”PZv  cwigvc#3  (hw` cwigvc#1 Ges cwigvc#2 Gi g‡a¨ **≥ 0.5** †mwg.cv\_©K¨ \_v‡K) | D”PZv(†mwg)  0=D”PZv †bIqv m¤¢e nqwb | 🞎🞎🞎.🞎 |
| **C.417**  D”PZv cwigvcK c×wZ | 1 = ï‡q gvcv n‡q‡Q  2 = `vwou‡q gvcv n‡q‡Q | 🞎 |
| **C.418**  gv\_vi cwiwa  cwigvc#1 | cwiwa(†mwg)  0 =gv\_vi cwiwa †bIqv m¤¢e nqwb | 🞎🞎.🞎 |
| **C.419**  gv\_vi cwiwa  cwigvc#2 | cwiwa(†mwg)  0 =gv\_vi cwiwa †bIqv m¤¢e nqwb | 🞎🞎.🞎 |
| **C.420**  gv\_vi cwiwa  cwigvc#3  (hw` cwigvc#1 Ges cwigvc#2 Gi g‡a¨ **≥ 0.5** †mwg.cv\_©K¨ \_v‡K) | cwiwa(†mwg)  0 =gv\_vi cwiwa †bIqv m¤¢e nqwb | 🞎🞎.🞎 |
| **C.421**  **Does the child have swollen feet (bi-pedal edema)?** | 1 = Yes (**>> Referral**)  2 = No | 🞎 |

**Iqvm †ewbwdUm Kgb gwWDj-5**

**wUKv m¤ú©KxZ Z\_¨**

**Gb‡ivj‡g‡›Ui mgq †h mKj Lvbvq <36 gv‡mi wkï Av‡Q**

**DËi`vZv: wkïi cÖv\_wgK cwiPh©vKvix (cÖv\_wgK cwiPh©vKvix †mB n‡e †h ev”Pvi mv‡\_ †ekx mgq KvUvq| †ekxifvM mgq gv n‡q \_v‡K)**

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. K¬v÷vi AvBwW:** | 🞎🞎🞎🞎 |
| **0.2. Lvbv AvBwW:** | 🞎🞎🞎 |
| **0.3. wkïi AvBwW:** | 🞎🞎🞎🞎🞎🞎 |

🞎Avcbvi wkïi (bvg ejyb) †Kvb wUKv KvW© Av‡Q Kx?n¨uv n‡j ejyb: Avwg Kx wUKv KvW©wU †`L‡Z cvwi?

1 n¨uv, †`Lv‡Z †c‡i‡Q (**C.504**bs cÖ‡kœ P‡j hvb)

2 n¨uv, †`Lv‡Z cv‡i bvB

3 ‡Kvb wUKv KvW© bvB

🞎Avcbvi wkï [bvg ejyb] †ivM †\_‡K iÿv cvIqvi Rb¨ KLbI †Kvb wUKv ev RvZxq wUKv w`e‡m †Kvb wUKv wb‡qwQj Kx?

1 n¨uv

2 bv (Kgb gwWDj-6 G P‡j hvb)

99 Rvwb bv/wbwðZ bB (Kgb gwWDj-6 G P‡j hvb)

†h wkïi †Kvb wUKv KvW© †bB

Avcbvi wkï [bvg ejyb] wbgœwjwLZ †Kvb wUKv wb‡q \_vK‡j Avgv‡K Zv ejyb

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | **Country’s Schedule (Ages)** |
| 1 | hÿv cÖwZ‡iv‡ai Rb¨ wewmwR-i wUKv ‡`Iqvi Kvi‡Y evû ev Kv‡a ÿZ wPý Av‡Q Kx | 🞎 1. n¨uv  🞎 0. bv  🞎 88. cÖ‡hvR¨ bq  🞎 99. Rvwb bv | XXX  FILL IN WITH |
| 2 | gy‡L †Kvb †cvwjI wUKvi [ ‡Mvjvcx is] †dvuUv †`Iqv n‡qwQj Kx? | 🞎 1. n¨uv  🞎 0. bv (**C.307.4**bs cÖ‡kœ P‡j hvb)  🞎 88. cÖ‡hvR¨ bq (**C.307.4**bs cÖ‡kœ P‡j hvb)  🞎 99. Rvwb bv (**C.307.4**bs cÖ‡kœ P‡j hvb) | XXX COUNTRY |
| 3 | KZevi †cvwjI wUKv †`Iqv n‡qwQj? | 🞎 9 = Rvwb bv | XXX SCHEDULE |
| 4 | Diæ ev cvQv‡Z †Kvb wWwcwU-i wUKv †`Iqv n‡qwQj Kx, hv A‡bK mgq †cvwjI wUKvi mv‡\_ †`Iqv nq? | 🞎 1. n¨uv  🞎 0. bv (**C.307.6**bs cÖ‡kœ P‡j hvb)  🞎 88. cÖ‡hvR¨ bq (**C.307.6**bs cÖ‡kœ P‡j hvb)  🞎 99. Rvwb bv (**C.307.6**bs cÖ‡kœ P‡j hvb) | XXX  (SEE NOTES) |
| 5 | KZevi wWwcwU-i wUKv †`Iqv n‡qwQj? | 🞎 9 = Rvwb bv |  |
| 6 | nvg cÖwZ‡iv‡ai Rb¨ 9 gvm eq‡m nv‡gi wUKv evû†Z ‡`Iqv n‡q‡Q Kx? | 🞎 1. n¨uv  🞎 0. bv  🞎 88. cÖ‡hvR¨ bq  🞎 99. Rvwb bv | XXX |
| 7 | wbD‡gvwbqv cÖwZ‡iv‡ai Rb¨ wne wUKv Diæ‡Z †`Iqv n‡qwQj Kx, hv A‡bK mgq †cvwjI wUKvi mv‡\_ †`Iqv nq? | 🞎 1. n¨uv  🞎 0. bv (**C.307.9**bs cÖ‡kœ P‡j hvb)  🞎 88. cÖ‡hvR¨ bq (**C.307.9**bs cÖ‡kœ P‡j hvb)  🞎 99. Rvwb bv (**C.307.9**bs cÖ‡kœ P‡j hvb) | XXX |
| 8 | KZevi wne wUKv †`Iqv n‡qwQj? | 🞎 99 = Rvwb bv |  |
| 9 | Diæ ev cvQv‡Z †Kvb ‡ncvUvBwUm-we Gi wUKv †`Iqv n‡qwQj Kx, hv A‡bK mgq †cvwjI wUKvi mv‡\_ †`Iqv nq? | 🞎 1. n¨uv  🞎 0. bv (**C.307.11**bs cÖ‡kœ P‡j hvb)  🞎 88. cÖ‡hvR¨ bq (**C.307.11**bs cÖ‡kœ P‡j hvb)  🞎 99. Rvwb bv (**C.307.11**bs cÖ‡kœ P‡j hvb) | XXX |
| 10 | KZevi ‡ncvUvBwUm-we wUKv †`Iqv n‡qwQj? | 🞎 9 = Rvwb bv |  |
| 11 | MZ Qq gv‡mi g‡a¨ wkïwU (bvg ejyb) GB iKg/A‡bKUv GB iK‡gi †Kvb ÔwfUvwgb GÕ K¨vcmyj †L‡qwQj Kx? (wfUvwgb G K¨vcmyj †`Lvb) | 🞎 1. n¨uv  🞎 0. bv  🞎 88. cÖ‡hvR¨ bq  🞎 99. Rvwb bv | XXX |

†h wkïi wUKv KvW© Av‡Q:

wUKv KvW© †\_‡K cÖwZwU wUKv cÖ`v‡bi ZvwiL wjLyb

hw` wUKv Kv‡W© D‡jøL \_v‡K wUKv w`‡q‡Q wKš‘ †Kvb ZvwiL bv \_vK‡j w`‡bi Kjv‡g “**99**”†iKW© Kiæb

wUKv bv w`‡j w`‡bi Kjv‡g “**88**”†iKW© Kiæb

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| --- | --- | --- | --- | --- | --- |
|  |  | **DAY** | **MONTH** | **YEAR** | **Country’s Schedule**  **(Age)** |
| 1 | BCG | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX FILL IN WITH |
| 2 | POLIO 0 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX COUNTRY |
| 3 | POLIO 1 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX SCHEDULE |
| 4 | POLIO 2 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX (SEE NOTES) |
| 5 | POLIO 3 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 6 | DPT 1 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 7 | DPT 2 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 8 | DPT 3 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 9 | HIB 1 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 10 | HIB 2 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 11 | HIB 3 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 12 | HEPATITIS-B 1 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 13 | HEPATITIS-B 2 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 14 | HEPATITIS-B 3 | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 15 | MEASLES | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
| 16 | VITAMIN A  **(with measles vaccine)** | |\_\_|\_\_| | |\_\_|\_\_| | |\_\_|\_\_| | XXX |
|  |  |  |  |  |  |

**Iqvm †ewbwdUm Kgb gwWDj-6**

**Lv`¨ MÖn‡Yi ZvwjKv**

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. K¬v÷vi AvBwW:** | 🞎🞎🞎🞎 |
| **0.2. Lvbv AvBwW:** | 🞎🞎🞎 |
| **0.3. wkïi AvBwW:** | 🞎🞎🞎🞎🞎🞎 |

**Gb‡ivj‡g‡›Ui mgq †h mKj Lvbvq <3 gv‡mi wkï Av‡Q**

**DËi`vZv: wkïi cÖv\_wgK cwiPh©vKvix (cÖv\_wgK cwiPh©vKvix †mB n‡e †h ev”Pvi mv‡\_ †ekx mgq KvUvq| †ekxifvM mgq gv n‡q \_v‡K)**

**m~Pbv:** GLb Avwg Avcbv‡K wkïi (bvg ejyb) Lv`¨MÖnb m¤ú‡K© wKQz cÖkœ Kie| cÖ\_‡gB Avgvi Rvbv cÖ‡qvRb Avcwb Avgv‡K wkïi (bvg ejyb) MZKvj Ges MZ 7 w`†bi Lv`¨MÖnb m¤ú‡K© ej‡Z cvi‡eb wKbv|

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| --- | --- | --- |
| **#** | **Question** | **Response** |
| 1 | Avcwb wK Avcbvi wkï (bvg ejyb) ‡K GLbI ey‡Ki `ya LvIqvb? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 (C.601.3-bs cÖ‡kœ P‡j hvb) |
| 2 | MZ 24 N›Uvq(MZKvj GB mgq †\_‡K), KZevi Avcwb Avcbvi wkï (bvg ejyb) ‡K ey‡Ki `ya LvB‡q‡Qb?(DËi¸‡jv c‡o †kvbvb Ges KvQvKvwQ DËiwU‡Z wUK w`b) | |\_\_\_\_\_\_|1 G‡Kev‡iB bv  |\_\_\_\_\_\_|2 Lye Kg, MZ 24 N›Uvq gvÎ 1/2 evi  |\_\_\_\_\_\_|3 †gvUvgywU, MZ 24 N›Uvq 3-5 evi  |\_\_\_\_\_\_|4 cÖvqB, MZ 24 N›Uvq Kgc‡ÿ 6 evi  |\_\_\_\_\_\_|999 Rvwb bv |
| 3 | wkï (bvg ejyb) me©‡kl hLb ey‡Ki `ya †L‡qwQj ZLb Zvi eqm KZ wQj? | |\_\_\_\_\_\_| w`b |
| 4 | Avcwb wK Avcbvi wkï (bvg ejyb) ‡K ‡KŠUvRvZ wkïLv`¨ (j¨vK‡Uv‡Rb, ev‡qvwgj, gvB eq BZ¨vw`) LvIqvb? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 (C.601.6-bs cÖ‡kœ P‡j hvb)  |\_\_\_\_\_\_|999 Rvwb bv (C.601.6-bs cÖ‡kœ P‡j hvb) |
| 5 | MZ 24 N›Uvq (MZKvj GB mgq †\_‡K), KZevi Avcwb Avcbvi wkï (bvg ejyb) ‡K ‡KŠUvRvZ wkïLv`¨ LvB‡q‡Qb? | |\_\_\_\_\_\_|00-99 |
| 6 | Avcwb wK Avcbvi wkï (bvg ejyb) ‡K Ab¨ †Kvb `ya ‡hgb wUbRvZ/cvDWvi `ya (wb‡Wv, Wv‡bv, wW‡cøvgv) ev Miy/gwnl/QvMj Gi UvUKv `ya LvIqvb? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 (C.601.8-bs cÖ‡kœ P‡j hvb) |
| 7 | MZ 24 N›Uvq, KZevi Avcwb Avcbvi wkï (bvg ejyb) ‡K (wUbRvZ, cvDWvi ev Miy/gwnl/QvMj Gi UvUKv `ya) LvB‡q‡Qb? | |\_\_\_\_\_\_|00-99 |

GLb Avcbvi wkï (bvg ejyb) MZ 24 N›Uvq ‡L‡q‡Q Ggb wKQz Lvevi m¤ú‡K© Avwg wKQy cÖkœ Ki‡Z PvB | wkïwU N‡ii wfZ‡i ev evwn‡i hv hv †L‡qwQj †m¸‡jv m¤ú‡K© Avwg mewKQz Rvb‡Z PvB| bx‡Pi ZvwjKvwU c‡o †kvbv‡eb| ev”Pv hvwKQz †L‡qwQj †m m¤ú‡K© gv‡K ej‡Z w`b| ev”Pv †hLvevi¸‡jv †L‡qwQj †mB N‡i wUK w`b|

|  |  |  |
| --- | --- | --- |
| 1 | Lvevi cvwb? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 2 | Pv, Kwd ev ¯’vbxq G RvZxq cvbxq | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 3 | UvUKv dj ev ‡Kvb mâxi im? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 4 | Ab¨ †Kvb Zij Lvevi †hgb, wPwbi cvwb, my¨c, A\_ev †Kvì wWªKsm& †hgb: †KvKv‡Kvjv, †m‡fb Avc, ¯úªvBU? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 5 | Avcbvi wkï (bvg ejyb) wK Avav k³, PUKv‡bv/wckv‡bv ev k³ Lvevi Lv‡”Q? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 (C.603.15-bs cÖ‡kœ P‡j hvb) |

MZ 24 N›Uvq, bx‡Pi ZvwjKvi Lvevi¸‡jv wK GKv ev Ab¨ †Kvb Lvev‡ii mv‡\_ wgwk‡q LvB‡q‡Qb?

|  |  |  |
| --- | --- | --- |
| 1 | fvZ, ¶xi, wdibx, iywU, byWyjm A\_ev km¨`vbv (†hgb: Pvj, f~Æv, Mg BZvw`) Øviv cÖ¯‘ZK…Z Lvevi? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 2 | ‡Mvj Avjy, MvQ Avjy, †Kki/kvK Avjy A\_ev †Kvb g~j RvZxq Lvevi? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 3 | MvRi, wgwó Kzgov, wgwó Avjy hvi wfZ‡ii is njy` ev jvj/Kgjv? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 4 | ‡h †Kvb mâx hvi cvZv Mvp meyR, †hgb cyuB kvK, cvjs kvK? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 5 | mxg, gmyi Wvj, gUi, ev ev`vg w`‡q ˆZix Lvevi? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 6 | cvKv Avg, †cu‡c A\_ev Ab¨ †Kvb wgwó dj hv njy`/Kgjv ev jvj is‡qi? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 7 | Ab¨ †Kvb dj ev mâx †hgb, Kjv, Av‡cj, Kgjv, U‡g‡Uv, bvmcvwZ? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 8 | KwjRv, wKWbx, ürwcÛ ev G RvZxq A‡½i gvsm? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 9 | †Kvb gvsm †hgb gyiMx, Miæ, †fov, QvMj, nuvm ev Ab¨vb¨ gvsm? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 10 | wWg? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 11 | UvUKv A\_ev ïUwK gvQ ev wPswo RvZxq gvQ? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 12 | ‡h †Kvb wgwó RvZxq Lvevi †hgb PK‡jU, †KK/†cw÷ª, we¯‹zU ev evUvi eb? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 13 | cwbi, `B ev `y»RvZ Lvevi? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 14 | †h‡Kvb wgwkªZ ev ivbœv Kiv Lvevi †hLv‡b †fwR‡Uej ‡Zj, cÖvYxR Pwe©, wN, evUvi I‡qj, gvR©vwib BZ¨vw` e¨envi Kiv n‡q‡Q | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 15 | ev”Pv ev wkï‡`i Rb¨ ‰Zix ‡h †Kvb evwbwR¨K Lvevi †hgb: †m‡ijvK, †jK‡Uv‡Rb, nwj©Km, Kg‡cøb,Kb©d¬vIqvi BZ¨vw`? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 16 | Dc‡i D‡jøL Kiv nq bvB Ggb †Kvb Lvevi \_vK‡j Zvi bvg D‡jøL Kiæb |  |
| 17 | MZ 24 N›Uvq Avcbvi wkï†K (bvg ejyb) me wgwj‡q ‡gvU KZevi fvix Ges bv¯Ív RvZxq Lvevi LvB‡q‡Qb? | |\_\_\_\_\_\_|00-99  N/A=88 |
| 18 | Lvevi MÖn‡bi cÖwZ Avcbvi wkïi AvMÖn †Kgb? | |\_\_\_\_\_\_|11= Lvivc  |\_\_\_\_\_\_|22= ‡gvUvgywU  |\_\_\_\_\_\_|33= fvj  |\_\_\_\_\_\_|44= Lye fvj |
| 19 | MZ 6 gv‡m Avcbvi wkï†K (bvg ejyb) wK wfUvwgb ÒGÓ K¨vcmyj LvB‡q‡Qb? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 20 | Avcbvi wkï†K (bvg ejyb) wK wbqwgZ †Kvb wfUvwgb/LwbR Gi wmivc (wfUvwgb we Kg‡cø·, wR¼ BZ¨vw`) LvIqvb? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |
| 21 | Avcwb ivbœvi mgq †h jeb e¨envi K‡ib Zv‡Z wK Av‡qvwWb Av‡Q? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0  |\_\_\_\_\_\_|999 Rvwb bv |
| 22 | Avcwb ivbœvi Kv‡R e¨eüZ jeb wKfv‡e iv‡Lb? | |\_\_\_\_\_\_| XvKv= 1  |\_\_\_\_\_\_|†Lvjv = 2  |\_\_\_\_\_\_| Pzjvi Kv‡Q= 3  |\_\_\_\_\_\_|ivbœvi Av‡M jeb ay‡q †bb = 4  |\_\_\_\_\_\_| Ab¨vb¨, wjLyb= 777 |
| 23 | Avcbvi wkï wK cÖvqB Ggb wKQy Lvq hv Lvevi bq; †hgb QvB, Kv`v, is Gi †KŠUvi Av¯Zib, gqjv, fv‡Zi gvo, †cvov wmMv‡iU ev Gi Aewkó Ask? | |\_\_\_\_\_\_| n¨uv = 1  |\_\_\_\_\_\_| bv = 0 |

GLb Avcbvi wkï (bvg ejyb) MZ 7 w`‡b ‡L‡q‡Q Ggb wKQz Lvevi m¤ú‡K© Avwg wKQy cÖkœ Ki‡Z PvB| D³ LveviwU Avcbvi wkï MZ 7 w`‡bi g‡a¨ †Kvb †Kvb w`b †L‡q‡Q Avgv‡K Zv ejyb| wj‡÷i cÖwZwU AvB‡U‡gi Rb¨ bx‡Pi cÖkœ¸‡jv Kiæb Ges DËi`vZv hZ w`‡bi K\_v e‡j Zv wjLyb|

|  |  |  |
| --- | --- | --- |
|  | MZ 7 w`‡b ev”Pv †hmKj Lvevi †L‡qwQj | ev”Pv hZw`b †L‡q‡Q †mB w`‡bi msL¨v  †L‡q‡Q, KZw`b †L‡q‡Q Zv Rvwb bv = **666**  †L‡q‡Q wKbv Zv Rvwb bv = **999** |
| 1 | ¶xi, fvZ, wdibx ev iywU | |\_\_\_\_\_\_| w`b |
| 2 | MvRi, wgwó Kzgov, wgwó Avjy hvi wfZ‡ii is njy` ev Kgjv? | |\_\_\_\_\_\_| w`b |
| 3 | ‡Mvj Avjy, †Kki/kvK Avjy, MvQ Avjy, A\_ev †Kvb g~j RvZxq Lvevi? | |\_\_\_\_\_\_| w`b |
| 4 | ‡h †Kvb mâx hvi cvZv Mvp meyR, †hgb cyuB kvK, cvjs kvK? | |\_\_\_\_\_\_| w`b |
| 5 | cvKv Avg ev cvKv †cu‡cu | |\_\_\_\_\_\_| w`b |
| 6 | Ab¨ †Kvb dj †hgb, Kjv, ‡cqviv, Av‡cj, ev Ab¨ †Kvb dj? | |\_\_\_\_\_\_| w`b |
| 7 | Ab¨ †Kvb meRx †hgb: U‡g‡Uv, †cqvR, gvkiæg, gUiïwU ev Ab¨ wKQz | |\_\_\_\_\_\_| w`b |
| 8 | ‡h †Kvb ai‡bi gvsm †hgb, cvwL ev cïi gvsm | |\_\_\_\_\_\_| w`b |
| 9 | ‡h †Kvb ai‡bi wWg | |\_\_\_\_\_\_| w`b |
| 10 | ‡h †Kvb ai‡bi ïUwK gvQ ev KvPuv gvQ | |\_\_\_\_\_\_| w`b |
| 11 | mxg, gmyi, gUi, f~Æv ev ev`vg w`‡q ˆZix †h †Kvb Lvevi? | |\_\_\_\_\_\_| w`b |
| 12 | †h‡Kvb `ya, cwbi, `B ev `y»RvZ Lvevi? | |\_\_\_\_\_\_| w`b |
| 13 | †fwR‡Uej ‡Zj, cÖvYxR Pwe©, gvR©vwib ev G¸‡jv w`‡q ˆZix †h‡Kvb Lvevi | |\_\_\_\_\_\_| w`b |
| 14 | ‡h †Kvb wgwó RvZxq Lvevi †hgb PK‡jU, †KK/†cw÷ª, we¯‹zU ev evUvi eb? | |\_\_\_\_\_\_| w`b |

**Iqvm †ewbwdUm Kgb gwWDj-7**

**nvZ‡avqv m¤ú©KxZ Z\_¨**

**mKj Lvbvq Ki‡Z n‡e**

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. K¬v÷vi AvBwW:** | 🞎🞎🞎🞎 |
| **0.2. Lvbv AvBwW:** | 🞎🞎🞎 |

**nvZ‡avqv Af¨vm m¤ú©KxZ Z\_¨**

DËi`vZv‡K cÖkœ Ki“bt Avcwb †ekxifvM mgq †Kv\_vq nvZ †avb Zv Avgv‡K †`Lvb

1. |\_\_\_\_|ch©‡e¶bt cÖv\_wgK**/ cÖavb** nvZ †avqvi ¯’vbwU †Kv\_vq Zv †iKW© Ki“b
   * + 1. N‡ii wfZ‡i/ Kv‡Q (≤6 K`g)
       2. cvqLvbvi wfZ‡i/ Kv‡Q(≤6 K`g)
       3. ivbœvi ¯’v‡b wfZ‡i/ Kv‡Q (≤6 K`g)
       4. Ni, cvqLvbv, ivbœvi ¯’v‡b †\_‡K >6 K`g
       5. wbw`©ó †Kvb RvqMvq bvB 711 bs cÖ‡kœ P‡j hvb
2. ch©‡e¶bt cÖv\_wgK**/ cÖavb** nvZ †avqvi ¯’vbwU‡Z †Kvb †Kvb Dcv`vb Av‡Q? (Avcwb hw` †`‡L \_v‡Kb Zvn‡j “1”†KvW Ki“b Avi bv †`L‡j“0” †KvW Ki“b)

*1=* **n¨uv***0=***bv**

|\_\_\_\_\_| 1.**†Mvmj/nvZ †avqvi mvevb (jv·, jvBdeq)**

|\_\_\_\_\_| 2.**Ab¨ †h †Kvb ai‡bi mvevb (ûBj)**

|\_\_\_\_\_| 3.**¸ov cvDWvi**

|\_\_\_\_\_| 4.**Zij mvevb**

|\_\_\_\_\_| 5.**QvB**

|\_\_\_\_\_| 6.**gvwU /evjy**

|\_\_\_\_\_| 7.**AvBwmwWwWAvi, we-i †`Iqv U¨vcmn eøyWªvg**

|\_\_\_\_\_| 8.**nvZ †avqvi ¯’v‡b cvwb Av‡Q**

|\_\_\_\_| 9.nvZ †avqvi ¯’vbwU wfRv wQj/e¨env‡ii wPý wQj

|\_\_\_\_\_| 10.**mvevb-cvwb**

|\_\_\_\_\_| 11.**wKQyB bvB703**bs cÖ‡kœ P‡j hvb

|\_\_\_\_\_| 777.**Ab¨vb¨ (evjwZ, †ewmb, RM) (eb©Yv wjLyb)**

1. **cÖavbnvZ †avqvi ¯’vbwU mvevb RvZxq ‡h‡Kvb ai‡bi Dcv`vb (hv nvZ †avqvi Kv‡R e¨envi Kiv nq/ mvevb cvwb I cvwb GKmv‡\_ Dcw¯’Z Av‡Q Kx?**

* n¨uv

1. bv
2. |\_\_\_\_|cÖv\_wgK**/ cÖavb** nvZ †avqvi ¯’vbwU ivbœvNi †\_‡K KZ K`g `~‡i?
3. |\_\_\_\_| cÖv\_wgK**/ cÖavb** nvZ †avqvi ¯’vbwU cvqLvbv †\_‡K KZ K`g `~‡i?
4. |\_\_\_\_| DËi`vZv‡K cÖkœ Kiæbt Avcbvi nvZ‡avqvi Rb¨ cÖv\_wg**K/ cÖavb** ¯’vb Qvov Ab¨‡Kvb RvqMv Av‡Q wK?
5. n¨uv
6. bv**711**bs cÖ‡kœ P‡j hvb
7. |\_\_\_\_| ch©‡e¶bt wØZxq cÖavb nvZ †avqvi ¯’vbwU †Kv\_vq Zv †iKW© Ki“b
   * + 1. N‡ii wfZ‡i/ Kv‡Q (≤6 K`g)
       2. cvqLvbvi wfZ‡i/ Kv‡Q(≤6 K`g)
       3. ivbœvi ¯’v‡b wfZ‡i/ Kv‡Q (≤6 K`g)
       4. Ni, cvqLvbv, ivbœvi ¯’v‡b †\_‡K >6 K`g
       5. wbw`©ó †Kvb RvqMvq bvB 711 bs cÖ‡kœ P‡j hvb
8. ch©‡e¶bt wØZxq cÖavb nvZ †avqvi ¯’vbwU‡Z †Kvb †Kvb Dcv`vb Av‡Q? (Avcwb hw` †`‡L \_v‡Kb Zvn‡j “1”†KvW Ki“b Avi bv †`L‡j“0” †KvW Ki“b)

*1=* **n¨uv***0=***bv**

|\_\_\_\_\_| 1.**†Mvmj/nvZ †avqvi mvevb (jv·, jvBdeq)**

|\_\_\_\_\_| 2.**Ab¨ †h †Kvb ai‡bi mvevb (ûBj)**

|\_\_\_\_\_| 3.**¸ov cvDWvi**

|\_\_\_\_\_| 4.**Zij mvevb**

|\_\_\_\_\_| 5.**QvB**

|\_\_\_\_\_| 6.**gvwU /evjy**

|\_\_\_\_\_| 7.**AvBwmwWwWAvi, we-i †`Iqv U¨vcmn eøyWªvg**

|\_\_\_\_\_| 8.**nvZ †avqvi ¯’v‡b cvwb Av‡Q**

|\_\_\_\_| 9.nvZ †avqvi ¯’vbwU wfRv wQj/e¨env‡ii wPý wQj

|\_\_\_\_\_| 10.**mvevb-cvwb**

|\_\_\_\_\_| 11.**wKQyB bvB709**bs cÖ‡kœ P‡j hvb

|\_\_\_\_\_| 777.**Ab¨vb¨ (evjwZ, †ewmb, RM) (eb©Yv wjLyb)**

1. **wØZxq cÖavbnvZ †avqvi ¯’vbwU‡Z mvevb RvZxq ‡h‡Kvb ai‡bi Dcv`vb (hv nvZ †avqvi Kv‡R e¨envi Kiv nq/mvevb cvwb I cvwb GKmv‡\_ Dcw¯’Z Av‡Q Kx?**
2. n¨uv
3. bv**711**bs cÖ‡kœ P‡j hvb
4. |\_\_\_\_|wØZxq cÖavb nvZ †avqvi ¯’vbwU ivbœvNi †\_‡K KZ K`g `~‡i? [
5. |\_\_\_\_|wØZxq cÖavb nvZ †avqvi ¯’vbwU cvqLvbv †\_‡K KZ K`g `~‡i?
6. cÖv\_wgK**/ cÖavb** nvZ †avqvi ¯’vb \_vK‡j †mLv‡b `vouvb| cÖv\_wgK**/ cÖavb** nvZ †avqvi ¯’vb bv \_vK‡j cvqLvbvi mvg‡b `vovub Ges DËi`vZv‡K ejyb **“**nvZ †avqvi ¯’v‡bi cwie‡Z© Lvbvi wfZ‡i bx‡Pi †Kvb Dcv`vb¸‡jv Av‡Q?**”** (Avcwb hw` †`‡L \_v‡Kb Zvn‡j “1”†KvW Ki“b Avi bv †`L‡j“0” †KvW Ki“b)

bx‡Pi Dcv`vb¸‡jv †`Lv‡Z KZ mgq †j‡M‡Q Zv D‡j­L Ki“b (†m‡K‡Û †iKW© Ki“b)

FRA-i `vovu‡bvi ¯’vb

*1=* **n¨uv***0=***bv**

|\_\_\_\_\_| 1. cÖv\_wgK**/ cÖavb** nvZ †avqvi ¯’vb

|\_\_\_\_\_| 2.cvqLvbv

DËi`vZv‡K †`Lv‡Z ejyb

**Note:** FRA-†h ¯’v‡b `vwou‡q Av‡Q †Kvb Dcv`vb †mLv‡b \_vK‡j †m‡K‡Ûi N‡i **0** †KvW Ki“b| Avi †mLv‡b †Kvb Dcv`vb bv \_vK‡j ev N‡ii wfZ‡iI bv \_vK‡j cÖ\_‡g bv Gi Rb¨ **0** ‡KvW Ki“b Ges cv‡k †m‡K‡Ûi N‡i cÖ‡hvR¨ bq Gi Rb¨ **888** †KvW Ki“b|

*1=* **n¨uv,***0=***bv,** *9=* Unable to show

|\_\_\_\_\_| 1.**evi mvevb** |\_\_\_\_\_| †m‡KÛ

|\_\_\_\_\_| 2.**¸ov cvDWvi**  |\_\_\_\_\_| †m‡KÛ

|\_\_\_\_\_| 3. **Zij mvevb** |\_\_\_\_\_| †m‡KÛ

|\_\_\_\_\_| 4.**QvB** |\_\_\_\_\_| †m‡KÛ

|\_\_\_\_\_| 5.gvwU/evjy ………………………….. ...........................................................|\_\_\_\_\_| †m‡KÛ

|\_\_\_\_\_| 6.**mvevb-cvwb** ............................................|\_\_\_\_\_| †m‡KÛ

|\_\_\_\_\_| 7.**wKQzB bvB** ................................................|\_\_\_\_\_| †m‡KÛ

1. |\_\_\_\_\_\_||\_\_\_\_\_\_| Lvbv‡Z 3 eQ‡ii bx‡P GKvwaK ev”Pv \_vK‡j me‡P‡q eo ev”Pvi nvZ FRA †`L‡e| ev”Pvi eqm gv‡m †iKW© Ki“b| (cÖ‡hvR¨ bq=888)

ev”Pvi nvZ¸‡jv ch©‡e¶b Ki“b

gqjv ¯úófv‡e †`Lv hvw”Qj 1

gqjv ¯úófv‡e †`Lv bv‡M‡jI Acwi”Qbœfve wQj 2

cwi®‹vi wQj 3

ch©‡e¶Y Kiv m¤¢e nqwb/cÖZ¨vLvb 4

3 eQ‡ii †QvU ev”Pv Abycw¯’Z 5

|  |  |
| --- | --- |
| Left hand | Right hand |
| a. |\_\_\_\_\_| nv‡Zi bL  b. |\_\_\_\_\_| nv‡Zi Zvjy  c. |\_\_\_\_\_| Av½y‡ji m¤§yLfvM | a. |\_\_\_\_\_| nv‡Zi bL  b. |\_\_\_\_\_| nv‡Zi Zvjy  c. |\_\_\_\_\_| Av½y‡ji m¤§yLfvM |

1. Avwg wK Avcbvi nvZ¸‡jv †`L‡Z cvwi? (cÖavb gwnjv cwiPh©vKvixi nvZ †`Lyb)

gqjv ¯úófv‡e †`Lv hvw”Qj 1

gqjv ¯úófv‡e †`Lv bv ‡M‡jI Acwi”Qbœfve wQj 2

cwi®‹vi wQj 3

ch©‡e¶Y Kiv m¤¢e nqwb/cÖZ¨vLvb 4

cÖavb gwnjv cwiPh©vKvix Abycw¯’Z 5

|  |  |
| --- | --- |
| Left hand | Right hand |
| a. |\_\_\_\_\_| nv‡Zi bL  b. |\_\_\_\_\_| nv‡Zi Zvjy  c. |\_\_\_\_\_| Av½y‡ji m¤§yLfvM | a. |\_\_\_\_\_| nv‡Zi bL  b. |\_\_\_\_\_| nv‡Zi Zvjy  c. |\_\_\_\_\_| Av½y‡ji m¤§yLfvM |

**Section 7a Hand washing demonstration (Keep for baseline)**

3 eQ‡ii †QvU ev”Pvi cÖavb gwnjv cwiPh©vKvix‡K ejv n‡e, Avcwb cvqLvbvi ci mvavibZ wKfv‡e nvZ cwi®‹vi K‡ib Zv Avgv‡K K‡i †`Lvb | FRA †bvU Ki‡e|

1. |\_\_\_\_\_| cÖavb gwnjv cwiPh©vKvix nvZ ay‡qwQj wK?

1. n¨uv

0. bvKgb gwWDj-6 G P‡j hvb

1. |\_\_\_\_\_| DËi`vZv `yB nvZ ay‡q †`wL‡q‡Q wK?

1. n¨uv

1. bv
2. |\_\_\_\_\_| DËi`vZv nvZ †avqvi Rb¨ wK e¨envi K‡i‡Qb?

1. mvevb/mvevb cvwb

2. QvB

3. ïaygvÎ cvwb

4. gvwU/evwj

777. **Ab¨vb¨ (eb©Yv wjLyb)** \_\_\_\_\_\_\_\_

1. |\_\_\_\_\_| DËi`vZv KZ mgq a‡i nvZ N‡l‡Qb? (÷c Iqv‡Pi mvnv‡h¨ ‡m‡K‡Û mgq MbYv Ki“b) \_\_\_\_\_\_\_\_\_\_\_\_\_‡m‡KÛ
2. |\_\_\_\_\_| wKfv‡e nvZ ïwK‡qwQj?

1.cwi®‹vi †Zvqv‡j

2. gqjv †Zvqv‡j

3. cwi®‹vi Kvc‡o

4.gqjv Kvc‡o

5.evZv‡m

6. nvZ ïKv‡bv nq bvB

Iqvm †ewbwdUm Kgb gwWDj-8

**cq:wb®‹vkb e¨e¯’v**

|  |  |
| --- | --- |
| Identification |  |
| 0.1. K¬v÷vi AvBwW: | 🞎🞎🞎🞎 |
| 0.2. Lvbv AvBwW: | 🞎🞎🞎 |

**†Lvjv RvqMvq cvqLvbv Kiv**

**mKj Lvbvq Ki‡Z n‡e**

**cÖwZwU MÖæ‡ci Rb¨ wb‡gœi cÖkœ¸‡jv Avjv`v Avjv`v fv‡e Kiæb (cÖ\_‡g MÖæc** *A***, Zvici MÖæc** *B***, Zvici MÖæc** *C***, Zvici MÖæc** *D,* **me©‡k‡l MÖæc** *E***)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **MÖæc** *A* | **MÖæc** *B* | **MÖæc** *C* | **MÖæc** *D* | **MÖæc** *E* |
|  |  | <3 eQ‡ii ev”Pv | 3-7 eQ‡ii ev”Pv | 8-15 eQ‡ii ev”Pv | cyiæl | gwnjv |
|  | GB Lvbvi †Kvb m`m¨iv ‡Lvjv RvqMv‡Z cvqLvbv K‡i Kx?  1 cÖwZw`b  2 gv‡Sgv‡S  3 KLbB bv(601 bs cÖ‡kœ hvb)  88. cÖ‡hvR¨ bq (601 bs cÖ‡kœ hvb)  99 Rvwb bv (601 bs cÖ‡kœ hvb) | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | mvavibZ: GKB RvqMv‡Z cÖwZevi hvb Kx?  1 n¨uv  2 bv(601 bs cÖ‡kœ hvb)  99 Rvwb bv(601 bs cÖ‡kœ hvb | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | Avcbvi Lvbv †\_‡K D³¯’v‡b †h‡Z (kyay hvIqv) KZUzKz mgq jv‡M (wgwbU) 99 Rvwb bv | 🞎🞎 | 🞎🞎 | 🞎🞎 | 🞎🞎 | 🞎🞎 |
|  | GB RvqMvwU H MÖv‡gi g‡a¨B Kx?  1 n¨uv  2 bv  99 Rvwb bv | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |

**Ab¨vb¨ †Lvjv RvqMvq cvqLvbv Kiv m¤ú©KxZ cÖkœ**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | <3 eQ‡ii ev”Pv | 3-7 eQ‡ii ev”Pv | 8-15 eQ‡ii ev”Pv | cyiæl | gwnjv |
| 1. **†Kvb †Kvb Kvi‡Y Avcbvi Lvbvi †jvKRb †Lvjv RvqMv‡Z cvqLvbv K‡i**   🖑**(DËi c‡o †kvbv‡eb bv)** | |  |  |  |  |  |
|  | 1 **†Kvb cvqLvbv †bB** | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 2 **ev”Pviv †hLv‡b cvqLvbv K‡i Zv wbqš¿Y Kiv m¤¢e bq** |  |  | 🞎 | 🞎 | 🞎 |
|  | 3 wbR¯^Zv | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 4 **Af¨vm** | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 5 **cvqLvbv e¨env‡ii †P‡q R½‡j †h‡Z †ekx cQ›` K‡i** | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 6 **Kv‡Ri ¯’v‡b/¯‹z‡j cvqLvbv †bB** | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 7 **Kv‡iv mv‡\_ cvqLvbv †kqvi Ki‡Z cQ›` K‡i bv** | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 8 Dchy³Zv | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 9 wbivcËv | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 10 ¯^v”Q›`¨ | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 11 Amy¯’Zv | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 12 cvqLvbv f‡i †M‡Q | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 13 e¨eüZ cvqLvbv/Uq‡jUwU fv½v | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 14 **cvqLvbv e¨envi Ki‡Z fq cvq** | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | 15 **wKfv‡e cvqLvbv e¨envi Ki‡Z nq Rv‡b bv** | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  |  | <3 eQ‡ii ev”Pv | 3-7 eQ‡ii ev”Pv | 8-15 eQ‡ii ev”Pv | cyiæl | gwnjv |
|  | **GB GjvKvq Avcwb Ggb †Kvb Lvbv wP‡bb wK hviv cvqLvbv \_vKv ¯^‡Ë¡I †Lvjv RvqMv‡Z cvqLvbv K‡i**  1 n¨uv, **cÖvqB**  2 n¨uv, **gv‡Sgv‡S**  3 bv, **KLbB bv**  99 Rvwb bv | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
|  | **ev”Pvi cvqLvbv Lvbvi DVv‡b/Pvicv‡k/ cÖwZ‡ekx‡`i Lvbvq/b`x‡Z †djv nq GgbUv Avcwb †`‡L‡Qb wK?**  1 n¨uv, **cÖvqB**  2 n¨uv, **gv‡Sgv‡S**  3 bv, **KLbB bv**  99 Rvwb bv |  |  |  | 🞎 | 🞎 |

**cvqLvbvi wcU ¯’vbvšÍi welqK cªkœvejx**

1. eZ©gv‡b Avcbvi Lvbv †Kvb ai‡Yi cvqLvbv/Uq‡jU e¨envi Ki‡Qb?

K) AvBwmwWwWAviÕwe Gi †`qv `yB wcU/MZ© wewkó Uq‡jU (4bs cÖ‡kœ w¯‹c Ki“b)

L) AvBwmwWwWAviÕwe Gi †`qv GK wcU/MZ© wewkó Uq‡jU

M) ¯^v¯’¨m¤§Z cvqLvbv hv c~e© †\_‡KB we`¨gvb wQj

N) Ab¨vb¨ (wbw`©ó Ki“b....................)

2. eZ©gv‡b Avcbvi Lvbvi AvBwmwWwWAviÕwe Gi †`qv Uq‡jU Gi wcU/MZ© KLbI fivU n‡q‡Q Kx?

n¨vu bv

3. hw` n¨vu nq, KLb fivU n‡qwQj?

w`b/gvm/eQi

4. hw` fivU n‡q \_v‡K, Z‡e cvqLvbvi wcU/MZ© †h fivU ev cªvq fivU n‡q ‡M‡Q G welqwU cª\_g †K j¶¨ K‡iwQ‡jb?

K) Lvbvi †h‡Kvb cÖvßeq¯‹ cyi“l

L) Bb‡W·/wbw`©ó gv (wb‡R)

M) Bb‡W·/wbw`©ó gv Qvov Lvbvi †h‡Kvb cÖvßeq¯‹ gwnjv

N) Lvbvi †h‡Kvb wkï

O) Ab¨vb¨ e¨w³ (wbw`©ó Ki“b....................)

5. Kxfv‡e Avcwb/Ab¨ e¨w³iv eyS‡Z †c‡iwQ‡jb †h cvqLvbvi wcU/MZ© fivU n‡q †M‡Q?

K) gj/cvwb wb®‹vmb nwPQj bv

L) kã Øviv Vvni K‡i

M) wbqwgZ cvwb e¨env‡ii mv‡\_ gj cÖevwnZ bv nIqv

6. GB cvqLvbv KZRb m`m¨ wg‡j e¨envi K‡ib?

7. cvqLvbvi wcU/MZ© fivU n‡Z KZw`b mgq wb‡qwQj?

K) gvm ....... L) w`b........

8. hLb wcU/MZ© fivU n‡q wM‡qwQj ZLb Kx Kiv n‡qwQj?

K) wKQyB Kiv nqwb

L) GK wcU †\_‡K Ab¨ wc‡U ¯’vbvšÍi Kivi Rb¨ wm GBP wc Gi mv‡\_ Av‡jvPbv Kiv n‡qwQj

M) GK wcU †\_‡K Ab¨ wc‡U ¯’vbvšÍi Kivi Rb¨ cwiev‡ii m`m¨‡`i mv‡\_ Av‡jvPbv Kiv n‡qwQj

N) Ab¨ wc‡U ¯’vbvšÍi Kiv n‡qwQj

9. Avcwb KLb Ab¨ wc‡U ¯’vbvšÍi kyi“ K‡iwQ‡jb?

w`b/gvm/eQi

10. Ab¨ wc‡U ¯’vbvšÍi Ki‡Z KZ mgq †j‡MwQj?

w`b N›Uv

11. wcU cwieZ©b Ki‡Z †K mvnvh¨/mg\_©b K‡iwQj?

K) cwiev‡ii m`m¨

L) cªwZ‡ekx

M) Ab¨vb¨ AvZ¥xq¯^Rb

N) fvov Kiv †jvK

O) Ab¨vb¨ (wbw`©ó Ki“b...............)

12. Avcwb Kx wcU cwieZ©b Ki‡Z †Kvb kªwgK fvov K‡iwQ‡jb?

n¨vu bv

13. GK wcU †\_‡K Ab¨ wc‡U ¯’vbvšÍi Ki‡Z KZ UvKv LiP K‡iwQ‡jb?

................UvKv

14. GK wcU †\_‡K Ab¨ wc‡U ¯’vbvšÍi Kiv mnR wQj?

n¨vu bv

15. hw` n¨vu nq, Avcwb wK wK Kvi‡Y ¯’vbvšÍi Kiv mnR wQj e‡j g‡b K‡ib? (GKvwaK DËi Mªnb‡hvM¨| GwU GKwU †Lvjv cÖkœ, wKQy DËi ïaygvÎ mvÿvrKv‡ii myweav‡Z© †`qv n‡q‡Q, AskMÖnYKvixi wbKU DËi c‡o †kvbv‡bv hv‡ebv|)

K) ¯’vbvšÍi Ki‡Z †Kvb LiP cÖ‡qvRb nqwb

L) ¯’vbvšÍi Ki‡Z Lye †ekx mgq cÖ‡qvRb nqwb

M) ¯’vbvšÍi Kivi Rb¨ cwiev‡ii m`m¨/Ab¨vb¨iv mvnvq¨ K‡iwQj

N) Ab¨vb¨ (wbw`©ó Ki“b...............)

16. hw` bv nq, Avcwb wK wK Kvi‡Y ¯’vbvšÍi Kiv mnR wQjbv e‡j g‡b K‡ib? (GKvwaK DËi Mªnb‡hvM¨| GwU GKwU †Lvjv cÖkœ, wKQy DËi ïaygvÎ mvÿvrKv‡ii myweav‡Z© †`qv n‡q‡Q, AskMÖnYKvixi wbKU DËi c‡o †kvbv‡bv hv‡ebv|)

K) e¨qeûj

L) ¯’vbvšÍi Ki‡Z A‡bK mgq ‡j‡MwQj

M) Kv‡iv mvnvh¨ Qvov ¯’vbvšÍi Kiv m¤¢eci wQjbv

N) Ab¨vb¨ (wbw`©ó Ki“b...............)

17. wcU ¯’vbvšÍi Kivi c‡i KZgvm/w`b mgq AwZevwnZ n‡q‡Q?

.........gvm/w`b

18. wcU ¯’vbvšÍi Kivi Rb¨ cvqLvbvi Dc‡ii As‡ki KvVv‡gvi †Kvb ÿwZ n‡qwQj Kx?

n¨vu bv

19. hw` n¨vu nq, ‡Kvb Ask bó n‡qwQj?

K) †`qvj

L) Qv`

M) `iRv

N) Ab¨vb¨ (wbw`©ó Ki“b...............)

20. `yB wcUwewkó cvqLvbv e¨envi Kivi cªavb mgm¨v Kx e‡j Avcwb g‡b K‡ib?

K) ¯’vbvšÍi Kiv KwVb

L) ¯’vbvšÍi Kiv e¨qeûj

M) ¯’vbvšÍi Ki‡Z A‡bK mgq jv‡M

N) cwiev‡ii m`m¨iv cQ›` K‡ibv

O) Ab¨vb¨ (wbw`©ó Ki“b...............)

21. Avcwb Kx Avcbvi wcU KL‡bv Lvwj K‡iwQ‡jb?

n¨vu bv

22. hw` bv nq, †Kb? (GKvwaK DËi Mªnb‡hvM¨| GwU GKwU †Lvjv cÖkœ, wKQy DËi ïaygvÎ mvÿvrKv‡ii myweav‡Z© †`qv n‡q‡Q, AskMÖnYKvixi wbKU DËi c‡o †kvbv‡bv hv‡ebv|)

K) cvqLvbvi wcU GL‡bv f‡iwb

L) `yB wcU wewkó cvqLvbv KL‡bv e¨envi Kwiwb

M) Lvwj bv K‡iB GK wcU ‡\_‡K Ab¨ wcU/cvqLvbvq ¯’vbvšÍi Kiv n‡qwQj

N) Ab¨vb¨ (wbw`©ó Ki“b...............)

23. hw` n¨vu nq, wØZxq wc‡U ¯’vbvšÍi Kivi KZw`b c‡i Avcwb cÖ\_g wcU Lvwj K‡iwQ‡jb?

..................gvm/w`b

24. wcU Lvwj Kivi Rb¨ Kx DcKib e¨envi Kiv n‡qwQj?

K) †Kv`vj/wbovwb

L) evjwZ

M) Ab¨vb¨ (wbw`©ó Ki“b...............)

25. wcU Lvwj Kivi Rb¨ cvqLvbvi †Kvb Ask bó n‡qwQj Kx?

n¨vu bv

26. hw` n¨vu nq, †Kvb Ask bó n‡qwQj?

K) cvqLvbvi wis

L) bx‡Pi Ask

M) XvKbv

N) Ab¨vb¨ (wbw`©ó Ki“b...............)

27. wcU Lvwj Kiv mnR wQj Kx?

n¨vu bv

28. wcU Lvwj Ki‡Z Kviv mvnvh¨/mg\_©b K‡iwQj?

K) cwiev‡ii m`m¨

L) cªwZ‡ekx

M) Ab¨vb¨ AvZ¥xq¯^Rb

N) fvov Kiv †jvK

O) Ab¨vb¨ (wbw`©ó Ki“b...............)

29. wcU Lvwj Ki‡Z KZ UvKv cÖ‡qvRb n‡qwQj?

....................UvKv

30. wc‡Ui gqjv Kx K‡iwQ‡jb?

K) mvi wn‡m‡e e¨envi Kiv n‡qwQj

L) `~‡i Q~‡o †d‡j w`qv n‡qwQj

M) Ab¨‡K ‡`qv n‡qwQj

N) Ab¨vb¨ (wbw`©ó Ki“b...............)

31. Avcwb Kv‡iv KvQ †\_‡K cvqLvbvi c‡P hvIqv gqjv‡K mvi wn‡m‡e e¨env‡ii K\_v ï‡b‡Qb?

n¨vu bv

**cq:wb®‹vkb e¨e¯’vi myweavejx**

**mKj Lvbvq Ki‡Z n‡e**

🞎**Avcbvi Lvbvq †Kvb cvqLvbv Av‡Q wK? Avwg wK Zv †`L‡Z cvwi?**

1 **cvqLvbv Av‡Q, ch©‡eÿb K‡i‡Q**

2 **cvqLvbv Av‡Q, ‡`Lv‡Z ivRx nqwb**(C.809 bs cÖ‡kœ hvb)

3 **†Kvb cvqLvbv bvB**(C.815 bs cÖ‡kœ hvb)

**cvqLvbv m¤ú‡K© we¯ÍvwiZ Z\_¨**

ch©‡e¶b: cvqLvbvi aib, Ae¯’v †bvU Ki“b:

1 n¨uv

2 bv

88 cÖ‡hvR¨ bq/ ch©‡e¶Y Kiv m¤¢e nqwb

|  |  |  |
| --- | --- | --- |
|  | **ch©‡e¶b** |  |
| 1 | cvqLvbvi Pvicv‡k wZb ev †ewk †`qvj | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 2 | cvqLvbvi Pvicv‡k ev‡kui †eov wQj | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 3 | cvqLvbvi Pvicv‡k `iRv/c`©v w`‡q †Niv | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 4 | cvqLvbvi Dc‡i Qv` wQj | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 5 | †fbwU‡jkb cvBc wQj | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 6 | cvqLvbvq hvevi iv¯Ív †`‡L eySv hv‡”Q wbqwgZ e¨envi Kiv nq (cwi®‹vi, RxY© BZ¨vw` ) | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
|  | **wfZ‡iich©‡e¶b** |  |
| 7 | cvqLvbvqmøve i‡q‡Q | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 8 | Raised footings around hole | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 9 | d¬vk-U‡q‡jU A\_ev cvwb †X‡j d¬vm Kiv Uq‡jU | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 9a | d¬vk-U‡q‡jU A\_ev cvwb †X‡j d¬vm Kiv Uq‡jU:  cvwbi mxj: | [ 1 ] cvwbi mxj (KvR K‡i Ggb)  [ 2 ] cvwbi mxj fv½v  [ 3 ] fv½v bvB  [ 88 ] cÖ‡hvR¨ bq/ch©‡eÿb Kiv m¤¢e nqwb/ Rvwb bv |
| 9b | d¬vk-Uq‡jU A\_ev cvwb †X‡j d¬vm Kiv Uq‡jU: | [ 1 ] hv cvB‡ci mv‡\_ ms‡hvM K‡i ‡`qv  [ 2 ] hv‡Z †mcwUK U¨vsK emv‡bv Av‡Q  [ 3 ] wcU-Uq‡jU  [ 4 ] hv †Kvb Lvj, †Wªb, b`x BZ¨vw`i mv‡\_ ms‡hvRb  Kivi d‡j A¯^v¯’¨Ki Ae¯’vi m„wó K‡i \_v‡K  [ 88 ] cÖ‡hvR¨ bq |
| 10 | ‡g‡S ˆZix‡Z wK wK Dcv`vb e¨envi Kiv n‡q‡Q? | [ 1 ] gvwU  [ 2 ] KvV  [ 3 ] wm‡g›U  [ 4 ] UvBj/BU  [ 5 ] cøvw÷K  [ 88 ] cÖ‡hvR¨ bq/ ch©‡e¶Y Kiv m¤¢e nqwb/cÖZ¨vL¨vb |
| 11 | evjwZcvqLvbv | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 12 | SzjšÍ cvqLvbv | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 13 | cvqLvbv e¨env‡ii wPý i‡q‡Q | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 14 | cvqLvbv/Uq‡j‡U cvqLvbvi MÜ i‡q‡Q | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 15 | cvqLvbv/Uq‡j‡U cÖmªv‡ei MÜ i‡q‡Q | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 16 | møve A\_ev †g‡S‡Z cvqLvbv †`L‡Z cvIqv †M‡Q | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 17 | MZ© XvKv i‡q‡Q | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
| 18 | gvwQi Dcw¯’wZ i‡q‡Q | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |
|  | **mvaviY ˆewkó¨** |  |
| 19 | 1/2 wcU/MZ© wewkó cvqLvbv | [ 1 ] 1 wcU/MZ© wewkó cvqLvbv  [ 2 ] 2 wcU/MZ© wewkó cvqLvbv  [ 88 ] cÖ‡hvR¨ bq/ ch©‡e¶Y Kiv m¤¢e nqwb/cÖZ¨vLvb / cannot tell |
| 20 | Kg‡cvwós Uq‡jU | [ 1 n¨uv ] [ 2 bv ] [ 88 cÖ‡hvR¨ bq] |

🞎ch©‡e¶b: wcU ev M‡Z©i Ae¯’v-cÖ‡qvR‡b GKUz Av‡jv w`‡q †`‡Lb k³ gqjv †`Lv hvq wKbv

1 **ïKbv cvqLvbv 3 dz‡Ui †P‡q †ekx `~‡i**

2 **ïKbv cvqLvbv 1 dz‡Ui g‡a¨**

3 **cvqLvbvi Lye KvQvKvwQ ev cvqLvbv f†i †M‡Q**

88 **cvqLvbv‡Z cvwbi mxj Av‡Q/mivmwi wcU cvqLvbv bq**/**ch©‡eÿY Kiv m¤¢e nqwb**

ch©‡e¶b: **†mŠP Kv‡Ri Rb¨ cvqLvbvi wfZ‡iev** evwn‡i **wKwK Dcv`vb Av‡Q**?

1. **nu¨v**
2. **bv**

88. **cÖ‡hvR¨ bq**

|  |  |  |
| --- | --- | --- |
| 1 | 🞎 | cvZv/Nvm |
| 2 | 🞎 | Mv‡Qi Wvj / jvwV |
| 3 | 🞎 | Kvc‡oi UzKiv/Kvco |
| 4 | 🞎 | cv\_i |
| 5 | 🞎 | ¯^v¯’¨m¤§Z Uq‡jU ‡ccvo |
| 6 | 🞎 | **cvwbi**cvÎ / **e`bv** |
| 7 | 🞎 | **cvwbiU¨vc** |
| 8 | 🞎 | **mvevb** |
| 9 | 🞎 | **†mŠP Kv‡Ri Rb¨ QvB evgvwU** |
| 10 | 🞎 | **KvMR** |

**KZRb Lvbv m`m¨ GB cvqLvbv e¨envi K‡ib?**

1 **me mgq**

2 **cÖvqB**

3 **gv‡Sgv‡S**

4 **KLbB bv**

88 **cÖ‡hvR¨ bq**

|  |  |  |
| --- | --- | --- |
| 1 | <3 eQ‡ii ev”Pv | 🞎 |
| 2 | 3-7 eQ‡ii ev”Pv | 🞎 |
| 3 | 8-15 eQ‡ii ev”Pv | 🞎 |
| 4 | cyiæl | 🞎 |
| 5 | gwnjv | 🞎 |

🞎**Ab¨ †Kvb Lvbv wK GB cvqLvbv e¨envi K‡i?**

1 **nu¨v**

2 **bv**(C.813 bs cÖ‡kœ hvb)

🞎🞎**KZ¸‡jv Lvbv wg‡j GB cvqLvbvwU e¨envi K‡i ?**(**Rvwb bv**= 99)

🞎🞎**KZRb Lvbv m`m¨ (ev”Pv) GB cvqLvbv e¨envi K‡ib?**

🞎**cvqLvbvi gvwjKvbv ?**

1 **ïaygvÎ H Lvbvi Rb¨**

2 **K‡qKNi wg‡j/ Askx`vi**

3 **Ab¨ †KD**

4 **cvewjK**

88 **cÖ‡hvR¨ bq**

**GB ¯’v‡b GB cvqLvbvwU KZ eQi a‡i Av‡Q?**(**Rvwb bv** = 99)

A 🞎🞎**eQi**

B 🞎🞎**gvm**

**wkïi cwU e¨envi m¤ú©KxZ Z\_¨:**

**mKj Lvbvq Ki‡Z n‡e:**

🞎**Avcbvi** Lvbv‡Z **wK wkï‡`i cwU** Av‡Q?

1 ***n¨uv***

2 **bv**(C.821 bs cÖ‡kœ hvb)

99 **Rvwb bv**(C.821 bs cÖ‡kœ hvb)

🞎**MZ GK mßv‡ni g‡a¨, wkïwU cwU e¨envi KZevi Ki‡Q**?

1 **cÖwZevi**

2 **hZevi cvqLvbv K‡i‡Q Zvi 50 fv‡Mi †ekx wKš‘ cÖwZevi bq**

3 **hZevi cvqLvbv K‡i‡Q Zvi 50 fv‡Mi Kg wKš‘ gv‡Sgv‡S**

4 **Lye Kg**

5 **Av‡M K‡iwQ wKš‘ GLb Avi Kwi bv**(C.821 bs cÖ‡kœ hvb)

6 **KLbB bv**(C.821 bs cÖ‡kœ hvb)

99 **Rvwb bv**(C.821 bs cÖ‡kœ hvb)

**†h wkïwU (ev wkïiv) cwU e¨envi Ki‡Q Zvi eqm KZ?**

**n¨uv** = 1,**bv**= 0

|  |  |  |
| --- | --- | --- |
| 1 | 🞎 | **1 eQ‡ii Kg** |
| 2 | 🞎 | **1-<3 eQi** |
| 3 | 🞎 | **3-<5 eQi** |
| 4 | 🞎 | **>=5 eQi** |

**Avwg wK cwUwU †`L‡Z cvwi**

**Avwg wK cwUwU †`L‡Z cvwi (cwUwU Avb‡Z KZUzKz mgq †j‡M‡Q Zv †m‡K‡Û MYbv Kiæb)**

🞎🞎:🞎🞎**wgwbU** :†m‡KÛ(**cwU †`Lv‡Z bv cvi‡j** 999 **†KvW Ki“b**)

**cwUwUi Ae¯’v wK Zv ch©‡eÿY Kiæb (GKvwaK DËi n‡Z cv‡i)**

**n¨uv** = 1,**bv**= 0

|  |  |  |
| --- | --- | --- |
| 1 | 🞎 | **cÖ‡qvR‡bi mgq ev”Pv †hb cvq Ggb KvQvKvwQ RvqMv‡Z i‡q‡Q** |
| 2 | 🞎 | **cÖ‡qvR‡bi mgq gv †hb cvq Ggb KvQvKvwQ RvqMv‡Z i‡q‡Q** |
| 3 | 🞎 | **wfZ‡i/ cwU‡Z cvqLvbvi wPý Av‡Q** |
| 4 | 🞎 | **cwU wjWw`‡q XvKv wQj** |
| 5 | 🞎 | **cwU wjWQvovAb¨ wKQy w`‡q XvKv wQj** |
| 6 | 🞎 | **ïKbv** |
| 7 | 🞎 | **‡f‡½ †M‡Q ZvB Bnv e¨envi Kiv m¤¢e bv** |
| 8 | 🞎 | **cwU e¨envi bv Kivi wPý i‡q‡Q** |
| 9 | 🞎 | **cwU †`Lv‡Z cv‡i bvB** |

🞎**GB cwU †\_‡K Avcwb cvqLvbv †Kv\_vq †d‡jb?**

1 **cvqLvbvq/Uq‡j‡U**

2 **‡Lvjv M‡Z©**/ **wkïi ev cïcvwLi cvqLvbv †djvi M‡Z©**

3 **gvwUi bx‡P cy‡Z †djv n‡qwQj/ XvKv M‡Z©**

4 **DVv‡bi Kv‡Q †Lvjv RvqMv**

5 **‡Svc-Sv‡o/R½‡j/gv‡V**

6 **cvwbi Dr‡mi Kv‡Q/cyKzi/†mP bvjv**

**b`x/**

77 **Ab¨vb¨ (wjLyb)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**‡mwb¯‹zc e¨envi**

**mKj Lvbvq Ki‡Z n‡e**

🞎**Avcbvi Lvbvi Pvicv‡ki cvqLvbv cwi®‹vi Kivi Rb¨ Avcbvi Lvbvq †Kvb wbw`©ó wKQz Av‡Q wK?**

1 ***n¨uv***

0. **bv**(C.826 bs cÖ‡kœ hvb)

99 **Rvwb bv**(C.826 bs cÖ‡kœ hvb)

🞎Avcwb KLb KLb †mwb¯‹zc e¨envi K‡ib?

1 cÖwZw`b K‡qKevi

2 cÖwZw`b GKevi

3 cÖwZ mßv‡n K‡qKevi

4 **mßv‡n GKev‡ii Kg**

5 **cÖ\_gw`‡K e¨envi K‡i†QwKš‘ GLb Avi bv**(C.826 bs cÖ‡kœ hvb)

6 **KLbB bv**(C.826 bs cÖ‡kœ hvb)

Avcwb wK wK Kv‡R†mwb¯‹zc e¨envi K‡ib? **(GKvwaK DËi n‡Z cv‡i)**🖑 **DËi c‡o †kvbv‡eb bv**

1 = **n¨uv**

|  |  |  |
| --- | --- | --- |
| 1 | 🞎 | **RxeRš‘i cvqLvbv †djvi Kv‡R** |
| 2 | 🞎 | **ev”Pvi cvqLvbv †djvi Kv‡R** |
| 3 | 🞎 | **gqjv AveR©bv †djvi Kv‡R** |
| 4 | 🞎 | **K…wlKv‡R/gv‡V Bnv wb‡q hvB** |
| 5 | 🞎 | **MZ© ˆZixi Kv‡R** |
| 77 | 🞎 | **Ab¨vb¨ (eY©bv wjLyb)**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Avwg wK ‡mwb¯‹zcwU †`L‡Z cvwi? (GKvwaK DËi n‡Z cv‡i)**

**ch©‡eÿY:‡mwb¯‹zcwUi Ae¯’v ch©‡eÿY Kiæb**

1 = **n¨uv**

|  |  |  |
| --- | --- | --- |
| 1 | 🞎 | **‡mwb¯‹z‡c cvqLvbvi wPý Av‡Q** |
| 2 | 🞎 | **ïKbv** |
| 3 | 🞎 | **‡f‡½ †M‡Q Ges †givgZ Kiv `iKvi** |
| 4 | 🞎 | **cÖ‡qvR‡bi mgq ev”Pv †hb cvq Ggb KvQvKvwQ RvqMv‡Z i‡q‡Q** |
| 5 | 🞎 | **cÖ‡qvR‡bi mgq gv †hb cvq Ggb KvQvKvwQ RvqMv‡Z i‡q‡Q** |
| 6 | 🞎 | **‡mwb¯‹zc e¨envi bv Kivi wPý i‡q‡Q** |
| 7 | 🞎 | **‡mwb¯‹zc †`Lv‡Z cv‡i bvB** |

**hw` ‡mwb¯‹zc w`‡q wkïi/cïcvwLi cvqLvbv †d‡j \_v‡K Zvn‡j ejyb:**

**‡mwb¯‹zc w`‡q Avcwb †hme cvqLvbv †d‡jb Ges wKfv‡e †d‡jb †mm¤ú‡K© Rvbvi Rb¨ GLb Avwg Avcbv‡K Av‡iv wKQz cÖkœ Ki‡Z PvB|**

**(cÖwZwU cvqLvbvi ai‡bi K\_v D‡j­L K‡i †KvW Ki“b)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **cvqLvbv ‡Kv\_vq†djv n‡qwQj?**  🖑 **DËi c‡o †kvbv‡eb bv**  **(GKvwaK DËi n‡Z cv‡i)** 1 = **n¨uv** | | | | |
|  |  | A | B | C | D | E | F |
|  | **cvqLvbv** | **cvqLvbv †djvi Rb¨ ‡mwb¯‹zc e¨envi K‡i**? | **cvqLvbvq** | **‡Lvjv M‡Z©** | ‡Sv‡c Sv‡o/†Lvjv RvqMvq | cvwb‡Z | **MZ© Kiv nq Ges †X‡K ivLv nq** |
| 1 | **wkïi** | 🞎 |  |  |  |  |  |
| 2 | **†Mvei** | 🞎 |  |  |  |  |  |
| 3 | **nvum-gyiMxi** | 🞎 |  |  |  |  |  |
| 4 | **QvM‡ji** | 🞎 |  |  |  |  |  |
| 5 | **ïK‡ii** | 🞎 |  |  |  |  |  |
| 6 | **KzKzi ev weov‡ji** | 🞎 |  |  |  |  |  |

**DVv‡b Ges Pvicv‡k cvqLvbv ch©‡eÿY**

**mKj Lvbvq Ki‡Z n‡e**

**ch©‡eÿY Kiæb**:

**wbgœwjwLZ ¯’v‡b hw` †Kv\_vI †Lvjv cvqLvbvi ¯Í~c †Pv‡L c‡o Zvn‡j Zv †iKW© Kiæb** *(***hw` 25¯Í~†ci Kg nq***)*

55 **AmsL¨** (**hw` 25¯Í~†ci †ekx nq)**

99 **ch©‡eÿY Kiv m¤¢e nqwb**

|  |  |  |
| --- | --- | --- |
|  | 🞎🞎 | **DVv‡b/evwo†Z gvby‡li †Lvjv cvqLvbvi ¯Í~c** |
|  | 🞎🞎 | **Lvbvi 5 wgUv‡ii g‡a¨ gvby‡li †Lvjv cvqLvbvi ¯Í~c** |
|  | 🞎🞎 | **Lvbvig‡a¨ gvby‡li †Lvjv cvqLvbvi ¯Í~c** |
|  |  |  |
|  | 🞎🞎 | **DVv‡b/evwo†Z cï-cvwLi cvqLvbvi ¯Í~c** |
|  | 🞎🞎 | **Lvbvi 5 wgUv‡ii g‡a¨ cï-cvwLi cvqLvbvi ¯Í~c** |
|  | 🞎🞎 | **Lvbvig‡a¨ cï-cvwLi cvqLvbvi ¯Í~c** |

**Iqvm †ewbwdUm Kgb gwWDj-9**

**wkïi cvqLvbv Ges Zv †djv m¤ú©KxZ Z\_¨**

Version Number 4.0 (2011-10-18)

**mKj Lvbvq Ki‡Z n‡e**

|  |  |
| --- | --- |
| Identification |  |
| 0.1. K¬v÷vi AvBwW: | 🞎🞎🞎🞎 |
| 0.2. Lvbv AvBwW: | 🞎🞎🞎 |

**<3 eQi wkï cvqLvbv Ges Zv †djv m¤ú©KxZ Z\_¨**

🞎🞎🞎🞎🞎🞎**Lvbvi me‡P‡q †QvU wkïi AvBwW wjLyb**

🞎**Avcbvi (<3 eQi) wkï me©†kl KLb cvqLvbv K‡i‡Q?**

1 **AvR**

2 **MZKvj**

3 **2 w`b ev Zvi Av‡M**

4 **g‡b Ki‡Z cviwQ bv**(C.906 bs cÖ‡kœ hvb)

5 **ej‡Z ivwR bv** (C.906 bs cÖ‡kœ hvb)

88 **cÖ‡hvR¨ bq**(C.906 bs cÖ‡kœ hvb)

🞎 **Avcbvi wkï me©†kl ‡Kv\_vq cvqLvbv K‡i‡Q?** 🖑**DËi c‡o †kvbv‡eb bv**

1. **cwU** (**DVv‡b**)
2. **cwU** (**N‡ii wfZ‡i**)

2 **Kv\_v**/ diaper

3 **DVv‡b** (**cwU** Qvov)

4 **N‡ii wfZ‡i** (**cwU** Qvov)

5 **cvqLvbvq/Uq‡j‡U** (C.905 bs cÖ‡kœ hvb)

6 R½‡j/‡Sv‡c Sv‡o/ †Lvjv RvqMvq

77 **Ab¨vb¨ (eY©bv wjLyb)**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (C.905 bs cÖ‡kœ hvb)

88 **cÖ‡hvR¨ bq**(C.905 bs cÖ‡kœ hvb)

99 **Rvwb bv** (C.905 bs cÖ‡kœ hvb)

🞎**†mB cvqLvbv wK Kiv n‡qwQj?** 🖑**DËi c‡o †kvbv‡eb bv**

1 **†hLv‡b cvqLvbv K‡iwQj †mLv‡bB †d‡j ivLv n‡qwQj** [

2 **Uq‡jU/cvqLvbvi wfZ‡i †djv/†avqv n‡qwQj**

3 **‡Wª‡b/b`©gvi wfZ‡i †djv/†avqv n‡qwQj**

4 R½‡j/‡Sv‡c Sv‡o/ †Lvjv RvqMvq **†djv n‡qwQj**

5 **gqjv AveR©bvi g‡a¨ †djv n‡qwQj**

6 **wb©w`ó M‡Z© †djv n‡qwQj**

7 **gvwUi bx‡P cy‡Z †djv n‡qwQj**

77 **Ab¨vb¨ (eY©bv wjLyb)**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

99 **Rvwb bv**

**Avcwb cvqLvbv wKfv‡e †d‡jwQ‡jb?**🖑**DËi c‡o †kvbv‡eb bv(GKvwaK DËi n‡Z cv‡i)**

**n¨uv** = 1,**bv**= 0

|  |  |  |
| --- | --- | --- |
| 🞎 | 1 | **ïaygvÎ nvZ w`‡q** |
| 🞎 | 2 | **nvZ Ges Kvco/KvMR/cvZv w`‡q** |
| 🞎 | 3 | **cvqLvbv †Zvjvi Rb¨ †Kvb Dcv`v‡bi UzKiv** |
| 🞎 | 4 | **cwU** |
| 🞎 | 5 | **K…wlKvR Kivi †Kv`vj ev ‡Qwb** |
| 🞎 | 6 | **‡mwb¯‹zc** |
| 🞎 | 7 | **‡Kvb wKQy Kiv nq bvB** |
| 🞎 | 77 | **Ab¨vb¨ (wbw`©ó K‡i wjLyb)**\_\_\_\_\_\_\_\_\_\_\_ |
| 🞎 | 99 | **Rvwb bv** |

**3-7 eQ‡ii wkïi cvqLvbv Ges Zv †djv m¤ú©KxZ Z\_¨**

🞎**Avcbvi Lvbvq 3-7 eQ‡ii Ab¨ †Kvb wkï Av‡Q wK?**

1 **n¨uv**

2 bv(C.911 bs cÖ‡kœ hvb)

Avcbvi Lvbvq <7 eQ‡ii ‡h wkïwU Av‡Q Zvi eqm KZ? **(GKvwaK wkï \_vK‡j me‡P‡q eo ev”Pvi †¶‡Î wR‡Ám Ki“b)**

A 🞎eQi

B 🞎🞎gvm

🞎 **Avcbvi wkï (<7 eQ‡ii) me©†kl ‡Kv\_vq cvqLvbv K‡i‡Q?**

1. **cwU** (**DVv‡b**)
2. **cwU** (**N‡ii wfZ‡i**)

2 **Kv\_v**/ diaper

3 **DVv‡b** (**cwU** Qvov)

4 **N‡ii wfZ‡i** (**cwU** Qvov)

5 R½‡j/‡Sv‡c Sv‡o/ †Lvjv RvqMvq

6 **cvqLvbvq/Uq‡j‡U** (C.905 bs cÖ‡kœ hvb)

77 **Ab¨vb¨ (eY©bv wjLyb)**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (C.905 bs cÖ‡kœ hvb)

99 **Rvwb bv**(C.905 bs cÖ‡kœ hvb)

🞎**†mB cvqLvbv wK Kiv n‡qwQj?** 🖑 **DËi c‡o †kvbv‡eb bv**

1 **†hLv‡b cvqLvbv K‡iwQj †mLv‡bB †d‡j ivLv n‡qwQj** [

2 **Uq‡jU/cvqLvbvi wfZ‡i †djv/†avqv n‡qwQj**

3 **‡Wª‡b/b`©gvi wfZ‡i †djv/†avqv n‡qwQj**

4 R½‡j/‡Sv‡c Sv‡o/ †Lvjv RvqMvq **†djv n‡qwQj**

5 **gqjv AveR©bvi g‡a¨ †djv n‡qwQj**

6 **wb©w`ó M‡Z© †djv n‡qwQj**

7 **gvwUi bx‡P cy‡Z †djv n‡qwQj**

77 **Ab¨vb¨ (eY©bv wjLyb)**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

99 **Rvwb bv**

**Avcwb cvqLvbv wKfv‡e †d‡jwQ‡jb?**🖑 **DËi c‡o †kvbv‡eb bv(GKvwaK DËi n‡Z cv‡i)**

**n¨uv** = 1,**bv**= 0

|  |  |  |
| --- | --- | --- |
| 🞎 | 1 | **ïaygvÎ nvZ w`‡q** |
| 🞎 | 2 | **nvZ Ges Kvco/KvMR/cvZv w`‡q** |
| 🞎 | 3 | **cvqLvbv †Zvjvi Rb¨ †Kvb Dcv`v‡bi UzKiv** |
| 🞎 | 4 | **cwU** |
| 🞎 | 5 | **K…wlKvR Kivi †Kv`vj ev ‡Qwb** |
| 🞎 | 6 | **‡mwb¯‹zc** |
| 🞎 | 7 | **‡Kvb wKQy Kiv nq bvB** |
| 🞎 | 77 | **Ab¨vb¨ (wbw`©ó K‡i wjLyb)**\_\_\_\_\_\_\_\_\_\_\_ |
| 🞎 | 99 | **Rvwb bv** |

🞎 Do children eventually start to use latrines?

1 **n¨uv**

2 **bv (cieZ©x †mKk‡b hvb)**

**KZ eQi eq‡m mvavibZ GKwU wkï cvqLvbv e¨envi Ki‡Z cv‡i?**

🞎🞎**eQi**

**Iqvm †ewbwdUm Kgb gwWDj-10**

**cvwb cwi‡kvab, msiÿY Ges ¸bMZgvb**

Version Number 4.0 (2011-10-18)

**mKj Lvbvq Ki‡Z n‡e**

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. CLUSTER ID:** | 🞎🞎🞎🞎 |
| **0.2. HOUSEHOLD ID:** | 🞎🞎🞎 |

**cvwb msiÿY Ges cwi‡kvab**

🞎Avcwb wKfv‡e Lvevi cvwb msi¶b K‡ib ?

1 **cv‡Î (evjwZ, wc‡cU, †evZj, Wªvg, nvwo, gUKv BZ¨vw`)**

2 **Kjm** (

3 **Qv‡` cvwbi U¨vsK**

4 **cvwb msi¶Y Kiv nq bv**

🞎**GB Lvbvq 3 eQ‡ii †QvU †Kvb wkï Av‡Q wK †h Av‡M KLbI cvwb †L‡qwQj?**

1 **n¨uv**

0 **bv**

88. **cÖ‡hvR¨ bq**

**cÖkœ Kiæb Ges ch©‡e¶b Kiæbt hw` Avcbvi wkï (<3 eQ‡ii B‡Û· wkï) GLb cvwb †L‡Z PvBZ Zvn‡j Avcwb wKfv‡e Zv‡K cvwb w`‡Zb Zv Avgv‡K †`Lvb (GB cvwb H2Scixÿvi Rb¨ msMÖn Kiæb)**

**(n¨uv =1, bv=0 †KvW Kiæb)**

|  |  |  |
| --- | --- | --- |
| 1 | 🞎 | **ev”Pv‡K KL‡bv cvwb †`q bvB**  **(C.1007 –bs cÖ†kœ hvb)** |
| 2 | 🞎 | **Møvm ev cvÎwU‡Z cvwb Xvjvi c~‡e© Møvm/cvÎwU Lvevi cvwb w`‡q ay‡qwQj** |
| 3 | 🞎 | **cvwb Xvjvi c~‡e© nvZ ay‡qwQj** |
| 4 | 🞎 | **cvwb Xvjvi c~‡e© mvevb w`‡q nvZ ay‡qwQj** |
| 5 | 🞎 | **Møvm ev cvÎwU‡Z Xvjv cvwbi wfZ‡i Zvi nvZ ev nv‡Zi Av½yj †j‡MwQj wK?** |
| 6 | 🞎 | **Møvm ev cvÎwU‡Z cvwb fivi mgq Zv cvwbi cv†Îi wfZi Wywe‡q cvwb fiv n‡qwQj** |
| 7 | 🞎 | **Møv‡m cvwb fivi Rb¨ j¤^v nvZjhy³ †Kvb PvgP/gM e¨envi Kiv n‡qwQj** |
| 8 | 🞎 | **cvwbi cvÎ †\_‡K mivmwi cvwb †X‡jwQj** |
| 9 | 🞎 | **mivmwi wUDeI‡qj/ cvwbi Drm †\_‡K G‡b‡Q** |
| 10 | 🞎 | **AvKzqvU¨vem Øviv cwi‡kvwaZ cvwbi cvÎ †\_‡K cvwb w`‡q‡Q (FRA ‡cÖve K‡i c~iY Ki‡eb)** |
| 11 | 🞎 | **wdëvi †\_‡K cvwb w`‡q‡Q** |

Avcwb/Lvbvi Ab¨‡KD KZÿY Av‡M GB msiÿbK…Z Lvevi cvwb msMÖn K‡i‡Qb?( 99 = **Rvwb bv**; 88 = msiÿbK…Z **cvwb bvB**)

A 🞎🞎**N›Uv**

B 🞎🞎**wgwbU**

🞎**Lvevi c~‡e© GB Dr‡mi cvwb (ev”Pv‡K †h cvwb ‡L‡Z †`Iqv nq) weï× Kivi Rb¨ wKQy Kiv n‡q‡Q wK?**

1 **n¨uv**

0 **bv(C.1007 –bs cÖ†kœ hvb)**

99 **Rvwb bv(C.1007 –bs cÖ†kœ hvb)**

🞎**Avcbvi Lvbvi cvwb weï× Kivi Rb¨ Avcwb KLbI wKQz K‡i‡Qb wK?**

1 **n¨uv**

0 **bv(C.1014 –bs cÖ†kœ hvb)**

🞎**†klevi KLb Avcwb ev”Pvi Lvevi cvwb weï× K‡i‡Qb? (DËi c‡o †kvbv‡eb bv)**

1 **AvR‡K**

2 **MZKvj**

3 **MZ GK mßv‡ni g‡a¨ †Kvb GKw`b**

4 **MZ `yB mßv‡ni g‡a¨ †Kvb GKw`b**

5 **MZ GK gv‡mi g‡a¨ †Kvb GKw`b**

6 **MZ GK eQ‡ii g‡a¨ †Kvb GKw`b**

99 **Rvwb bv**

1. **Avcwb hLbLvevi cvwb cwi‡kvab K‡ib/Ki‡Zb ZLb wKfv‡e cwi‡kvab K†ib**

🖑**(DËi c‡o †kvbv‡eb bv) (n¨uv =1, bv=0 †KvW Kiæb)**

|  |  |  |
| --- | --- | --- |
| 1 | 🞎 | **GKzqv‡Uem e¨envi K‡i** |
| 2 | 🞎 | **†K¬vwib (Zij) wgwk‡q ‡bB** |
| 3 | 🞎 | **cvwb dywU‡q †bB** |
| 4 | 🞎 | **Kvc‡o †Q‡K †bB** |
| 5 | 🞎 | **cvwbi wdëvi e¨envi K‡i (wmivwgK, evjy BZ¨vw`)** |
| 6 | 🞎 | **m~‡h©i Av‡jv‡Z Rxevbygy³KiY** |
| 7 | 🞎 | **w\_wZ‡q †bB** |
| 77 | 🞎 | **Ab¨vb¨ (eb©Yv wjLyb)**\_\_\_\_\_\_\_\_\_\_ |
| 99 | 🞎 | **Rvwb bv** |

**AvKzqvU¨vem Gi e¨envi**

**mKj Lvbvq Ki‡Z n‡e**

**‡eBRjvB‡bi mgq 1010-1013 ch©šÍ cÖkœ Ki‡eb bv, ïaygvÎ d‡jvAv‡ci mgq Ki‡eb**

**H mKj Lvbvq Ki‡Z n‡e hviv e‡j‡Q †h Zviv AvKzq¨v‡Uem e¨envi K‡i**

🞎**Avcbvi Lvbvq KZ Nb Nb Lvevi cvwb†Z AvKzqvU¨vem ‡gkv‡bv nq?**

**🖑(DËi c‡o †kvbv‡eb bv)**

1 **hZevi cvwb msMÖn Kiv nq/memgq**

2 **gv‡Sgv‡S**

3 **cÖ\_gw`‡K w`‡qwQjvg wKš‘ GLb Avi †`B bv** **(C.1012 –bs cÖ†kœ hvb)**

4 **AvKzqvU¨vem w`‡q KLbI cvwb cwi‡kvab Kwi bvB** **(C.1012 –bs cÖ†kœ hvb)**

99 **Rvwb bv** **(C.1012 –bs cÖ†kœ hvb)**

🞎**Avcbvi Lvbvq msi¶bK…Z Lvevi cvwb wK AvKzqvU¨vem Øviv cwi‡kvab Kiv n‡q‡Q?**

1 **n¨uv, meUzKz cvwb**

2 **n¨uv, wKQy cvwb**

0 **bv** **(C.1013 –bs cÖ†kœ hvb)**

3 **Lvbvq †Kvb cvwb bvB** **(C.1013 –bs cÖ†kœ hvb)**

99 **Rvwb bv**  **(C.1013 –bs cÖ†kœ hvb)**

🞎**ch©‡eÿb Kiæb: AvKzqvU¨vem Øviv cwi‡kvwaZ cvwbi cvÎ †`Lv‡Z ejyb: cvwbi cvÎ XvKv wQj Kx?**

1 **n¨uv**

0 **bv**

2. **AvswkK XvKv**

3 **Lvbvq cv‡Î †Kvb cvwb bvB** **(C.1013 –bs cÖ†kœ hvb)(Skip to C.1013)**

88 **cÖ‡hvR¨ bq/cÖZ¨vL¨vb** **(C.1013 –bs cÖ†kœ hvb)(Skip to C.1013)**

**cvwbcwi‡kvab Kivi Rb¨ KZ mgq Av‡MAvKzqvU¨vem e¨envi Kiv n‡qwQj?**

**N›Uv t wgwbU**🞎🞎:🞎🞎(99:99 **Rvwb bv)**

**cvwb†Z ‡K¬vwib Ae‡k‡li cix¶v**

**†m mKj Lvbvq Ki‡Z n‡e †hLv‡bAvKzqvU¨vemØviv cwi‡kvwaZ cvwb Av‡Q**

🞎 **†K¬vwi‡Yi Rb¨ Avwg Avcbvi Lvevi cvwb cixÿv Ki‡Z cvwi Kx?**

1 **n¨uv**

0 **bv** **(C.1015 –bs cÖ†kœ hvb)**

2 **Lvbvq †Kvb cvwb bvB** **(C.1015 –bs cÖ†kœ hvb)**

**‡K¬vwib Ae‡kl cix¶vi Rb¨ msi¶bK…Z cvwb hv <3 eQ‡ii ev”Pv Lvq Zvi bgyYv msMÖn Kiæb**

**999cix¶v Kiv nq bvB**

**‡K¬vwib Ae‡k‡li cwigvb**🞎🞎.🞎**wg.MÖvg/wjUvi**

**Lvbvi gvB‡µvev‡qvjwRKvj bgyYv msMÖn:**

**cÖwZwU evox †\_‡K †ibWgwj GKwU Lvbv wbev©Pb Ki‡Z n‡e †hLv‡b AvKzqvU¨vem Øviv cwi‡kvwaZ cvwb Av‡Q Ges †K¬vwiY Ae‡kl cvIqv †M‡Q**

🞎 **e¨vK‡Uwiqv Av‡Q wKbv Rvbvi Rb¨ Avwg Avcbvi Lvevi cvwb cixÿv Ki‡Z cvwi Kx? (cv‡Î msiÿYK„Z Lvevi cvwb msMÖn Kiæb)**

1 **n¨uv**

0 **bv/cÖZ¨vL¨vb** **(GLv‡bB †kl Kiæb)**

2 **Lvbvq †Kvb cvwb bvB**  **(GLv‡bB †kl Kiæb)**

HH Water Sample Time Log (can be automated in a bar-code scanner)

**Lvbvi cvwbi bgybv UvBg jM:**

|  |  |  |
| --- | --- | --- |
|  | DD/MM/YY HH:MM |  |
| A | 🞎🞎/🞎🞎/🞎🞎🞎🞎:🞎🞎 | **Lvbvi cvwbi bgybv msMÖ‡ni ZvwiL I mgq** |
| B | 🞎🞎/🞎🞎/🞎🞎🞎🞎:🞎🞎 | **Lvbvi cvwbi bgybv j¨v‡e †cŠQv‡bvi ZvwiL I mgq** |
| C | 🞎🞎/🞎🞎/🞎🞎🞎🞎:🞎🞎 | **Lvbvi cvwbi bgybv GbvjvBwm‡mi ZvwiL I mgq** |

🞎🞎🞎**wgwj.Lvbvi cvwbi bgybv, wdëviK…Z cvwbi cwigvb (wgwj.)**

**Lvbvi cvwbi bgybvi j¨ve †iRvë, B.†KvjvB** (*E. coli)*

(5555 = **AmsL¨**, 9999 = **GbvjvBwmm Kiv nq bvB**)

🞎🞎🞎🞎(CFU / 100 ml)

🞎HH sample qualifier

1 Below detection limit

2 Above detection limit

3 **bgybv GbvjvBwmm Kiv nq bvB**

**Dr‡mi cvwb I ev”Pvi Lvevi cvwbi (†h cvwb ev”Pv‡K †L‡Z †`Iqv nq) H2S cixÿv**

**mKj Lvbvq Ki‡Z n‡e**

🞎🞎**KZ¸‡jv Lvbv wg‡j GB cvwbi DrmwU e¨envi K‡i (ïaygvÎ GKwU Lvbv n‡j “**0” **wjLyb)**

🞎 **cvwbi Dr†mi aib**

**AMfxi wUDeI‡qj**  ……………… 01

**Mfxi wUDeI‡qj**  ……………… 02

**myiw¶Z cvZK~qv** .03

**Amyiw¶Z cvZK~qv** ………………. 04

**Zviv cv¤ú** 05

**Av‡m©wbK †kvabvMvi**  06

**myiw¶Z Sbv©i cvwb**  … 07

**Amyiw¶Z Sbv©i cvwb** … 08

**f~c„‡ôi cvwb**

**e„wói cvwb** ……………………………….. 09

**U¨vsKvi UªvK** ………………………….. 10

**†QvU U¨vsKhy³ KvU©** 11

**b`x/eva/†jK/cyKzi/†mP bvjv‡\_‡K Rxevbygy³Kib cvwb .....**12

**b`x/eva/†jK/cyKzi/†mP bvjv‡\_‡K mivmwi msM„nxZ cvwb** 13

**N‡ii wfZi U¨vc ev cvB‡ci cvwb** ……… 16

**DVv‡b U¨vc ev cvB‡ci cvwb** … … 17

**cvewjK U¨vc** …………………. 18

**Ab¨vb¨ (wjLyb)** ................777

**Dr†mi cvwbi H2S cixÿv**

1 **n¨uv**

0 **bv**

🞎**24N›Uv ci cvwb `~wlZ wQj**

🞎**48N›Uv ci cvwb `~wlZ wQj**

**ev”Pv‡K ‡h cv‡Î K‡i cvwb †L‡Z †`Iqv nq †mB cvwbi H2S cixÿv**

1 **n¨uv**

0 **bv**

🞎**24N›Uv ci cvwb `~wlZ wQj**

🞎**48N›Uv ci cvwb `~wlZ wQj**

**Iqvm †ewbwdUm Kgb gwWDj-12**

Home Care Environment

Version Number 3.0 (2011-09-07)

**mKj Lvbvq Ki‡Z n‡e**

**hw` ‡eBRjvB‡bi mgq Uv‡M©U wkïwU Rb¥MÖnb bv K‡i \_v‡K Z‡e H gv‡qi <36 gv‡mi Ab¨ wkï \_vK‡j Zvi Rb¨ GB gwWDjwU c~iY Kiæb**

|  |  |
| --- | --- |
| **Identification** |  |
| **0.1. CLUSTER ID:** |  |
| **0.2. HOUSEHOLD ID:** |  |

**‡kLvi Aby‡cÖiYv**



**†h wkïi Rb¨ GB cÖkœ¸‡jv Kiv n‡e Zvi AvBwW bv¤^vi wjLyb**

**hw` ‡eBRjvB‡bi mgq Uv‡M©U wkïwU Rb¥MÖnb bv K‡i \_v‡K Z‡e H gv‡qi <36 gv‡mi Ab¨ wkï \_vK‡j Zvi Rb¨ GB gwWDjwU c~iY Kiæb**

wkïwUi [ bvg ejyb] KZ¸‡jv †QvU‡`i eB/Qwei eB Av‡Q?

0 GKwUI bv

1. Rvwb bv/cÖZ¨vL¨vb

wkïwU hLb evwo‡Z \_v‡K ZLb †m ‡hme wRwbm w`‡q †L‡j Zv Rvbvi e¨cv‡i Avwg AvMÖnx| †m wK wbgœ wjwLZ wRwbm w`‡q †L‡j?

1 n¨uv

2 bv

88 Rvwb bv/wbwðZ bv

|  |  |  |
| --- | --- | --- |
| A |  | N‡i ‰Zix †Ljbv, †hgb: cyZzj, Mvwo A\_ev N‡i ‰Zix Ab¨ †Ljbv |
| B |  | †`vKvb †\_‡K †Kbv A\_ev †`vKv‡b ‰Zix †Ljbv |
| C |  | N‡ii †Kvb wRwbm [†hgb: evwU ev cvÎ] A\_ev evwn‡ii †Kvb wRwbm [†hgb: jvwV, cv\_i, wSbyK ev cvZv |

ev”Pvi cwiPh©vKvix‡K A‡bK mgq ev”Pv‡K evwo‡Z †i‡L †KbvKvUv Kivi Rb¨ ev Ab¨ Kv‡Ri Rb¨ evwn‡i †h‡Z nq

MZ mßv‡n wkïwUi [bvg ejyb] †ÿ‡Î wbgœwjwLZ NUbv¸‡jv KZevi N‡U‡Q?

0 GKwUI bv

1. Rvwb bv/cÖZ¨vL¨vb

|  |  |  |
| --- | --- | --- |
|  | w`b |  |
| A |  | GK N›Uvi ‡P‡q †ekx mg‡qi Rb¨ GKv †i‡L wM‡qwQ‡jb |
| B |  | GK N›Uvi ‡P‡q †ekx mg‡qi Rb¨ 10 eQ†ii †QvU Ab¨‡Kvb ev”Pvi Kv‡Q †i‡L wM‡qwQ‡jb |

MZ 3 w`‡b Avcbvi Lvbvi 15 eQ‡ii Dc‡ii eq‡mi †Kvb m`m¨ wkïwUi [bvg ejyb] mv‡\_ wbgœwjwLZ †Kvb Kvh©µ‡gi mv‡\_ RwiZ wQj Kx?

n¨uv n‡j, cÖkœ Kiæb: wkïwUi [bvg ejyb] mv‡\_ GBme Kv‡R RwiZ wQj?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **A** | **B** | **C** | **D** |
|  |  | gv  n¨uv= 1  bv= 0 | evev  n¨uv= 1  bv= 0 | Ab¨‡KD  n¨uv= 1  bv= 0 | †KD bv  n¨uv= 1  bv= 0 |
| 1 | (wkïwUi [bvg ejyb] mv‡\_ eB c‡o‡Q ev Qwei eB †`‡L‡Q Kx?) | Y | Y | Y | Y |
| 2 | (wkïwU‡K [bvg ejyb] Mí ïwb‡q‡Q Kx?) | Y | Y | Y | Y |
| 3 | (wkïwU‡K [bvg ejyb] Nygcvovwb Mvb mn Ab¨ Mvb ïwb‡qwQj ev wkïwUi mv‡\_ Mvb †M‡qwQj Kx?) | Y | Y | Y | Y |
| 4 | (wkïwU‡K [bvg ejyb] N‡ii evwn‡i, DVv‡b ev evoxi KvQvKvwQ †Kvb RvqMv‡Z wb‡q wM‡qwQj Kx?) | Y | Y | Y | Y |
| 5 | (wkïwUi [bvg ejyb] mv‡\_ †Ljv K‡iwQj Kx?) | Y | Y | Y | Y |
| 6 | (wkïwU‡K/wkïwUi [bvg ejyb] mv‡\_ bvg ejv, MbYv Kiv ev Qwe G‡KuwQj Kx?) | Y | Y | Y | Y |

**AvNvZ Kiv**

 gv‡Sgv‡S wkïiv fvj \_v‡K Ges gv‡Sgv‡S wei³ K‡i| MZ mßv‡n Avcwb Avcbvi wkï‡K KZevi AvNvZ K‡i‡Qb? [kvwiixK AvNvZ])

1 GKeviI bv

2 1-2 evi

3 3-7 evi

4 8 evi ev Zvi‡P‡q †ekx evi

99 Rvwb bv/wbwðZ bv/cÖZ¨vL¨vb

**†kLv‡bv**

 wKQz evev/gv Zv‡`i wkï‡`i bZzb bZzb wRwbm wkLvb, Avevi A‡bK evev/gv g‡b K‡ib wkïiv GKv GKvB fvj wkL‡Z cv‡i| Avcbvi g‡Z wb‡gœi †KvbwU me‡P‡q fvj--)

1 evev/gv me mgq wkLv‡e

2 evev/gv mvavibZ wkLv‡e

3 wkï mvavibZ GKv wkL‡e

4 wkï memgq GKv wkL‡e

99 Rvwb bv/wbwðZ bv

**Other**

 evev/gv hLb N‡ii KvR ev Ggb Ab¨vb¨ Kv‡R e¨¯Í \_v‡K ZLb wkïiv Zv‡`i g‡bv‡hvM `vex K‡i| Avcwb hLb KvR K‡ib ZLb Avcbvi wkïi mv‡\_ KZevi K\_v e‡jb?

1 me mgq K\_v ewj

2 ‡ewkifvM mgq K\_v ewj

3 gv‡Sgv‡S K\_v ewj

4 Lye Kg K\_v ewj

5 KLbB K\_v ewj bv

99 Rvwb bv/wbwðZ bv

 Avcbvi wkïi LvIqvi †Kvb wbw`©ó mgq ZvwjKv Av‡Q Kx?

1 n¨uv

0. bv

 Avcbvi wkï Zvi evev‡K cÖwZw`b †`‡L Kx?

1 n¨uv

0. bv

** ch©‡eÿb t evev/gvi ev”Pvi cÖwZ AvMÖn**

1 n¨uv

0. bv

|  |  |  |
| --- | --- | --- |
|  |  | gv/DËi`vZv ¯^Zù~Z©fv‡e ev”Pvi mv‡\_ 2 evi ev Zvi‡P‡q †ekx evi K\_v e‡jwQj |
|  |  | gv/DËi`vZvi mv‡\_ ev”Pv K\_v ejvi ci gv K\_v e‡j‡Q |
|  |  | gv/ DËi`vZv ev”Pv‡K †Ljbv w`‡q‡Q ev ev”Pvi mv‡\_ Avb›``vqK †Kvb AvPib K‡iwQj |
|  |  | gv/ DËi`vZv ev”Pv‡K AšÍZ GKevi Av`i, Pzgy w`‡qwQj ev Rwi‡q a‡iwQj |
|  |  | gv/ DËi`vZv ev”Pv‡K †Pv‡L †Pv‡L †i‡LwQj ev Zvi w`‡K cÖvqB ZvKvw”Qj |

ch©‡eÿb t Ab¨vb¨

1 n¨uv

0. bv

|  |  |  |
| --- | --- | --- |
|  |  | gv/AwffveK 3 ev‡ii †ekx ev”Pvi wewfbœ AvPi‡b evav w`w”Qj |
|  |  | ev”Pvi †Ljvi cwi‡ek wbivc`, wkïi bvMvj mxgvi g‡a¨ †Kvb wec`RbK wKQz †bB |
|  |  | covi DcKiY †hgb: Le‡ii KvMR, g¨vMvwRb BZ¨vw` Av‡Q Ges †`Lv hvw”Qj |
|  |  | ev”Pv Ges ev”Pvi Kvco cwi®‹vi wQj |
|  |  | gv/AwffveK Kgc‡ÿ GKevi ev”Pv‡K Po †g‡iwQj ev AvNvZ K‡iwQj |
|  |  | wkïwUi mv‡\_ eo ev”Pviv (<12 eQi) mwVK AvPib KiwQj bv [Lvivcfv‡e UvbvUvwb KiwQj, AvNvZ KiwQj] Zvi cÖgvb wQj |

Wash Benefit Module 13 MEASURES FOR SPILLOVER

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Avcbvi me‡P‡q Kv‡Qi †nj\_ d¨vwmwjwU (¯^v¯’¨‡mev cvIqvi my‡hvM)-Gi bvg wK?hw` bv Rv‡b/wbwðZ bv nq Z‡e 99 emvb| Lvbvi †KD Wv³vi n‡j ev Wv³vi Lvbvq G‡m wPwKrmv Ki‡j 55 wjLyb|** |  |
| **C.1301.a** |  | **MZ 1 eQ‡i Avcwb/Avcbvi wkï †gvUvgywU KZevi ‡h †Kvb Amy‡L GB my‡hvM MÖnb K‡iwQ‡jb?** | |\_\_|\_\_|**evi** |
| **C.1301.b** |  | **Avcwb †mLv‡b wKfv‡e hvb?** | **1. cv‡q †nu‡U**   1. **wiKkv/f¨vb/†bŠKv** 2. **e¨vUvwi PvwjZ A‡UvwiKkv** 3. **U¨v¤úy/†j¸bv/ wmGbwR/ evm** 4. **cÖ‡hvR¨ bq** |
| **C.1301.c** | **1303.a** | **AvbygvwbK †mLv‡b †h‡Z KZ¶Y mgq jv‡M(Avcbvi Lvbv †\_‡K ïay †h‡Z KZ wgwbU mgq jv‡M) ? hw` bv Rv‡b/wbwðZ bv nq Z‡e 99 emvb|** | |\_\_|\_\_|\_\_| **wgwb‡U** |
|  |  | **Avcbvi Kv‡Qi cÖvK- cÖvBgvix ¯‹z‡ji -Gi bvg wK** ? ‡hLv‡b Avcbvi wkï †h‡Z cv‡i/eo n‡jI †h‡Z cvi‡e | **hw` bv Rv‡b/wbwðZ bv nq Z‡e 99, hw` bv \_**v‡**K Z‡e 88 emvb|** |  |
|  |  | **Avcbvi Kv‡Qi cÖvBgvix ¯‹z‡ji -Gi bvg wK** ? ‡hLv‡b Avcbvi wkï †h‡Z cv‡i/eo n‡jI †h‡Z cvi‡e | |  |
|  |  | **Avcbvi Kv‡Qi evRvi -Gi bvg wK**‡hLv‡b Avcwb memgqB †Kbv-‡ePv Ki‡Z hvb? | |  |
| **C.1304.a** |  | **KZevi Avcwb †**mLv‡b hvb? | 0 **KLbB bv**  1 **mßv‡n GKevi A\_ev Zvi AwaK**  2 **cÖwZ 2 mßv‡n GKevi**  3 **cÖwZ 3 mßv‡n GKevi**  4 **cÖwZ 4 mßv‡n GKevi(cÖwZ gv‡m)**  5 **cÖwZ gv‡m GKev‡ii Kg**  99 **Rvwb bv/wbwðZ bv** |
|  |  | **Avcwb †mLv‡b wKfv‡e hvb?** | **1. cv‡q †nu‡U**  **2.wiKkv/f¨vb/†bŠKv**  **3.e¨vUvwi PvwjZ A‡UvwiKkv**  **4. U¨v¤úy/†j¸bv/ wmGbwR/ evm**  **5.cÖ‡hvR¨ bq** |
| **C.1304.b** | **1308.a** | **AvbygvwbK †mLv‡b †h‡Z KZ¶Y mgq jv‡M(Avcbvi Lvbv †\_‡K ïay †h‡Z KZ wgwbU mgq jv‡M) ? hw` bv Rv‡b/wbwðZ bv nq Z‡e 99 emvb|** | |\_\_|\_\_|\_\_| **wgwb‡U** |
|  |  | **Avcbvi Kv‡Qi gmwR`/gw›`i/MxR©v/c¨v‡MvWv -Gi bvg wK**? ‡hLv‡b Avcwb cÖv\_©bv Ki‡Z hvb | |  |
| **C.1305.a** |  | **KZevi Avcwb †**mLv‡b hvb? | 0 **KLbB bv**  1 **mßv‡n GKevi A\_ev Zvi AwaK**  2 **cÖwZ 2 mßv‡n GKevi**  3 **cÖwZ 3 mßv‡n GKevi**  4 **cÖwZ 4 mßv‡n GKevi(cÖwZ gv‡m)**  5 **cÖwZ gv‡m GKev‡ii Kg**  99 **Rvwb bv/wbwðZ bv** |
|  |  | **Avcwb †mLv‡b wKfv‡e hvb?** | 1. **cv‡q †nu‡U** 2. **wiKkv/f¨vb/†bŠKv** 3. **e¨vUvwi PvwjZ A‡UvwiKkv** 4. **U¨v¤úy/†j¸bv/ wmGbwR/ evm** 5. **cÖ‡hvR¨ bq** |
| **C.1305.b** | **1312.a** | **AvbygvwbK †mLv‡b †h‡Z KZ¶Y mgq jv‡M(Avcbvi Lvbv †\_‡K ïay †h‡Z KZ wgwbU mgq jv‡M) ? hw` bv Rv‡b/wbwðZ bv nq Z‡e 99 emvb|** | |\_\_|\_\_|\_\_| **wgwb‡U** |

**Common Module 15**

**Environmental Sampling (Water, Hands, Sentinel Toys and Fly Density)**

**DAy 1**

**SECTION 1. DELIVER TOY BALL AND FLY TAPE**

[AbyMÖnc~e©K Uv‡M©U wkï ev cwiPhv©Kvix‡K †Ljbv ej weZib Kiæb]

1.1[‡Ljbv ejwU Avcwb Kv‡K w`‡q‡Qb?]

1 = (Uv‡M©U wkï)

2 = (cwiPhv©Kvix)

3 = (Ab¨vb¨ cwiPhv©Kvix)

4 = (†Ljbv ej †`Iqv nqwb)

77 =[Ab¨vb¨ (wbw`©ó K‡i wjLyb)]

1.2[(hw` 1.1bs cÖ‡kœi DËi 4 bv nq) †Ljbv ejwU †h mg‡q weZib Kiv n‡q‡Q, †mB mgqUv wjwce× Kiæb| (24N›Uv wnmv‡e, N›Uvt wgwbU)]

1.3[(hw` 1.1bs cÖ‡kœi DËi 4 nq) †Kb †Ljbv ej weZib Kiv nqwb?]

1 = Respondent/caregiver refused(DËi`vZv/ cwiPhv©Kvix cÖZ¨vL¨vb K‡i‡Q)

2 = Did not have a toy ball to deliver(weZib Kivi Rb¨ †Ljbv ej wQj bv)

77 = Other (specify)[Ab¨vb¨ (wbw`©ó K‡i wjLyb)]

PROMPT: (AbyMÖnc~e©K Avcbv‡`i Lvevi ‰Zwii ¯’vb/ ivbœvNiwU Avgv‡K †`Lv‡eb wK?)

(gvwQ aivi dvu` hZUv m¤¢e Lvevi ˆZwii ¯’vb/ ivbœvN‡ii KvQvKvwQ †Svjv‡Z n‡e| hw` †Kvb Lvbvq GKvwaK Lvevi ˆZwii ¯’vb/ ivbœvNi \_v‡K, Zvn‡j me©‡kl †h ¯’vb/ ivbœvN‡i Lvevi ˆZwi Kiv n‡q‡Q †mLv‡b gvwQ aivi dvu` †Svjv‡Z n‡e| ivbœvN‡i Av¸‡bi KvQvKvwQ ev Dc‡i gvwQ aivi dvu` †Svjv‡eb bv| gvwQ aivi dvu` †Svjv‡bvi c‡i DËi`vZv‡K Bnv bovPov bv K‡i w¯’ifv‡e h\_v¯’v‡b ivL‡Z Aby‡iva Kiæb|)

1.4[Lvevi ˆZwii ¯’v‡b gvwQ aivi dvu` †Svjv‡bvi mgq wjwce× Kiæb (24 N›Uv wnmv‡e, N›Uv: wgwbU)]

PROMPT: (AbyMÖnc~e©K Avcbv‡`i cÖv\_wgKfv‡e e¨eüZ Uq‡j‡Ui ¯’vbwU/Uq‡jUwU Avgv‡K †`Lv‡eb wK?)

(gvwQ aivi dvu` hZUv m¤¢e cÖv\_wgKfv‡e e¨eüZ Uq‡j‡Ui i KvQvKvwQ †Svjv‡Z n‡e| hw` †Kvb Lvbvq GKvwaK Uq‡jU \_v‡K, Zvn‡j me©‡kl †h Uq‡jUwU Kiv n‡q‡Q †mLv‡b gvwQ aivi dvu` †Svjv‡Z n‡e| gvwQ aivi dvu` †Svjv‡bvi c‡i DËi`vZv‡K Bnv bovPov bv K‡i w¯’ifv‡e h\_v¯’v‡b ivL‡Z Aby‡iva Kiæb|)

1.5[Uq‡j‡Ui Av‡kcv‡kgvwQ aivi dvu` †Svjv‡bvi mgq wjwce× Kiæb| (24 N›Uv wnmv‡e, N›Uv: wgwbU)]

**SECTION 2. HAND RINSE SAMPLING**

**†mKkb 2t nvZ‡avqv cvwbi bgybv msMÖn**

|  |  |
| --- | --- |
| 2.1 | (GB cÖkœwU Kivi c~‡e© Avcwb D³ Lvbvq Avmvi ci †\_‡K †h‡Kvb mg‡q Avcwb hw` DËi`vZv‡K ev Uv‡M©U wkï‡K nvZ ay‡Z †`‡L \_v‡Kb, Zvn‡j †mB mgqUv wjwce× Kiæb)  [1] (DËi`vZv‡K nvZ ay‡Z †`Lv †M‡Q)  [2] (DËi`vZv‡K mivmwi nvZ ay‡Z †`Lv hvqwb Z‡e Zvi nvZ †fRv ‡`Lv †M‡Q)  [3] (DËi`vZv‡K nvZ ay‡Z †`Lv hvqwb A\_ev nvZ †fRvI †`Lv hvqwb)  [4] (DËi`vZv‡K Uv‡M©U wkïi nvZ ay‡q/ gy‡Q w`‡Z †`Lv †M‡Q)  [5] (DËi`vZv‡K mivmwU Uv‡M©U wkïi nvZ ay‡q w`‡Z †`Lv hvqwb wKš‘ Uv‡M©U wkïi nvZ †fRv †`Lv †M‡Q)  [6] (DËi`vZv‡K Uv‡M©U wkïi nvZ ay‡q/gy‡Q w`‡Z †`Lv hvqwb A\_ev Uv‡M©U wkïi nvZI †fRv †`Lv hvqwb) |

|  |  |  |  |
| --- | --- | --- | --- |
| 2.2 | DËi`vZv‡K c‡o †kvbvbt Avcbv‡K ab¨ev`, GLb Avwg Avcbvi nvZ¸‡jv GKUz †`L‡Z Pvw”Q| Avwg Avkv KiwQ G‡Z Avcwb wKQz g‡b Ki‡eb bv| Avcwb AbyMÖnc~e©K Avgv‡K Avcbvi nvZ¸‡jv †`Lv‡eb wK?  `yB nvZB †`L‡Z n‡e (†h †Kvb GKwU †`Lv‡j Pj‡e bv)| Gici wb‡Pi D‡jøwLZ nv‡Zi Ae¯’v †KvW †`‡L ‡iKW© Ki‡Z n‡e|  cÖkœ Kiæbt `qv K‡i Avgv‡K [wkïi bvg a‡i] nvZ¸‡jv †`Lvb| `qv K‡i ev”Pvi nvZ ¯úk© Ki‡eb bv| hw` H Lvbv‡Z wbw`©ó wkïwU‡Kbv cvIqv hvq, Zvn‡j me‡P‡q Kg eqmx wkïi †LvuR Kiæb| hw` Lvbvq Ab¨ †Kvb wkï bv †\_‡K \_v‡K, †m‡ÿ‡Î 88 e¨envi Kiæb| | (gv/cwiPhv©Kvix) | |
| (evg nvZ)  A|\_\_|  (nv‡Zi bL)  B|\_\_|  (nv‡Zi Zvjy)  C|\_\_|  (&Av½y‡ji m¤§yLfvM) | (Wvb nvZ)  D|\_\_|  (nv‡Zi bL)  E|\_\_|  (nv‡Zi Zvjy)  F|\_\_|  (&Av½y‡ji m¤§yLfvM) |
| (Uv‡M©U wkï) | |
| (evg nvZ)  G|\_\_|  (nv‡Zi bL)  H|\_\_|  (nv‡Zi Zvjy)  I |\_\_|  (Av½y‡ji m¤§yLfvM) | (Wvb nvZ)  J |\_\_|  (nv‡Zi bL)  K |\_\_|  (nv‡Zi Zvjy)  L |\_\_|  (Av½y‡ji m¤§yLfvM) |

APPEARANCE CODES:

1. gqjv ¯úófv‡e †`Lv hvw”Qj (gqjv/ Kvu`v/ gvwU/QvB/ GQvov Ab¨ wKQz)
2. gqjv ¯úófv‡e †`Lv bv †M‡jI Acwi”Qbœfve wQj (nv‡Z gqjv bv †`Lv ‡M‡jI Acwi”Qbœ wQj)
3. (cwi®‹vi wQj (nvZ †avqvi ci/ †Mvm‡ji ci ci nvZ †`L‡j cwi®‹vi n‡e)

[88] (cÖ‡hvR¨ bq)

[99] (ch©‡eÿY Kiv m¤¢e nqwb/ cÖZ¨vL¨vb/ wbw`©ó wkï Dcw¯’Z wQj bv)

PROMPT: `qv K‡i wbw`©ó wkïi Dfq nvZ‡avqv cvwbi bgybv GKB e¨v‡M msMÖn Kiæb|

2.3 ‡h e¨v‡M bgybv msMÖn Kiv n‡e AbyMÖnc~e©K Zvi Mv‡q 4 msL¨vi BDwbK AvBwW b¤^iwU wjLybt

PROMPT: `qv K‡i ûBjc¨vK e¨v‡M GB µgvbymv‡i †j‡ej emvbt H.[LvbvAvBwW b¤^i].[w`b]. [gvm]

2.4 bgybv wnmv‡e wbw`©ó wkïi Dfq nvZ‡avqv cvwb mwVKfv‡e msMÖn Kiv n‡q‡Q wK? (wb‡P cÖ`Ë Ackb¸‡jv †\_‡K hZ¸‡jv cÖ‡hvR¨ Zv wbev©Pb Kiæb|)

1 = (n¨vu, Dfq nvZ ay‡q‡Q)

2 = (bv, ïay GK nvZ ay‡q‡Q)

3 = ( bv, wKQz bgybv/cvwb S‡i c‡o‡Q)

4 = (bv, bgybv msMÖ‡ni e¨v‡Mi wfZiUv `~wlZ n‡q †M‡Q)

5 = (bv, bgybv msMÖn Kiv nqwb)

2.5(hw` 2.4Gi DËi 5nq) bgybv msMÖ‡ni mgq wjwce× Kiæb| [24 N›Uv wnmv‡e (N›Uvt wgwbU)]

**SECTION 3. WATER SAMPLING**

**hw` Avcbvi wkï (Uv‡M©U wkïi bvg ejyb) GLb cvwb †L‡Z PvBZ Zvn‡j Avcwb wKfv‡e Zv‡K cvwb w`‡Zb `qv K‡i Zv Avgv‡K †`Lvb| hw` Uv‡M©U wkïwU Lye †ewk †QvU nIqvi Kvi‡b cvwb cvb bv K‡i \_v‡K, †m‡ÿ‡Î H Lvbvi <3 wkï GLb cvwb †L‡Z PvB‡j Zv‡K cvwb w`‡Zb `qv K‡i Zv Avgv‡K †`Lvb| hw` gv‡qi <3 eq‡mi wkï bv \_v‡K, Zvn‡j gv‡K wRÁvmv Kiæb, GLb Avcwb cvwb †L‡Z PvB‡j †hfv‡e cvwb wb‡Zb `qv K‡i Zv Avgv‡K †`Lvb| (cÖkœ Kiæb Ges ch©‡eÿb Kiæb)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3.1 | **eZ©gv‡b wK †Kvb Lvevi cvwb Av‡Q?** | 1. **(n¨vu)** 2. **(bv)🡪 ‡mKkb 4 G P‡j hvb** | | | |
|  | **GB cvwbUv LvIqvi c~‡e© DËi`vZv wK K‡ib?** | | (**n¨vu)** | (**bv)** | (**Rvwb bv)** |
| 3.2 | (**cvwb fivi c~‡e© Møvm/‡cqvjvwU LvIqvi cvwb w`‡q ay‡q ‡bq)** | | [1] | [2] | [99] |
| 3.3 | **(LvIqvi cvwb aivi Av‡M `yB nvZ cvwb w`‡q ay‡q wb‡qwQj)** | | [1] | [2] | [99] |
| 3.4 | **(LvIqvi cvwb aivi Av‡M `yB nvZ mvevb w`‡q ay‡q wb‡qwQj)** | | [1] | [2] | [99] |
|  | **(DËi`vZv Lvevi cvwbUv †Kv\_v †\_‡K msMÖn K‡iwQj/wb‡qwQj?)** | | (**n¨vu)** | (**bv)** | (**Rvwb bv)** |
| 3.5 | **(mivmwi cvwbi Drm †\_‡K wb‡qwQj)** | | [1] | [2] | [99] |
| 3.6 | **(mivmwi msiÿbK„Z cvwbi cvÎ †\_‡K wb‡qwQj)** | | [1] | [2] | [99] |
| 3.7 | **(mivmwi wdëvi †\_‡K wb‡qwQj)** | | [1] | [2] | [99] |
| 3.8 | **(msiÿbK…Z cvwbUv ‡X‡K ivLv wQj A\_ev GKUv miæ gy‡Li cv‡Î wQj)** | | [1] | [2] | [99] |
|  | (DËi`vZv wKfv‡e Møv‡m/Kv‡c cvwb w`‡qwQj?) | | (**n¨vu)** | (bv) | (Rvwb bv) |
| 3.9 | **(Møvm ev cvÎwU‡Z Xvjv cvwbi wfZ‡i Zvi nvZ ev nv‡Zi Av½yj †j‡MwQj)** | | [1] | [2] | [99] |
| 3.10 | **(Møvm ev ‡cqvjvwU‡Z cvwb fivi mgq Zv cvwbi cv†Îi wfZi Wywe‡q cvwb fiv n‡qwQj)** | | [1] | [2] | [99] |
| 3.11 | **(Møv‡m cvwb fivi Rb¨ j¤^v nvZjhy³ †Kvb PvgP/gM e¨envi Kiv n‡qwQj)** | | [1] | [2] | [99] |
| 3.12 | **(cvwbi cvÎ †\_‡K mivmwi cvwb †X‡jwQj)** | | [1] | [2] | [99] |
| 3.13 | **(mivmwi U¨vc/wUDeI‡qj/ cvwbi Drm †\_‡K†X‡jwQj)** | | [1] | [2] | [99] |

3.14 [(cÖkœ/ch©‡eÿY) Avcbvi Lvbvi Lvevi cvwbi cÖavb Drm wK?]

1 = (wUDeI‡qj)

2 = (AmsiwÿZ Sibvi cvwb)

3 = **(**msiwÿZ Sibvi cvwb)

4 = (AmsiwÿZ cvZKyqv)

5 = **(**msiwÿZ cvZKyqv)

6 = (e„wói cvwb msMÖn)

7 = (†QvU U¨vsKhy³ KvU©)

8 = (U¨vsKvi UªvK)

9 = [f~-c„‡ôi Dcwifv‡Mi cvwb(b`x/eva/†jK/cyKzi/†mP bvjv‡\_‡K Rxevbygy³Kib cvwb]

10 = (N‡ii wfZi U¨vc ev cvB‡ci cvwb)

11 = (DVv‡b U¨vc ev cvB‡ci cvwb)

77 =[Ab¨vb¨ (wbw`©ó K‡I wjLyb)]

99 = (Rvwb bv)

3.15 [(ch©‡eÿY) (3.6 bs cÖ‡kœi DËi 1 n‡j) msiÿ‡Yi cvÎwU wK ai‡bi?]

1= (Kjwm)

2 = (RM)

3 = (AvBwmwWwWAviweÕi cvÎ-‡UvcvR)

4 = (evjwZ)

5 = (cÖm¯Í gy‡Li Ab¨ †Kvb cvÎ)

6 = (miæ gy‡Li Ab¨ †Kvb cvÎ)

99 = (ch©‡eÿY Kiv m¤¢e nqwb)

3.16 (hw` 3.6 Gi DËi 1 nq) KZÿb Av‡M Avcwb ev Avcbvi Lvbvi †Kvb m`m¨ GB Lvevi cvwb msMÖn K‡i‡Qb? (99=Rvwb bv)

A 🞎🞎(N›Uv)

B 🞎🞎(w`b)

3.17 (hw` 3.6 Gi DËi 1 nq) GB Lvevi cvwb wbivc` Kivi Rb¨ Avcwb †Kvb wKQy K‡i‡Qb wK?

1 (n¨vu)

2 (bv)

99 (Rvwb bv/ wbwðZ bv)

3. 18 (hw` 3.17 Gi DËi 1 nq) wKfv‡e GB Lvevi cvwb wbivc` Kiv nq?

DËi¸‡jv c‡o kybv‡eb bv| ( wb‡P cÖ`Ë Ackb¸‡jv †\_‡K hZ¸‡jv cÖ‡hvR¨ Zv wbev©Pb Kiæb|)

|  |  |  |
| --- | --- | --- |
| 1 | [1] (n¨vu) [2](bv) | **(AvKzqvU¨vem)** |
| 2 | [1] Yes [2] No | [**†K¬vwib (Zij) wgwk‡q wbB]** |
| 3 | [1] Yes [2] No | (**cvwb dywU‡q wbB)** |
| 4 | [1] Yes [2] No | (**Kvc‡oev Ab¨ †Kvb Dcv`vb w`‡q †Q‡K wbB)** |
| 5 | [1] Yes [2] No | [**cvwbi wdëvi e¨envi K‡i (wmivwgK, evjy BZ¨vw`)]** |
| 6 | [1] Yes [2] No | [**m~‡h©i Av‡jv‡Z Rxevbygy³KiY]** |
| 7 | [1] Yes [2] No | [**w\_wZ‡q †bB]** |
| 8 | [1] Yes [2] No | [**ev‡qvm¨vÛwdëvi Gi gva¨‡g weï× K‡i wbB]** |
| 9 | [1] Yes [2] No | **[jvBd÷ª d¨vwgwj wdëvi (ïaygvÎ †Kwbqvi Rb¨ cÖ‡hvR¨)]** |
| 10 | [1] Yes [2] No | [**wdUwKwi †hvM K‡i]** |
| 11 | [1] Yes [2] No | PUR |
| 12 | [1] Yes [2] No | [Ab¨vb¨ (wbw`©ó K‡i wjLyb)] |

3.19 (hw` 3.17 Gi DËi 1=n¨vu nq) AvbygvwbK KZÿb Av‡M Avcwb GB Lvevi cvwb wbivc` K‡i‡Qb?

(N›UvtwgwbU) 🞎🞎:🞎🞎 (99:99 Rvwb bv)

PROMPT: (hw` 3.18 Gi DËi 1=n¨vu ev 2=bvnq) `qv K‡i DËi`vZvi †`Iqv cvwb cixÿvi Rb¨ bgybv wnmv‡e ‡mvwWqvg \_v‡qvmvj‡dU ûBj c¨vK e¨v‡M msMÖn Kiæb|

PROMPT: (hw` 3.18 Gi DËi 1=bv Ges 2=bvnq) `qv K‡i DËi`vZvi †`Iqv cvwb cixÿvi Rb¨ bgybv wnmv‡e eo ûBj c¨vK e¨v‡M msMÖn Kiæb|

3.20 ‡h e¨v‡M bgybv msMÖn Kiv n‡e AbyMÖnc~e©K Zvi Mv‡q 4 msL¨vi BDwbK AvBwW b¤^iwU wjLybt

PROMPT: `qv K‡i ûBjc¨vK e¨v‡M GB µgvbymv‡i †j‡ej emvbt W. [Lvbv AvBwW b¤^i]. [w`b]. [gvm]

3.21 cixÿv Kivi Rb¨ bgybv wnmv‡e Lvevi cvwb msMÖn Kiv n‡q‡Q wK?

1 = (n¨vu)

2 = (bv)

3.22 (hw` 3.21Gi DËi 1 nq) bgybv msMÖ‡ni mgq wjwce× Kiæb| (24N›Uv wnmv‡e, N›UvtwgwbU)

PROMPT: (hw` 3.18 Gi DËi 1=n¨vu ev 2= n¨vu nq) `qv K‡i msiÿbK…Z cvwb cixÿvi Rb¨ bgybv wnmv‡e cøvwóK wUD‡ei g‡a¨ msMÖn Kiæb|

3.23 (hw` 3.18 Gi DËi 1=n¨vu ev2= n¨vu nq) cvwb msiÿ‡bi gyj cvÎ †\_‡K †K¬vwib cixÿv Kivi Rb¨ bgybv wnmv‡e cvwb msMÖn Kiv n‡q‡Q wK?

1 = (n¨uv)

2 =(bv)

3.24 [(hw`3.23Gi DËi 1nq) bgybv msMÖ‡ni mgq wjwce× Kiæb| 24 N›Uv wnmv‡e, (N›Uv: wgwbU)]

3.25 (ch©‡eÿY) (3.14Gi DËi 1 n‡j) wUDeI‡q‡ji gy‡L Ggb †Kvb e¯‘ jvMv‡bv / AvUKv‡bv wQj hv wKbv Avcwb bgybv msMÖ‡ni mgq miv‡Z cv‡ibwb?

1 = (wUDeI‡q‡ji gy‡L †Kvb e¯‘ jvMv‡bv/ AvUKv‡bv bvB)

2 = (Kvco BZ¨vw`)

3 = (cøvwóK)

4 = (evuk)

77 = (Ab¨vb¨)

3.26 (ch©‡eÿY) (hw` 3.14 Gi DËi 1 nq) DËi`vZv Møv‡m cvwb fivi Rb¨ wUDeI‡q‡ji cvwb D‡Ëvj‡b †Kvb AwZwi³ cvwb w`‡qwQj wK?

1 = (n¨vu)

2 = (bv)

3.27 (cÖkœ Kiæb) (hw` 3.26 Gi DËi 1 nq) wUDeI‡q‡ji cvwb D‡Ëvj‡b †Kvb ai‡bi cvwb e¨envi Kiv n‡qwQj?

1= (GKB wUDeI‡q‡ji msiwÿZ cvwb)

2 = (Ab¨vb¨ wUDeI‡q‡ji cvwb)

3 = (cyKz‡ii cvwb)

77 = (Ab¨vb¨)

3.28 (cÖkœ Kiæb) (3.14 bs cÖ‡kœi DËi 1n‡j) wUDeI‡q‡ji MfxiZv KZ?(dzU) (99=Rvwbbv)

3.29 (ch©‡eÿY) (3.14 bs cÖ‡kœi DËi 1n‡j) wUDeI‡q‡ji wK cøvUdg© Av‡Q?

1 = Yes (n¨vu)

2 = No (bv)

99 = Could not observe (ch©‡eÿb Kiv m¤¢e nqwb)

3.30 (ch©‡eÿY) (3.29 bs cÖ‡kœi DËi 1 n‡j) wUDeI‡q‡ji cøvUdg©wU wK AÿZ/ AUzU Av‡Q?

1 = (n¨vu)

2 = (bv)

99 = (ch©‡eÿb Kiv m¤¢e nqwb)

3.31 (ch©‡eÿY) (3.14 bs cÖ‡kœi DËi 1 n‡j) ÎæwUc~b© wb®‹vkb e¨e¯’vi gva¨‡g wUDeI‡q‡ji 2 wgUv‡ii g‡a¨ cyKz‡ii cvwb cÖ‡ek Ki‡Z cv‡i wK?

1 = (n¨vu)

2 = (bv)

99 = (ch©‡eÿb Kiv m¤¢e nqwb)

3.32 (ch©‡eÿY) (3.14 bs cÖ‡kœi DËi 1n‡j) wUDeI‡q‡ji Av‡kcv‡k 10 wgUv‡ii g‡a¨ †Kvb cvqLvbv Av‡Q wK?

1 = (n¨vu)

2 = (bv)

99 = (ch©‡eÿb Kiv m¤¢e nqwb)

3.33 (ch©‡eÿY) (hw` 3.32 bs cÖ‡kœi DËi 1nq) < 10 wgUv‡ii wfZ‡i me‡P‡q Kv‡Qi Uq‡jUwU wUDeI‡qj †\_‡K KZ K`g `y‡i Aew¯’Z?

3.34 (ch©‡eÿY) (hw` 3.32bs cÖ‡kœi DËi 1nq) wUDeI‡q‡ji Av‡kcv‡k 10 wgUv‡ii g‡a¨ KZ¸‡jv cvqLvbv Av‡Q?

3.35 (ch©‡eÿY) (hw` 3.14 bs cÖ‡kœi DËi 1nq) wUDeI‡q‡ji Av‡kcv‡k 10 wgUv‡ii g‡a¨ †Kvb cyKzi Av‡Q wK?

1 = (n¨vu)

2 = (bv)

99 = (ch©‡eÿb Kiv m¤¢e nqwb)

**Section 4. Residual Chlorine Measurement**

**‡mKkb 4t †K¬vwib cwigvc**

PROMPT: †K¬vwib cixÿi c~‡e© D³ evwo Z¨vM Kiæb|

PROMPT: (hw` 3.23Gi DËi 1 nq) msiÿbK…Z cvwbi bgybvi g‡a¨ gy³‡K¬vwib Av‡Q wKbv Zv cwigvc Kiæb|

4.1 (wjLyb) (hw` 3.23 Gi DËi 1nq) gy³ †K¬vwib:**\_\_\_\_ .**\_\_\_\_ mg/L

4.2 (wjLyb) (hw` 3.23 Gi DËi 1nq) †K¬vwib cwigv‡ci mgq wjwce× Kiæb| 24 N›Uv wnmv‡e, (N›Uvt wgwbU)

**DAY 2**

**†mKkb1t †Ljbv bgybv msMÖn**

1.1Avcwb MZKvj Avgv‡`i KvQ †\_‡K GKwU †Ljbv ej †c‡q‡Qb wK?

1 = (n¨vu)

2 = (bv🡪‡mKkb 2 G P‡j hvb)

PROMPT: MZKvj Avcbvi Lvbvq †h ‡Ljbv ejwU †`Iqv n‡qwQj eZ©gv‡b ‡mUv †Kv\_vq Av‡Q AbyMÖnc~e©K Avgv‡K Zv †`Lv‡Z cv‡ib wK?

1.2(cÖkœ Kiæb) MZKvj Avcbvi Lvbvq †h ‡Ljbv ejwU †`Iqv n‡qwQj †mUv Avwg ay‡Z cvwi wK?

1 = (n¨vu)

2 = (ejwU nvwi‡q †M‡Q🡪 †mKkb 2G hvb)

3 = (ejwU Ab¨ Lvbvq w`‡q †`Iqv n‡q‡Q🡪 †mKkb 2G hvb)

4= (cÖZ¨vL¨vb K‡i‡Q🡪 †mKkb 2G hvb)

77 = [Ab¨‡Kvb Kvi‡b ejwU Lyu‡R cvIqv hvqwb (wbw`©ó Kiæb)🡪 †mKkb 2G hvb]

1.3 (ch©‡eÿY) ejwU †Kv\_vq (¯’vb) cvIqv wMqv‡Q?

1 = [N‡ii evB‡i, DVv‡b gvwU‡Z ivLv]

2 =[N‡ii evB‡i, KswµU/ cvKvu/Kv‡Vi Dci ivLv]

3 =[N‡ii evB‡i, ‡Kvb cv‡Îig‡a¨ ivLv]

4 =[N‡ii evB‡i, H Lvbvi Ab¨ N‡i ivLv]

5 = [N‡ii wfZ‡i, †d¬vi ev gvwU‡Z ivLv]

6 = [N‡ii wfZ‡i, KswµU/ cvKvu/Kv‡Vi †d¬vi ev gvwU‡Z ivLv]

7 = [N‡ii wfZ‡it gvwU ev cvÎ Qvov Ab¨ †Kvb wKQzi g‡a¨ ivLv (‡hgb-†Uwej, weQvbv BZ¨vw`)]

8=[N‡ii wfZ‡it †Kvb cv‡Î ev †Kwe‡b‡U ivLv]9 = In child's hands (ev”Pvi nv‡Z wQj)

77 =[Ab¨ RvqMvq(wbw©`ó K‡i wjLyb)]

1.4.a(cÖkœ Kiæb)Avcbvi g‡Z, Avcbvi ev”Pv (Uv‡M©U wkïi bvg ejyb)MZ24N›UvqKZ evi Avgv‡`i †`qv GB †Ljbv ej w`‡q ‡Ljv K‡i‡Q? (cÖwZwU Ackb c‡o †kvbv‡Z n‡e)

1= w`‡b ‡ekK‡qK evi (4 evi ev Zvi †ekx)]

2= w`‡b †ek K‡qKevi (2-3 evi)]

3 = (ev”Pv ejwU cvIqvi ci gvÎ GKevi †L‡j‡Q)

4 = [KL‡bv bv]

99 = [Rvwb bv/wbwðZ bv]

1.4.b( Avcbvi g‡Z, MZ 24 N›Uvq me©‡gvU KZUzKz mgq Avcbvi wkï (Uv‡M©U wkïi bvg ejyb) GB †Ljbv ejwU w`‡q †Ljv K‡i‡Q? (N›Uvq wjLyb)

1.5.a[(cÖkœ Kiæb) Avcbvi g‡Z, MZ 24N›Uvq KZevi Avcbvi Lvbvi ev evwoi Ab¨vb¨ wkï †Ljbv ejwU w`‡q †Ljv K‡i‡Q? (cÖwZwU Ackb c‡o †kvbv‡Z n‡e|)]

1= (4 or more times)(w`‡b ‡ek K‡qK evi (4 evi ev Zvi †ekx)]

2 = [w`‡b ‡ek K‡qK evi (2-3evi)]

3 = (ev”Pv ejwU cvIqvi ci gvÎ GKevi †L‡j‡Q)

4 = [KL‡bv bv]

99 = [Rvwb bv/wbwðZ bv]

1.5.b( Avcbvi g‡Z, MZ 24 N›Uvq me©‡gvU KZUzKz mgq Avcbvi Lvbvi ev evwoi Ab¨vb¨ wkï GB †Ljbv ejwU w`‡q †Ljv K‡i‡Q? (N›Uvq wjLyb)

1.6[(cÖkœ Kiæb) MZ 24N›Uvq (Avcbvi Lvbv ev evwo e¨ZxZ) Ab¨ evwoi wkïiv GB †Ljbv ejwU w`‡q †Ljv K‡i‡Q wK? (cÖwZwU Ackb c‡o †kvbv‡Z n‡e|)]

1 = (Zviv †Ljbv ejwU w`‡q GB evwo‡ZB †Ljv K‡i‡Q)

2 = (Zviv †Ljbv ejwU w`‡q GB evwoi evB‡i †Ljv K‡i‡Q)

3 = (bv)

99 = [Rvwb bv/wbwðZ bv]

1.7(cÖkœ) ev”Pviv Avgv‡`i †`qv GB ej wb‡q mvavibZ †ekxi fvM mgq N‡ii †fZ‡i †Ljv K‡iwQj, †ekxi fvM mgq N‡ii evB‡i †LjvK‡iwQj A\_ev GB `yB RvqMv‡ZB mgvb mgq †Ljv K‡iwQj?

1 = [†ekxi fvM mgq N‡ii †fZ‡i †Ljv K‡iwQj]

2 = [†ekxi fvM mgq N‡ii evB‡i †Ljv K‡iwQj]

3 = [N‡ii wfZ‡i Ges evwB‡i `yB RvqMv‡ZB mgvb mgq †Ljv K‡iwQj]

99 = [Rvwb bv]

1.8 (cÖkœ Kiæb) ej wb‡q wkïwU wKfv‡e †Ljv K‡iwQj? (cÖwZwU Ackb c‡o †kvbv‡Z n‡e)

1 = (nv‡Z †Ljv K‡iwQj)

2 = (cv‡q †Ljv K‡iwQj)

3 = (nvZ Ges cv‡q †Ljv K‡iwQj)

99=[Rvwb bv/wbwðZ bv]

1.9 (cÖkœ Kiæb) ejwU cwi¯‹vi Kivi Rb¨ Avcwb wKQz K‡i‡Qb wK?

1 = (n¨vu)

2 = (bv)

1.10 (cÖkœ Kiæb) (hw` 1.9Gi DËi 1 nq) ejwU cwi®‹vi Kivi Rb¨ Avcwb wK K‡i‡Qb? (wb‡P cÖ`Ë Ackb¸‡jv †\_‡K hZ¸‡jv cÖ‡hvR¨ Zv wbev©Pb Kiæb) (cÖwZwU Ackb c‡o †kvbv‡Z n‡e)

1 = (ïay cvwb w`‡q ay‡q‡Qb) (cvwb I mvevb w`‡q ay‡q‡Qb)

2 = (cvwb I mvevb w`‡q ay‡q‡Qb)

3 = (UvIqvj w`‡q gy‡Q‡Qb)

4 = (Kvco w`‡q gy‡Q‡Qb)

77 =[Ab¨vb¨ (wbw`©ó K‡i wjLyb)]

1.11 [(cÖkœ Kiæb)(hw` 1.9 Gi DËi 1 nq) KZÿb Av‡M Avcwb GB ejwU cwi®‹vi K‡i‡Qb? (N›Uvq wjLyb, 99= Rvwb bv)]

1.12 [(ch©‡eÿb) Avcwb GB Lvbvq Avmvi ci †\_‡K ev”Pviv wK ejwU w`‡q †Ljv K‡i‡Q? wb‡P cÖ`Ë Ackb¸‡jv †\_‡K hZ¸‡jv cÖ‡hvR¨ Zv wbev©Pb Kiæb)]

1 = (Uv‡M©U wkï ejwU w`‡q †Ljv K‡i‡Q)

2 = (D³ Lvbvi Ab¨vb¨ wkïiv ejwU w`‡q †Ljv K‡i‡Q)

3 = (†Kvb wkïB ejwU w`‡q †Ljv K‡iwb)

1.13(ch©‡eÿb) ‡hAe¯’vq †LjbvwU cvIqv †M‡Q:

1=[Ae¨eüZ]

2 =[e¨eüZ Ges, cwi®‹vi Ae¯’vq]

3 =[e¨eüZ Ges, Acwi®‹vi Ae¯’vq]

4 =[e¨eüZ Ges, e‡j `„k¨gvb gqjv]

5 = (e¨eüZ, `„k¨Z †fRv)

1.14 [(ch©‡eÿb) †Ljbvi Ae¯’v]

1 = (fvj Ae¯’vq wQj)

2 = [Pvc LvIqv (cv‡qi wb‡P c‡o, e‡ji Dci emvi Kvi‡b, e‡ji Mv‡q Zvc jvMvi Kvi‡b, BZ¨vw`]

3 = [Pzc‡m hvIqv (e‡ji wfZi †\_‡K evZvm †ei n‡q hvIqvi Kvi‡b]

4 = [dz‡U †M‡Q/UyUv (e‡ji g‡a¨ MZ© †`Lv hv‡”Q)]

PROMPT: ûBjc¨vK e¨v‡M †Ljbv ‡avqv cvwbi bgybv msMÖn

1.15†h e¨v‡M bgybv msMÖn Kiv n‡e AbyMÖnc~e©K Zvi Mv‡q 4 msL¨vi BDwbK AvBwW b¤^iwU wjLybt

PROMPT: `qv K‡i ûBjc¨vK e¨v‡M GB µgvbymv‡i †j‡ej emvbt T.[Lvbv AvBwW b¤^i]. [w`b]. [gvm]

1.16 bgybv wnmv‡e ‡Ljbv †avqv cvwb mwVKfv‡e msMÖn Kiv n‡q‡Q wK?

1 = (n¨vu, Dfq nvZ ay‡q‡Q)

2 = (bv, wKQz bgybv/cvwb S‡i c‡o‡Q)

3 = (bv, bgybv msMÖ‡ni e¨v‡Mi wfZiUv `~wlZ n‡q †M‡Q)

4 = (bv, bgybv msMÖn Kiv nqwb)

1.17 [(hw` 1.16 Gi DËi 4 nq) bgybv msMÖ‡ni mgq wjwce× Kiæb| [24 N›Uv wnmv‡e, (N›Uvt wgwbU)]

**SECTION 2. FLY DENSITY**

**(‡mKkb-2: gvwQi NbZ¡ cwigvc)**

2.1 Lvevi ˆZwii ¯’v‡b gvwQi Kg©KvÛ ch©‡eÿY Kiæb| D³ ¯’v‡bi Av‡kcv‡k KZ¸‡jv gvwQ ‡`Lv †M‡Q Zvi AvbygvwbK wnmve w`b|

1 = (†Kvb gvwQ †`Lv hvqwb)

2 = (mvgvb¨ cwigv‡b)(1-5)

3 =(cwigv‡b gvSvwi ai‡bi)(6-10)

4 =(cwigv‡b †ewk)(>10)

2.2(Lvevi ˆZwii †h ¯’v‡b gvwQ aivi dvu` †Svjv‡b n‡q‡Q Zvi Dc‡i wK Qv` Av‡Q?(e„wó †\_‡K myiwÿZ wKbv?)

1 = (n¨vu)

2 = (bv)

2.3(Lvevi ˆZwii GB ¯’vbwU wK wfZ‡i bv evwn‡i?)

1 =(†`qvj Ges Qv` DfqB i‡q‡Q)

2 = (‡`qvj Av‡Q wKš‘ Qv` bvB)

3 =(Qv` Av‡Q wKš‘ ‡`qvj bvB)

4 =(†`qvj Ges Qv` ‡KvbUvB bvB)

2.4 [Lvevi ˆZwii ¯’vb †\_‡K KZ wgUvi `y‡i (cv‡qi avc Mbbv Kiæb) d¬vB‡Uc evav n‡qwQj?]

2.5 [(ch©‡eÿY)(Lvevi ˆZwii ¯’v‡b evavu d¬vB‡UcwU ÿwZMÖ¯Í n‡q‡Q ev wb‡P c‡o †M‡Q wK?]

2.6(d¬vB‡U‡c me wgwj‡q KZ¸‡jv gvwQ aiv c‡o‡Q Zvi msL¨v wjwce× Kiæb|)

2.7(hZ cÖRvwZi gvwQ †`Lv †M‡Q Zvi msL¨v wjLybt)

(gym&&Kv W‡gw÷Kv) \_\_\_\_\_\_

(‡jRvi nvDm d¬vB) \_\_\_\_\_\_

(‡eøv/ †evZj d¬vB) \_\_\_\_\_\_

(‡d¬k d¬vB/mvi‡KvdvMv) \_\_\_\_\_\_

(Ab¨vb¨) \_\_\_\_\_\_

(‡Pbv hvqwb) \_\_\_\_\_\_

2.8 (Lvevi ˆZwii ¯’v‡b gvwQi NbZ¡ ch©‡eÿ‡Yi mgq wjwce× Kiæb: (24 N›Uv wnmv‡e, N›Uvt wgwbU)

2.9Uq‡j‡Ui g‡a¨ gvwQi Kg©KvÛ ch©‡eÿY Kiæb| D³ ¯’v‡b KZ¸‡jv gvwQ ‡`Lv †M‡Q Zvi AvbygvwbK wnmve w`b|

1 = (†Kvb gvwQ †`Lv hvqwb)

2 = (mvgvb¨ cwigv‡b)(1-5)

3 =(cwigv‡b gvSvwi ai‡bi) (6-10)

4 =(cwigv‡b †ewk) (>10)

2.10(†h ¯’v‡b d¬vB‡UcwU evavu n‡q‡Q Zvi Dc‡i wK Qv` Av‡Q?(e„wó †\_‡K myiwÿZ wKbv?)

1 = (n¨vu)

2 = (bv)

2.11(wjwce× Kiæb) Uq‡jU †\_‡K KZ wgUvi `y‡i (cv‡qi avc MbYv Kiæb) d¬vB‡Uc evavu wQj?

2.12(ch©‡eÿY)(Uq‡j‡Ui Av‡kcv‡k evavu d¬vB‡UcwU ÿwZMÖ¯Í n‡q‡Q ev wb‡P c‡o †M‡Q wK?)

2.13(d¬vB‡U‡c me wgwj‡q KZ¸‡jv gvwQ aiv c‡o‡Q Zvi msL¨v wjwce× Kiæb|

2.14(hZ cÖRvwZi gvwQ †`Lv †M‡Q Zvi msL¨v wjLybt)

(gym&&Kv W‡gw÷Kv) \_\_\_\_\_\_

(‡jRvi nvDm d¬vB) \_\_\_\_\_\_

(†evZj d¬vB) \_\_\_\_\_\_

(‡d¬k d¬vB/mvi‡KvdvMv) \_\_\_\_\_\_

(Ab¨vb¨) \_\_\_\_\_\_

(‡Pbv hvqwb) \_\_\_\_\_\_

2.15(Uq‡j‡Ui Av‡kcv‡k/¯’v‡b gvwQi NbZ¡ ch©‡eÿ‡Yi mgq wjwce× Kiæb: (24 N›Uv wnmv‡e, N›Uvt wgwbU)

WASH Benefits Module 52

**mxmvi cÖfve m¤úKx©Z cÖkœcÎ (Lead exposure case-control questionnaire)**

Note: mxmvi cÖfve m¤ú‡K© fvj avibv Av‡Q Ggb gv A\_ev cwiev‡ii Ab¨ m`m¨‡`i Rb¨ cÖkœvejx

(Ask questions to the mother and the person in the household with the most knowledge regarding the exposure)

Questions for mother (gv‡qi Rb¨ cÖkœmg~n)

1. eZ©gvb GB Lvbv‡Z Avcwb KZw`b hveZ emevm Ki‡Qb? (How long have you lived in the current location?) \_\_\_\_\_\_\_
2. Avcwb/ Avcbvi Lvbv m`m¨iv †h cwigvb Pvj Lvb Zvi KZUzKz Avcbvi/Avcbv‡`i cwiev‡ii Pv‡li Rwg †\_‡K Av‡m? (How much of the rice that you eat comes from the fields that your household farm?)
   1. GKUzI bv (None)
   2. mvgvb¨, A‡a©‡KiI Kg (Some but less than half)
   3. cÖvq A‡a©K(About half)
   4. A‡a©‡KiI †ekx, wKš‘ meUzKz bv(More than half, but not all)
   5. meUzKy (All)
3. Avcwb/ Avcbvi Lvbv m`m¨iv †h cwigvb kvKme&&wR Lvb Zvi KZUzKz Avcbvi/Avcbv‡`i cwiev‡ii Pv‡li Rwg †\_‡K Av‡m? (How much of the vegetables that you eat come from the fields your household farm?)
   1. GKUzI bv (None)
   2. mvgvb¨, A‡a©‡KiI Kg (Some but less than half)
   3. cÖvq A‡a©K(About half)
   4. A‡a©‡KiI †ekx, wKš‘ meUzKz bv(More than half, but not all)
   5. meUzKy (All)
4. Avcwb/ Avcbvi Lvbv m`m¨iv †h cwigvb djg~j Lvb Zvi KZUzKz Avcbvi/Avcbv‡`i cwiev‡ii evMvb †\_‡K Av‡m? (How much of the fruits that you eat come from your household farm?)
   1. GKUzI bv (None)
   2. mvgvb¨, A‡a©‡KiI Kg (Some but less than half)
   3. cÖvq A‡a©K(About half)
   4. A‡a©‡KiI †ekx, wKš‘ meUzKz bv (More than half, but not all)
   5. meUzKy (All)
5. Avcwb wK wb‡Pi Dcv`vb¸‡jvi †h‡KvbwU wb‡q eQ‡i AšÍZt K‡qKevi KvR K‡ib? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b| n¨uv=1, bv=0)[Do you work at least a few times per year with any of these materials? (answer each separately Yes = 1, No = 0)]
   1. is (Paint) \_\_\_
   2. SvjvB (Solder) \_\_\_
   3. wkí eR©¨ (Industrial waste) \_\_\_
   4. UªvK, Mvwo ev †gvUi mvB‡K‡ji e¨vUvwi (Truck, car or motorcycle batteries) \_\_\_
   5. wbgv©b wk‡íi Dcv`vb (Manufacturing metals) \_\_\_
   6. `ªveK (Solvents) \_\_\_
   7. ivmvqwbK c`v\_©mg~n (Chemicals) \_\_\_
   8. wbM©Z †avuqv (Exhaust fumes) \_\_\_\_\_\_
   9. c~b©e¨envi‡hvM¨ cY¨ (Recycling goods) \_\_\_\_\_
6. Avcbvi cwiev‡ii †Kvb m`m¨ wK wb‡Pi Dcv`vb¸‡jvi †h‡KvbwU wb‡q eQ‡i AšÍZt K‡qKevi KvR K‡i? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b| n¨uv=1, bv=0) [Does anyone in your household work at least a few times per year with any of these materials? (answer each separately Yes = 1, No = 0)]
   1. is (Paint) \_\_\_
   2. SvjvB (Solder) \_\_\_
   3. wkí eR©¨ (Industrial waste) \_\_\_
   4. UªvK, Mvwo ev †gvUi mvB‡K‡ji e¨vUvwi (Truck, car or motorcycle batteries) \_\_\_
   5. wbgv©b wk‡íi Dcv`vb (Manufacturing metals) \_\_\_
   6. `ªveK (Solvents) \_\_\_
   7. ivmvqwbK c`v\_©mg~n (Chemicals) \_\_\_
   8. wbM©Z †avuqv (Exhaust fumes) \_\_\_\_\_\_
   9. c~b©e¨envi‡hvM¨ cY¨ (Recycling goods) \_\_\_\_\_

1. wbqwgZfv‡e gUihvb PjvP‡ji iv¯ÍvwU Avcbvi evwo †\_‡K KZUv KvQvKvwQ Aew¯’Z? (How close is the nearest road that motor vehicles use regularly to your home?)
   1. 50 wgUv‡ii Kg (< 50 meters)
   2. 51 †\_‡K 200 wgUv‡ii g‡a¨ (51 – 200 meters)
   3. 201 †\_‡K 500 wgUv‡ii g‡a¨ (201 – 500 meters)
   4. 501 †\_‡K 1,000 wgUv‡ii g‡a¨ (501 – 1,000 meters)
   5. 1,000 wgUv‡ii ‡ewk (> 1,000 meters)
2. KZw`b ci ci Avcwb avZecv‡Î cÖwµqvRvZ Kiv Lvevi wK‡b \_v‡Kb? (How often do you consume food that comes from a metal can?)
   1. KL‡bvB bv (Never)
   2. eQ‡i K‡qK evi (A few times per year)
   3. cÖvq cÖwZ gv‡m GK evi (About once per month)
   4. cÖvq cÖwZ mßv‡n GK evi (About once per week)
   5. AwaKvsk w`bB (Most days)
3. Avcwb wK cÖvqB †`vKvb ‡\_‡K †Kbv †gKAvc e¨envi K‡ib? (How often do you wear kohl (makeup) that you purchase from a store?)
   1. KL‡bvB bv (Never)
   2. eQ‡i K‡qK evi (A few times per year)
   3. cÖvq cÖwZ gv‡m GK evi (About once per month)
   4. cÖvq cÖwZ mßv‡n GK evi (About once per week)
   5. AwaKvsk w`bB (Most days)
4. Avcbvi N‡ii Qv` ev †`qvj wK wU‡bi ˆZwi? (Does you house have tin roofs or tin walls?)
   1. n¨uv (Yes)
   2. bv (No)
5. DËi n¨vu n‡j, KZw`b †\_‡K Avcbvi N‡ii Qv` ev †`qvj wU‡bi ˆZwi? (If yes, how long have you had them?) \_\_\_\_\_\_
6. Avcbvi nvuwo-cvwZj †Kvb Dcv`vb w`‡q ˆZwi? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) [What materials are your cooking pot made from? (answer each separately Yes = 1, No = 0)]
   1. A¨vjywgwbqvg (Aluminum)
   2. iswenxb Kv`vgvwU/ wmivwgK (Unpainted clay / ceramic)
   3. is Kiv Kv`vgvwU/ wmivwgK (Painted clay / ceramic)
   4. XvjvB †jvnv (Cast iron)
7. Avcbvi Lvev‡ii \_vjv, Lvevi cwi‡ek‡bi wWk Ges nvuwo-cvwZj wK‡mi ˆZwi? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) [What materials are your plates, serving dishes and utensils made from? (answer each separately Yes = 1, No = 0)]
   1. A¨vjywgwbqvg (Aluminum)
   2. iswenxb Kv`vgvwU/ wmivwgK (Unpainted clay / ceramic)
   3. is Kiv Kv`vgvwU/ wmivwgK (Painted clay / ceramic)
   4. XvjvB †jvnv (Cast iron)
   5. cøvwóK (plastic)

cvwievwiK Pvlvev` m¤^‡Ü Ávbeyw×m¤úbœ e¨w³i Rb¨ cÖkœvejxt (Questions for person most knowledgeable regarding household farming)

1. Avcbvi Rwg‡Z cÖwZeQi Kq ai‡bi avb Drcv`b Kiv nq? (How many harvests of rice does your land produce each year? \_\_\_
2. Avcbvi Rwg‡Z avb Qvov Avi wK wK km¨ Drcv`b K‡i \_v‡Kb (†QvU evMvbmn) ? (cÖ‡Z¨KwU k‡m¨i †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) [What other crops do you grow on your land (including small gardens)? (answer each separately Yes = 1, No = 0)]
   1. gmyi Wvj (Lentils)
   2. ‡Qvjv [Chick peas (chola)]
   3. ‡e¸b (Eggplant)
   4. U‡g‡Uv (Tomato)
   5. kmv (Cucumbers)
   6. †Xuom (Lady fingers)
   7. †jUzm (Lettuce)
   8. †cuqvR (Onions)
   9. MvRi (Carrots)
   10. Avjy (Potatoes)
   11. Avg (Mango)
   12. Kgjv (Komla)
   13. wjuPy (Lychee)
   14. (Jackfruit)
   15. (Banana)

88. Others: Specify\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

mvi msµvšÍ cÖkœvejx (Fertilizer Questions)

1. MZ eQi Avcbvi Rwg‡Z KZevi mvi cÖ‡qvM K‡i‡Qb? (How many times did you apply fertilizer on your land in the last year?) \_\_\_\_
2. Avwg Avcbv‡K cÖPwjZ mv‡ii GKwU ZvwjKv c‡o †kvbve| `qv K‡i Avcwb Avgv‡K ej‡eb, Gme mv‡ii g‡a¨ †Kvb †Kvb mvi MZ eQi Avcwb KZevi Avcbvi Rwg‡Z avb Drcv`‡bi Rb¨ cÖ‡qvM/e¨envi K‡i‡Qb? (I will read a list of available fertilizers. Please tell me how many times you applied each of these types of fertilizer on the land you used for growing rice in the last year.)
   1. UvBc A [Type A (Type names will be identified in the qualitative study)]
   2. UvBc B (Type B)
   3. UvBc C (Type C)
   4. UvBc D (Type D)
   5. UvBc E (Type E)
   6. Ab¨vb¨ (Other) \_\_\_\_\_\_\_
3. Avwg Avcbv‡K c~bivq cÖPwjZ mv‡ii ZvwjKvwU c‡o †kvbve| `qv K‡i Avcwb Avgv‡K ej‡eb, Gme mv‡ii g‡a¨ †Kvb †Kvb mvi MZ eQi Avcwb KZevi Avcbvi Rwg‡Z Ab¨vb¨ km¨ (avb Qvov) Drcv`‡bi Rb¨ cÖ‡qvM/e¨envi K‡i‡Qb? (I will again read the list of available fertilizers. Please tell me how many times you applied each of these types of fertilizer on the land you used for growing other crops in the last year.)
   1. UvBc A[Type A (Type names will be identified in the qualitative study)]
   2. UvBc B(Type B)
   3. UvBc C(Type C)
   4. UvBc D(Type D)
   5. UvBc E(Type E)
   6. Ab¨vb¨ (Other) \_\_\_\_\_\_\_
4. mvi¸‡jv Rwg‡Z cÖ‡qvM Kivi c~‡e© †K G¸‡jv cÖ¯‘Z K‡ib/bvovPvov K‡ib? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) [Who handled the fertilizer while preparing to apply it? (answer each separately Yes = 1, No = 0)]
   1. me‡P‡q †QvU wkïi evev (Father of the youngest child in the household)
   2. me‡P‡q †QvU wkïi gv (Mother of the youngest child in the household)
   3. me‡P‡q †QvU wkïi m‡nv`i (Sibling of the youngest child in the household)
   4. me‡P‡q †QvU wkïi `v`v-`v`x (Grandparent of the youngest child in the household)
   5. me‡P‡q †QvU wkïi PvPv‡Zv fvB-‡evb (Cousin of the youngest child in the household)
   6. me‡P‡q †QvU wkïi PvPv/gvgv (Uncle of the youngest child in the household)
   7. me‡P‡q †QvU wkïi PvPx/gvgx (Aunt of the youngest child in the household)
   8. Ab¨vb¨ (Other)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. mvi¸‡jv cÖ‡qvM Kivi/wQUv‡bvi Rb¨ †Kv\_vq cÖ¯‘Z Kiv n‡qwQj? (Where was the fertilizer prepared for application)
   1. evwo‡Z (In the house)
   2. evwoi Kv‡Q (Near the house)
   3. Rwg‡Z (In the field)
   4. Ab¨vb¨ (Other)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Rwg‡Z e¨env‡ii ci Aewkó mvi¸‡jv Avcwb wK K‡iwQ‡jb? (What did you do with the leftover fertilizer?)
   1. Aewkó wQj bv (Did not have any)
   2. evwo‡Z msiÿb K‡iwQjvg (Stored it in the house)
   3. KvD‡K `vb K‡i w`‡qwQjvg ev wewµ K‡i w`‡qwQjvg (Gave it away or sold it)
   4. Ab¨vb¨ (Other)
7. Rwg‡Z e¨env‡ii ci mv‡ii Aewkó c¨v‡KU¸‡jv Avcwb wK K‡iwQ‡jb? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) [What did you do with the leftover fertilzer packaging? (answer each separately Yes = 1, No = 0]
   1. evwo‡Z msiÿb K‡iwQjvg (Stored it at home)
   2. Lv`¨ gRy` ivLvi Kv‡R e¨envi K‡iwQjvg (Used it to store food)
   3. cvwb msiÿ‡bi Kv‡R e¨envi K‡iwQjvg (Used it to store water)
   4. M„n¯’vjx mvgMÖx msiÿ‡bi Kv‡R e¨envi K‡iwQjvg (Used it to store household goods)
   5. wkï‡`i †Lj‡Z w`‡qwQjvg (Let the children play with it)
   6. †d‡j w`‡qwQjvg (Discarded it)
8. †K mvi¸‡jv Rwg‡Z w`‡qwQj? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) [Who applied the fertilizer to the land? (answer each separately Yes = 1, No = 0]
   1. me‡P‡q †QvU wkïi evev (Father of the youngest child in the household)
   2. me‡P‡q †QvU wkïi gv (Mother of the youngest child in the household)
   3. me‡P‡q †QvU wkïi m‡nv`i (Sibling of the youngest child in the household)
   4. me‡P‡q †QvU wkïi `v`v-`v`x (Grandparent of the youngest child in the household)
   5. me‡P‡q †QvU wkïi PvPv‡Zv fvB-‡evb (Cousin of the youngest child in the household)
   6. me‡P‡q †QvU wkïi PvPv/gvgv (Uncle of the youngest child in the household)
   7. me‡P‡q †QvU wkïi PvPx/gvgx (Aunt of the youngest child in the household)
   8. Ab¨vb¨ (Other)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

KxUbvkK welqK cÖkœvejx (Pesticide Questions)

1. MZ eQi Avcbvi Rwg‡Z KZevi KxUbvkK cÖ‡qvM K‡i‡Qb? (How many times did you apply pesticide on your land in the last year?) \_\_\_\_
2. Avwg Avcbv‡K cÖPwjZ KxUbvk‡Ki GKwU ZvwjKv c‡o †kvbve| `qv K‡i Avcwb Avgv‡K ej‡eb, Gme KxUbvk‡Ki g‡a¨ †Kvb †Kvb KxUbvkK MZ eQi Avcwb KZevi Avcbvi Rwg‡Z avb Drcv`‡bi Rb¨ cÖ‡qvM/e¨envi K‡i‡Qb? (I will read a list of available pesticides. Please tell me how many times you applied each of these types of pesticide on the land you used for growing rice in the last year.
   1. UvBc A[Type A (Type names will be identified in the qualitative study)]
   2. UvBc B(Type B)
   3. UvBc C(Type C)
   4. UvBc D(Type D)
   5. UvBc E(Type E)
   6. Ab¨vb¨ (Other) \_\_\_\_\_\_\_
      1. Avwg Avcbv‡K c~bivq cÖPwjZ KxUbvk‡Ki ZvwjKvwU c‡o †kvbve| `qv K‡i Avcwb Avgv‡K ej‡eb, Gme KxUbvk‡Ki g‡a¨ †Kvb †Kvb KxUbvkK MZ eQi Avcwb KZevi Avcbvi Rwg‡Z Ab¨vb¨ km¨ (avb Qvov) Drcv`‡bi Rb¨ cÖ‡qvM/e¨envi K‡i‡Qb? (I will again read the list of available pesticides. Please tell me how many times you applied each of these types of pesticide on the land you used for growing other crops in the last year.)
3. UvBc A[Type A (Type names will be identified in the qualitative study)]
4. UvBc B(Type B)
5. UvBc C(Type C)
6. UvBc D(Type D)
7. UvBc E(Type E)
8. Ab¨vb¨ (Other) \_\_\_\_\_\_\_
   * 1. KxUbvkK¸‡jv Rwg‡Z cÖ‡qvM Kivi c~‡e© †K G¸‡jv cÖ¯‘Z K‡ib/bvovPvov K‡ib? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) (Who handled the pesticide while preparing to apply it? (answer each separately Yes = 1, No = 0)
9. me‡P‡q †QvU wkïi evev (Father of the youngest child in the household)
10. me‡P‡q †QvU wkïi gv (Mother of the youngest child in the household)
11. me‡P‡q †QvU wkïi m‡nv`i (Sibling of the youngest child in the household)
12. me‡P‡q †QvU wkïi `v`v-`v`x (Grandparent of the youngest child in the household)
13. me‡P‡q †QvU wkïi PvPv‡Zv fvB-‡evb (Cousin of the youngest child in the household)
14. me‡P‡q †QvU wkïi PvPv/gvgv (Uncle of the youngest child in the household)
15. me‡P‡q †QvU wkïi PvPx/gvgx (Aunt of the youngest child in the household)
16. Ab¨vb¨ (Other)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
17. KxUbvkK¸‡jv cÖ‡qvM Kivi/wQUv‡bvi Rb¨ †Kv\_vq cÖ¯‘Z Kiv n‡qwQj? (Where was the pesticide prepared for application)
    1. evwo‡Z (In the house)
    2. evwoi Kv‡Q (Near the house)
    3. Rwg‡Z (In the field)
    4. Ab¨vb¨ (Other)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
18. Rwg‡Z e¨env‡ii ci Aewkó KxUbvkK¸‡jv Avcwb wK K‡iwQ‡jb? (What did you do with the leftover pesticide?
    1. Aewkó wQj bv (Did not have any)
    2. evwo‡Z msiÿb K‡iwQjvg (Stored it in the house)
    3. KvD‡K `vb K‡i w`‡qwQjvg ev wewµ K‡i w`‡qwQjvg (Gave it away or sold it)
    4. Ab¨vb¨ (Other)
19. Rwg‡Z e¨env‡ii ci KxUbvk‡Ki Aewkó c¨v‡KU¸‡jv Avcwb wK K‡iwQ‡jb? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) What did you do with the leftover pesticide packaging? (answer each separately Yes = 1, No = 0)
    1. evwo‡Z msiÿb K‡iwQjvg (Stored it at home)
    2. Lv`¨ gRy` ivLvi Kv‡R e¨envi K‡iwQjvg (Used it to store food)
    3. cvwb msiÿ‡bi Kv‡R e¨envi K‡iwQjvg (Used it to store water)
    4. M„n¯’vjx mvgMÖx msiÿ‡bi Kv‡R e¨envi K‡iwQjvg (Used it to store household goods)
    5. wkï‡`i †Lj‡Z w`‡qwQjvg (Let the children play with it)
    6. †d‡j w`‡qwQjvg (Discarded it)
20. †K KxUbvkK¸‡jv Rwg‡Z w`‡qwQj? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) (Who applied the pesticide to the land? (answer each separately Yes = 1, No = 0)
    1. me‡P‡q †QvU wkïi evev (Father of the youngest child in the household)
    2. me‡P‡q †QvU wkïi gv (Mother of the youngest child in the household)
    3. me‡P‡q †QvU wkïi m‡nv`i (Sibling of the youngest child in the household)
    4. me‡P‡q †QvU wkïi `v`v-`v`x (Grandparent of the youngest child in the household)
    5. me‡P‡q †QvU wkïi PvPv‡Zv fvB-‡evb (Cousin of the youngest child in the household)
    6. me‡P‡q †QvU wkïi PvPv/gvgv (Uncle of the youngest child in the household)
    7. me‡P‡q †QvU wkïi PvPx/gvgx (Aunt of the youngest child in the household)
    8. Ab¨vb¨ (Other)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

AvMvQvbvkK msµvšÍ cÖkœvejx (Herbicide Questions)

1. MZ eQi Avcbvi Rwg‡Z KZevi AvMvQvbvkK cÖ‡qvM K‡i‡Qb? (How many times did you apply herbicide on your land in the last year?) \_\_\_\_
2. Avwg Avcbv‡K cÖPwjZ AvMvQvbvk‡K i GKwU ZvwjKv c‡o †kvbve| `qv K‡i Avcwb Avgv‡K ej‡eb, Gme AvMvQvbvk‡K i g‡a¨ †Kvb †Kvb AvMvQvbvkK MZ eQi Avcwb KZevi Avcbvi Rwg‡Z avb Drcv`‡bi Rb¨ cÖ‡qvM/e¨envi K‡i‡Qb? [I will read a list of available herbicides. Please tell me how many times you applied each of these types of herbicide on the land you used for growing rice in the last year.]
   1. UvBc A[Type A (Type names will be identified in the qualitative study)]
   2. UvBc B(Type B)
   3. UvBc C(Type C)
   4. UvBc D(Type D)
   5. UvBc E(Type E)
   6. Ab¨vb¨ (Other) \_\_\_\_\_\_\_
3. Avwg Avcbv‡K c~bivq cÖPwjZ AvMvQvbvk‡K i ZvwjKvwU c‡o †kvbve| `qv K‡i Avcwb Avgv‡K ej‡eb, Gme AvMvQvbvk‡K i g‡a¨ †Kvb †Kvb AvMvQvbvkK MZ eQi Avcwb KZevi Avcbvi Rwg‡Z Ab¨vb¨ km¨ (avb Qvov) Drcv`‡bi Rb¨ cÖ‡qvM/e¨envi K‡i‡Qb? (I will again read the list of available herbicides. Please tell me how many times you applied each of these types of herbicide on the land you used for growing other crops in the last year.)
   1. UvBc A[Type A (Type names will be identified in the qualitative study)]
   2. UvBc B(Type B)
   3. UvBc C(Type C)
   4. UvBc D(Type D)
   5. UvBc E(Type E)
   6. Ab¨vb¨ (Other) \_\_\_\_\_\_\_
4. AvMvQvbvkK ¸‡jv Rwg‡Z cÖ‡qvM Kivi c~‡e© †K G¸‡jv cÖ¯‘Z K‡ib/bvovPvov K‡ib? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) [Who handled the herbicide while preparing to apply it? (answer each separately Yes = 1, No = 0)]
   1. me‡P‡q †QvU wkïi evev (Father of the youngest child in the household)
   2. me‡P‡q †QvU wkïi gv (Mother of the youngest child in the household)
   3. me‡P‡q †QvU wkïi m‡nv`i (Sibling of the youngest child in the household)
   4. me‡P‡q †QvU wkïi `v`v-`v`x (Grandparent of the youngest child in the household)
   5. me‡P‡q †QvU wkïi PvPv‡Zv fvB-‡evb (Cousin of the youngest child in the household)
   6. me‡P‡q †QvU wkïi PvPv/gvgv (Uncle of the youngest child in the household)
   7. me‡P‡q †QvU wkïi PvPx/gvgx (Aunt of the youngest child in the household)
   8. Ab¨vb¨ (Other)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. AvMvQvbvkK ¸‡jv cÖ‡qvM Kivi/wQUv‡bvi Rb¨ †Kv\_vq cÖ¯‘Z Kiv n‡qwQj? [Where was the herbicide prepared for application]
   1. evwo‡Z (In the house)
   2. evwoi Kv‡Q (Near the house)
   3. Rwg‡Z (In the field)
   4. Ab¨vb¨ (Other)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Rwg‡Z e¨env‡ii ci Aewkó AvMvQvbvkK ¸‡jv Avcwb wK K‡iwQ‡jb? [What did you do with the leftover herbicide? ]
   1. Aewkó wQj bv (Did not have any)
   2. evwo‡Z msiÿb K‡iwQjvg (Stored it in the house)
   3. KvD‡K `vb K‡i w`‡qwQjvg ev wewµ K‡i w`‡qwQjvg (Gave it away or sold it)
   4. Ab¨vb¨ (Other)
7. Rwg‡Z e¨env‡ii ci AvMvQvbvk‡K i Aewkó c¨v‡KU¸‡jv Avcwb wK K‡iwQ‡jb? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) [What did you do with the leftover herbicide packaging? (answer each separately Yes = 1, No = 0)]
   1. evwo‡Z msiÿb K‡iwQjvg (Stored it at home)
   2. Lv`¨ gRy` ivLvi Kv‡R e¨envi K‡iwQjvg (Used it to store food)
   3. cvwb msiÿ‡bi Kv‡R e¨envi K‡iwQjvg (Used it to store water)
   4. M„n¯’vjx mvgMÖx msiÿ‡bi Kv‡R e¨envi K‡iwQjvg (Used it to store household goods)
   5. wkï‡`i †Lj‡Z w`‡qwQjvg (Let the children play with it)
   6. †d‡j w`‡qwQjvg (Discarded it)
8. †K AvMvQvbvkK ¸‡jv Rwg‡Z w`‡qwQj? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) [Who applied the herbicide to the land? (answer each separately Yes = 1, No = 0)]
   1. me‡P‡q †QvU wkïi evev (Father of the youngest child in the household)
   2. me‡P‡q †QvU wkïi gv (Mother of the youngest child in the household)
   3. me‡P‡q †QvU wkïi m‡nv`i (Sibling of the youngest child in the household)
   4. me‡P‡q †QvU wkïi `v`v-`v`x (Grandparent of the youngest child in the household)
   5. me‡P‡q †QvU wkïi PvPv‡Zv fvB-‡evb (Cousin of the youngest child in the household)
   6. me‡P‡q †QvU wkïi PvPv/gvgv (Uncle of the youngest child in the household)
   7. me‡P‡q †QvU wkïi PvPx/gvgx (Aunt of the youngest child in the household)
   8. Ab¨vb¨ (Other)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

QÎvKbvkK Jla msµvšÍ cÖkœvejx (Fungicide Questions)

1. MZ eQi KZevi Avcwb Avcbvi Rwg‡Z QÎvKbvkK Jla cÖ‡qvM K‡i‡Qb? (How many times did you apply fungicide on your land in the last year?) \_\_\_\_
2. Avwg Avcbv‡K cÖPwjZ QÎvKbvkK Jl‡ai GKwU ZvwjKv c‡o †kvbve| `qv K‡i Avcwb Avgv‡K ej‡eb, Gme (QÎvKbvkK) Jl‡ai g‡a¨ †Kvb †Kvb ai‡bi Jla MZ eQi Avcwb KZevi Avcbvi Rwg‡Z avb Drcv`‡bi Rb¨ cÖ‡qvM/e¨envi K‡i‡Qb? (I will read a list of available fungicides. Please tell me how many times you applied each of these types of fungicide on the land you used for growing rice in the last year.)
3. UvBc A [Type A (Type names will be identified in the qualitative study)]
4. UvBc B (Type B)
5. UvBc C (Type C)
6. UvBc D (Type D)
7. UvBc E (Type E)
8. Ab¨vb¨ (Other) \_\_\_\_\_\_\_
9. Avwg Avcbv‡K c~bivq cÖPwjZ QÎvKbvkK Jl‡ai ZvwjKvwU c‡o †kvbve| `qv K‡i Avcwb Avgv‡K ej‡eb, Gme (QÎvKbvkK) Jl‡ai g‡a¨ †Kvb ai‡bi Jla MZ eQi Avcwb KZevi Avcbvi Rwg‡Z Ab¨vb¨ km¨ (avb Qvov) Drcv`‡bi Rb¨ cÖ‡qvM/e¨envi K‡i‡Qb? I will again read the list of available fungicides. Please tell me how many times you applied each of these types of fungicide on the land you used for growing other crops in the last year.
   1. UvBc A[Type A (Type names will be identified in the qualitative study)]
   2. UvBc B(Type B)
   3. UvBc C(Type C)
   4. UvBc D(Type D)
   5. UvBc E(Type E)
   6. Ab¨vb¨ (Other) \_\_\_\_\_\_\_
10. QÎvKbvkK Jla¸‡jv Rwg‡Z cÖ‡qvM Kivi c~‡e© †K G¸‡jv cÖ¯‘Z K‡ib/bvovPvov K‡ib? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) [Who handled the fungicide while preparing to apply it? (answer each separately Yes = 1, No = 0)]
    1. me‡P‡q †QvU wkïi evev (Father of the youngest child in the household)
    2. me‡P‡q †QvU wkïi gv (Mother of the youngest child in the household)
    3. me‡P‡q †QvU wkïi m‡nv`i (Sibling of the youngest child in the household)
    4. me‡P‡q †QvU wkïi `v`v-`v`x (Grandparent of the youngest child in the household)
    5. me‡P‡q †QvU wkïi PvPv‡Zv fvB-‡evb (Cousin of the youngest child in the household)
    6. me‡P‡q †QvU wkïi PvPv/gvgv (Uncle of the youngest child in the household)
    7. me‡P‡q †QvU wkïi PvPx/gvgx (Aunt of the youngest child in the household)
    8. Ab¨vb¨ (Other)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. QÎvKbvkK Jla¸‡jv cÖ‡qvM Kivi/wQUv‡bvi Rb¨ †Kv\_vq cÖ¯‘Z Kiv n‡qwQj? [Where was the fungicide prepared for application]
    1. evwo‡Z (In the house)
    2. evwoi Kv‡Q (Near the house)
    3. Rwg‡Z (In the field)
    4. Ab¨vb¨ (Other)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. Rwg‡Z e¨env‡ii ci Aewkó QÎvKbvkK Jla¸‡jv Avcwb wK K‡iwQ‡jb? [What did you do with the leftover fungicide? ]
    1. Aewkó wQj bv (Did not have any)
    2. evwo‡Z msiÿb K‡iwQjvg (Stored it in the house)
    3. KvD‡K `vb K‡i w`‡qwQjvg ev wewµ K‡i w`‡qwQjvg (Gave it away or sold it)
    4. Ab¨vb¨ (Other)
13. Rwg‡Z e¨env‡ii ci QÎvKbvkK Jl‡ai Aewkó c¨v‡KU¸‡jv Avcwb wK K‡iwQ‡jb? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) [What did you do with the leftover fungicide packaging? (answer each separately Yes = 1, No = 0)]
    1. evwo‡Z msiÿb K‡iwQjvg (Stored it at home)
    2. Lv`¨ gRy` ivLvi Kv‡R e¨envi K‡iwQjvg (Used it to store food)
    3. cvwb msiÿ‡bi Kv‡R e¨envi K‡iwQjvg (Used it to store water)
    4. M„n¯’vjx mvgMÖx msiÿ‡bi Kv‡R e¨envi K‡iwQjvg (Used it to store household goods)
    5. wkï‡`i †Lj‡Z w`‡qwQjvg (Let the children play with it)
    6. †d‡j w`‡qwQjvg (Discarded it)
14. †K QÎvKbvkK Jla¸‡jv Rwg‡Z w`‡qwQj? (cÖ‡Z¨KwU Ack‡bi †ÿ‡Î Avjv`vfv‡e DËi w`b | n¨uv=1, bv=0) [Who applied the fungicide to the land? (answer each separately Yes = 1, No = 0)]
    1. me‡P‡q †QvU wkïi evev (Father of the youngest child in the household)
    2. me‡P‡q †QvU wkïi gv (Mother of the youngest child in the household)
    3. me‡P‡q †QvU wkïi m‡nv`i (Sibling of the youngest child in the household)
    4. me‡P‡q †QvU wkïi `v`v-`v`x (Grandparent of the youngest child in the household)
    5. me‡P‡q †QvU wkïi PvPv‡Zv fvB-‡evb (Cousin of the youngest child in the household)
    6. me‡P‡q †QvU wkïi PvPv/gvgv (Uncle of the youngest child in the household)
    7. me‡P‡q †QvU wkïi PvPx/gvgx (Aunt of the youngest child in the household)
    8. Ab¨vb¨ (Other)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

WASH Benefits Module 53: In-Depth Interview Guidelines in Bengali for Environmental Assessment

**cwi‡ekMZ wbweo g~j¨vqb (evsjv‡`‡k Wvqwiqv Ges m¨vwb‡Ukb myweavi Aš‘f©~w³, gj`yl‡Yi MgbvMg‡bi g~j¨vqb)**

**cvbxq R‡ji Drmmg~n, cwiPvjbv Ges msiÿY PP©vmg~n**

* Avcwb wK ej‡Z cv‡ib wKfv‡e cvwb msMÖn I msiÿY K‡ib?
* Avcbvi cÖv\_wgK/cÖavb cvb Kivi cvwbi Drm Kx Kx? (wRÁvmv Kiæb- aiY, wUDeI‡qj, cyKzi ev Ab¨vb¨, †m¸wji ˆfŠZ Ae¯’v, wØZxq I Ab¨vb¨ Drmmg~n, †gŠmygx cÖfvemg~n| wUDeI‡qj I cyKz‡ii cvwbi Dci ¸iæZ¡ †ekx w`b)| GB Drm¸wj ch©‡eÿY Kiæb Ges ˆbe©¨w³Kfv‡e eY©bv Kiæb|Avcbvi M„n¯’vjx‡Z cvb Kivi cvwb msMÖn Kiv Kvi `vwqZ¡? (wRÁvmv Kiæb- cÖv\_wgK I wØZxq msMÖnKvix, KLb I †Kb?)
* msM„nxZ cvwb wKfv‡e msiÿY Kiv nq Ges KZ mg‡qi Rb¨? mvaviYfv‡e e¨envi Kiv nq Ggb msiÿY cvÎ¸wj wjwce× Kiæb| Avcbvi cwiev‡ii m`m¨MY KZ…©K mvaviY cÖvZ¨wnK GKwU w`‡b cvwb msMÖn, msiÿY I e¨env‡ii D`vniY w`b|
* GB cvwbi Drm¸wj ev msiÿYK…Z cvwb wKfv‡e gvbyl ev cï-cvwLi gj Øviv `ywlZ n‡Z cv‡i? GB m¤¢ve¨ `yl‡Yi MgbvMgb c\_¸wj Kx Kx hv cÖvß eq¯‹ gvbyl, wkï ev cï-cvwLi g‡ji Øviv `ywlZ nq?
* Avcbvi cwiev‡ii wkïiv wKfv‡e Lvevi cvwb cvq?
* hw` †\_‡K \_v‡K Zvn‡j wbivc` cvwb msMÖn Ges msiÿ‡Yi mv‡\_ mswkøó Amyweav¸wj Kx Kx?

**mnRcÖvc¨Zv, cvwb wbivc`KiY, cvwb ¯^íZv Ges cvwbi e¨envi**

* Avgv‡K wK ej‡Z cv‡ib Avcbvi cwievi KL‡bv cvwbi ¯^íZvi gy‡LvgywL n‡q‡Qb wK bv? H mgq¸wj‡Z Avcwb Kx K‡i‡Qb?
* Avcbvi cwiev‡ii m`m¨‡`i cvwbi e¨env‡ii cwigv‡Y wfbœZv i‡q‡Q wK? wKfv‡e I †Kb?
* cvwb wbivc` ev weï×KiY AvPiYt Avcwb wK Avcbvi cvwb cv‡bi Rb¨ wbivc` Ki‡Z †Kvb wKQy K‡ib? Avcbvi M„n¯’vjx‡Z cvwb weï×Ki‡Yi mvaviY c×wZ¸wj Kx Kx?
* wkï‡`i eqm‡f`mn Avcbvi cwiev‡ii mKj m`m¨‡`i mvaviYfv‡e cvwb e¨envi m¤ú‡K© ejyb|
* MZKvj‡Ki cvwb e¨envi I G msµvšÍ PP©v m¤ú‡K© ejyb (ZvwiL, Hw`‡bi ZvcgvÎv, ZLbKvi wmRb BZ¨vw` wjwce× Kiæb)

**nv‡Z Rxevbyi msµgY Ges nvZ †avqvi PP©v**

* KZ NbNb Ges wKfv‡e Avcwb nvZ †avb? wRÁvmv Kiæb- cÖavb cÖavb mgq¸wj (wewfbœ ai‡Yi Lvevi LvIqvi Av‡M, Uq‡jU e¨env‡ii ci Ges ev”Pv‡K †kŠPv‡bvi ci)| †Kvb GKwU mvaviY w`‡bi nvZ †avqvi PP©v¸wj eY©bv Kiæb (n‡Z cv‡i MZKvj ev AvR)|
* Avcwb wK g‡b K‡ib †h †Kvb GKwU ev Dfq nvZB gvby‡li gj Øviv `ywlZ n‡Z cv‡i? wRÁvmv Kiæb- H cÖavb cÖavb mgq¸wj‡Z nvZ †avqv (GKwU wPÎ AsKb Kiæb †hme Kg©KvÛ †\_‡K nv‡Z g‡ji msµgb NU‡Z cv‡i)|
* nvZ †avqvi Rb¨ Avcwb Kx Kx e¨envi K‡ib? wRÁvmv Kiæb- †Kb Ges KLb KLb Kx Kx w`‡q?
* KZevi Avcwb Avcbvi wkïi nvZ cwi¯‹vi K‡ib/‡avb? KLb KLb Ges wKfv‡e?
* KZevi Avcbvi wkïiv Zv‡`i wb‡R‡`i nvZ †avq? KLb KLb Ges wKfv‡e?
* Avcwb wK g‡b K‡ib Avcbvi wkïi nvZ gvby‡li gj Øviv `ywlZ n‡Z cv‡i?
* mvevb w`‡q nvZ †avqv Avcbvi Kv‡Q mnR bv KwVb g‡b nq? †Kb?

**gvwU `ylY**

* Avcbvi DVvbwU‡K cwi¯‹vi ivLvi Rb¨ Avcbvi cwievi Kx Kx K‡i? wRÁvmv Kiæb- Kx Kx Kiv nq, wKfv‡e Ges KZ mgq ci ci?
* DVvb wKfv‡e gvby‡li gj Øviv `ywlZ n‡Z cv‡i? wRÁvmv Kiæb- wkï Ges eq¯‹MY, w`‡b ev iv‡Z ev e„wói mgq †Lvjv RvqMvq gjZ¨vM Kiv| ¯’vb¸wj wPwýZ Kiæb Ges eY©bv Kiæb|
* Avcbvi evox‡Z †QvU †QvU wkïiv †Kv\_vq cvqLvbv K‡i? KLb KLb Ges †Kv\_vq? †QvU wkï‡`i gj †K †Kv\_vq Ges wKfv‡e AcmviY K‡i? GB PP©v¸wj‡Z wK †Kvb cv\_©K¨ nq? cv\_©K¨¸wj Kx Kx Ges †Kb nq? †hLv‡b †hLv‡b gj †djv nq †mB ¯’vb¸wj ch©‡eÿY Kiæb Ges cÖ‡Z¨K ¯’vb¸wj wb‡q AviI cÖkœ wRÁvmv Kiæb|
* GB cwiev‡i wK †Kvb wkï‡`i gjZ¨vM Kivi Rb¨ cwU i‡q‡Q?
* Avgv‡K ejyb KZ evi Avcbvi wkïwU gvwU Ges g‡ji ms¯ú‡k© Av‡m?
  + wkï‡`i Ges cï-cvwLi gj
  + g‡ji aiY, cvk¦©eZx© evoxi wkï‡`i gj
* KZ mgq ci ci Avcbvi wkïiv (eqm`j †f‡`) DVvb ev eviv›`vq mgq KvUvq Ges KZ mgq a‡i? Zv‡`i‡K †K m½ †`q? wkïiv wK GKv bv A‡b‡K wg‡j †Ljvayjv K‡i? ch©‡eÿY Kiæb- N‡ii ev eviv›`vi †g‡Si aiY (cvKv ev gvwU), N‡i wkï‡`i gjZ¨vM Kivi Rb¨ †Kvb ai‡Yi cwU Av‡Q wK bv|
* Avcbvi wkï KZ mgq DVv‡b mgq KvUvq Ges †Kb? †K Zv‡`i AvPvi-AvPiY jÿ¨ K‡i hLb Zviv DVv‡bi gvwU‡Z †Ljvayjv K‡i? wRÁvmv Kiæb- gv‡qi ev Ab¨ hZœMÖnYKvixi Dcw¯’wZ Ges Abycw¯’wZ‡Z|
* hLb wkïiv DVv‡bi gvwU †\_‡K Zv‡`i gy‡L †Kvb wKQz †`q ZLb gv‡qiv Kx K‡ib?
* ev”Pviv hLb gvwU †\_‡K †Kvb wKQz gy‡L †`q ZLb gv‡qiv Kx fv‡eb ev g‡b K‡ib?

**Lv`¨ `~lY**

* `qv K‡i Avgv‡K Avcbv‡`i cwiev‡ii Lvevi ˆZix Ges msiÿY cÖwµqv m¤ú‡K© ejyb| cÖwZw`bKvi Lvevi ˆZix Ges iÿYv‡eÿ‡Y Avcbvi f~wgKv Kx? wRÁvmv Kiæb- cÖavb cÖavb Lvevi, bv¯Ív, ‡gŠmywg Lvevi|
* GB Lvevi¸wj wKfv‡e I KZÿ‡Yi Rb¨ msiÿY K‡ib? wRÁvmv Kiæb- KLb KLb I †Kb?
* Avcbvi cwiev‡i Lvevi msiÿY I Zv ¯^v¯’¨m¤§Z ivLvi `vwqZ¡ Kvi? wRÁvmv Kiæb- cwiev‡ii mvgvwRK I A\_©‰bwZK ÿgZv (k¦ïi-k¦vïox, ¯^vgx)
* ‰ZixK…Z I msiwÿZ Lvevi¸wj wKfv‡e nv‡Zi ms¯ú‡k© Av‡m? Avcbvi cwiev‡ii Rb¨ Lvevi wbivc` ivLvi Rb¨ Kx Kx K‡ib? wRÁvmv Kiæb- Lvevi ˆZixi c~‡e© nvZ †avqv, ev”Pv‡K LvIqv‡bvi Av‡M evi evi Lvevi Mig Kiv, wkï‡`i Lvev‡ii cwigvY Ges LvIqv‡bvi c×wZ| †K LvIqvq, KLb KLb I †Kb?

**Db¥y³fv‡e \_vKv M„ncvwjZ cï-cÖvYxmg~n**

* Avcbvi KZ¸wj M„ncvwjZ cï i‡q‡Q? msL¨v MYbv Kiæb, me‡P‡q †ekx †Kvb¸wj Zv wPwýZ Kiæb|
* cï-cvLx I ‡Lvqvi ev †MvqvjNi †K †`Lv‡kvbv K‡i
* KLb KLb Ges †Kb cï-cvLxi gj Avcbvi evoxi DVv‡b I Av‡k cv‡k †`Lv hvq Ges KZ mgq a‡i?
* GKwU ev”Pv wkï wKfv‡e cï-cvLxi ms¯ú‡k© Avm‡Z cv‡i?
* Ggb wK †Kvb m¤¢vebv Av‡Q †h wkïiv DVv‡bi gvwU †\_‡K cï-cvwLi †Kvb gj gy‡L w`‡Z cv‡i?
* ev”Pviv hw` cï-cvwLi gj gy‡L †`q Z‡e gv-eveviv Kx K‡ib? eY©bv Kiæb|

**gkv-gvwQi gva¨‡g `~lY/msµgY**

* Avcbvi evoxi †fZi Ges Av‡k cv‡k wewfbœ ai‡Yi gvwQi Dcw¯’wZ m¤ú‡K© Avcbvi Kx g‡b nq? mywbw`©ófv‡e aiY¸wj m¤ú‡K© wRÁvmv Kiæb (AvK…wZ, is, Ab¨vb¨ ˆewkó¨mg~n)
* GB ai‡Yi gkv-gvwQ¸wj Avcbvi N‡ii †fZi ev Av‡k cv‡k †Kb cvIqv hvq? G¸wj †Kv\_v †\_‡K Av‡m? KLb KLb gkv-gvwQi Dc`ªe †ekx nq I †Kb?
* Ggwb wK †Kvb my‡hvM Av‡Q †h gkv-gvwQ Lvev‡ii Dci e‡m? KZ Nb Nb Ggb nq? wRÁvmv Kiæb- mgq I FZz|
* Avcwb wK g‡b K‡ib †h gvwQiv Avcbvi cwiev‡ii Rb¨ †Kvb ¯^v¯’¨ SzwK e‡q Av‡b? †Kb A\_ev †Kb bq?

**Uq‡jU myweavw`i aiY I mnRjf¨Zv**

* Avcbvi cwiev‡ii ¯^v¯’¨m¤§Z PP©v m¤ú‡K© ejyb| Zviv †Kv\_vq mPivPi cvqLvbv/gjZ¨vM K‡ib? wRÁvmv Kiæb- †Lvjv RvqMvq, e¨w³MZ/wbR¯^ ev A‡b¨i j¨vwUª‡b|
* Avcbvi KqwU j¨vwUªb Av‡Q? wRÁvm Kiæb- cÖwZwU j¨vwUª‡bi aib I Ab¨vb¨ myweavmg~n| GB evoxwUi GKwU wPÎ AsKb Kiæb †hLv‡b j¨vwUªb/Uq‡jU myweavw` Ges Lvevi cvwbi Drm, cyKzi ev Ab¨vb¨ Drm, \_vKvi Ni I ivbœv Ni †\_‡K Zvi `~iZ¡ wPwýZ Kiæb|
* Uq‡jU e¨e¯’vcbv I cwi¯‹vi ivLvi `vwqZ¡ Kvi? wRÁvmv Kiæb- cyiæl, bvix, wbw`©ó f‚wgKv, KZ mgq ci ci?
* DVvb †\_‡K AcmviY Kivi Rb¨ GB cwiev‡ii †Kvb †Kvb hš¿-cvwZ i‡q‡Q| wRÁmv Kiæb- wkï I cïi gj, eq¯‹†`i I A‡cvlv cÖvYx‡`i|
* eQ‡ii wewfbœ †gŠmy‡g Kx nq? wRÁvm Kiæb- j¨vwUªb hLb f‡i hvq, c¨v‡bi Dci gj fvm‡Z \_v‡K, ev j¨vwUªb hLb †f‡½ hvq|
* j¨vwUªb †\_‡K gj †Kv\_vq wM‡q †kl †cŠ‡Q? bvjvq, cyKz‡i, †Wvevq, †QvU b`x, Mv‡½, ev Ab¨vb¨ †Kvb cvwb‡Z|
* Avcbvi cwiev‡ii m`m¨‡`i gjZ¨vM I cwi‡ek gjgy³ ivLvi Rb¨ Kx Kx Amyweavi gy‡LvgywL nb eY©bv Kiæb|
* G ai‡Yi m¨vwb‡Ukb Kv‡R †Kvb welq¸wj mnR e‡j g‡b nq I †Kb? eY©bv Kiæb|

Module 54 – Focus Group Discussion Guideliens in Bengali for environmental assessment

**cwi‡ekMZ wbweo g~j¨vqb (evsjv‡`‡k Wvqwiqv Ges m¨vwb‡Ukb myweavi Aš‘f©~w³, gj`yl‡Yi MgbvMg‡bi g~j¨vqb)**

**cvbxq R‡ji Drmmg~n, cwiPvjbv Ges msiÿY PP©vmg~n**

* GB GjvKvi Lvevi cvwbi cÖavb cÖavb Drm¸wj Kx Kx? wRÁvmv Kiæb - aiY, wUDeI‡qj, cyKzi ev Ab¨vb¨, †m¸wji ˆfŠZ Ae¯’v, wØZxq I Ab¨vb¨ Drmmg~n, †gŠmygx cÖfvemg~n| wUDeI‡qj I cyKz‡ii cvwbi Dci ¸iæZ¡ †ekx w`b)| GB Drm¸wj ch©‡eÿY Kiæb Ges ˆbe©¨w³Kfv‡e eY©bv Kiæb|
* M„n¯’vjx‡Z mvaviYZ Lvevi cvwb msMÖn Kiv Kvi `vwqZ¡? (wRÁvmv Kiæb- cÖv\_wgK I wØZxq msMÖnKvix, KLb I †Kb?)
* cvwb msMÖn I iÿYv‡eÿ‡Yi mvaviY c×wZ¸wj Kx Kx? GB c×wZ¸wj ch©vqµ‡g wjLyb Ges cwi¯‹vifv‡e †evSvi Rb¨ AviI cÖ‡qvRbxq cÖkœ Kiæb|
* Avcbvi M„n¯’vjx‡Z cvb Kivi cvwb msMÖn Kiv Kvi `vwqZ¡? (wRÁvmv Kiæb- cÖv\_wgK I wØZxq msMÖnKvix, KLb I †Kb?)
* GB cvwbi Drm¸wj ev msiÿYK…Z cvwb wKfv‡e gvbyl ev cï-cvwLi gj Øviv `ywlZ n‡Z cv‡i? GB m¤¢ve¨ `yl‡Yi MgbvMgb c\_¸wj Kx Kx hv cÖvß eq¯‹ gvbyl, wkï ev cï-cvwLi g‡ji Øviv `ywlZ nq? (AbygvbK…Z ev m¤¢ve¨ GB gj `~l‡Yi GKwU MgbvMgb wPÎ AsKb Kiæb, wbweo mvÿvrKvi †\_‡K cÖvß wP‡Îi mv‡\_ †PK Kiæb, AZtci cwieZ©b Kiæb)

**mnRcÖvc¨Zv, cvwb wbivc`KiY, cvwb ¯^íZv Ges cvwbi e¨envi**

* GB GjvKvq KLb KLb cvwbi ¯^íZv †`Lv †`q?
* GB mgq GLvbKvi gvbylRb Kx K‡ib?
* GB mg‡q Ab¨vb¨ mg‡qi mv‡\_ cvwb msMÖn, msiÿY Ges e¨env‡i Kx ai‡Yi cv\_©K¨ †`Lv hvq?
* Avcbvi M„n¯’vjx‡Z cvwb weï×Ki‡Yi mvaviY c×wZ¸wj Kx Kx? mvaviY ev RbwcÖq c×wZ¸wj eY©bv Kiæb|
* ‡Kvb wbw`©ó mgq wK i‡q‡Q hLb cvwb wbivc`KiY ev weï×KiY Kg ev †ekx n‡q \_v‡K?
* wkï‡`i eqm‡f`mn Avcbvi cwiev‡ii mKj m`m¨‡`i mvaviYfv‡e cvwb e¨envi m¤ú‡K© ejyb|

**nv‡Z Rxevbyi msµgY Ges nvZ †avqvi PP©v**

* KZ NbNb Ges wKfv‡e Avcwb nvZ †avb? wRÁvmv Kiæb- cÖavb cÖavb mgq¸wj (wewfbœ ai‡Yi Lvevi LvIqvi Av‡M, Uq‡jU e¨env‡ii ci Ges ev”Pv‡K †kŠPv‡bvi ci)| †Kvb GKwU mvaviY w`‡bi nvZ †avqvi PP©v¸wj eY©bv Kiæb (n‡Z cv‡i MZKvj ev AvR)|
* gvbyl wK g‡b K‡i †h Zv‡`i †Kvb GKwU ev Dfq nvZB gvby‡li gj Øviv `ywlZ n‡Z cv‡i? wRÁvmv Kiæb- H cÖavb cÖavb mgq¸wj‡Z nvZ †avqv (GKwU wPÎ AsKb Kiæb †hme Kg©KvÛ †\_‡K nv‡Z g‡ji msµgb NU‡Z cv‡i)|
* gvby‡liv wK evg ev Wvb nvZ †ekx †ekx †avq? KLb KLb Ges †Kb?
* nvZ †avqvi Rb¨ GLv‡b †Kvb †Kvb Dcv`vb¸wj mn‡R cvIqv hvq? wRÁvmv Kiæb- me ai‡Yi Dcv`vb, cÖvwß †f‡` I Nb Nb e¨env‡i Dcwi ch©v‡q mvRvb? †Kb Ges KLb KLb?
* KZevi Avcwb Avcbvi wkïi nvZ cwi¯‹vi K‡ib/‡avb? KLb KLb Ges wKfv‡e?
* KZevi Avcbvi wkïiv Zv‡`i wb‡R‡`i nvZ †avq? KLb KLb Ges wKfv‡e?
* Avcwb wK g‡b K‡ib Avcbvi wkïi nvZ gvby‡li gj Øviv `ywlZ n‡Z cv‡i? cwiev‡ii †Kvb e¨w³ nvZ †avqv‡K DrmvwnZ ev cÖfvweZ Ki‡Z cv‡ib? wRÁmv Kiæb- `v`v, k¦ïi, ¯^vgx, ¯‹z‡j hvq Ggb ev”Pviv|

**DVv‡bi I N‡ii Av‡kcv‡ki gvwU `ylY**

* evoxi DVvb wKfv‡e gvby‡li gj Øviv `ywlZ n‡Z cv‡i? wRÁvmv Kiæb- wkï Ges eq¯‹MY, Amy¯’¨ e¨w³, w`‡b ev iv‡Z ev e„wói mgq †Lvjv RvqMvq gjZ¨vM Kiv| ¯’vb¸wj wPwýZ Kiæb Ges eY©bv Kiæb| Zviv e¨³ Ki‡Z cv‡i Ggb GKwU D`vniY w`‡Z ejyb| g‡ji Drm I Zvi msµg‡bi GKwU wPÎ AsKb Kiæb|
* Avcbvi evox‡Z †QvU †QvU wkïiv †Kv\_vq cvqLvbv K‡i? KLb KLb Ges †Kv\_vq? wRÁvmv Kiæb- mvaviY, wbw`©ó I A¯’vqx ¯’vb¸wj m¤ú‡K©|
* †QvU wkï‡`i gj †K †Kv\_vq Ges wKfv‡e AcmviY K‡i? GB PP©v¸wj‡Z wK †Kvb cv\_©K¨ nq? cv\_©K¨¸wj Kx Kx Ges †Kb nq? †hLv‡b †hLv‡b gj †djv nq †mB ¯’vb¸wj ch©‡eÿY Kiæb Ges cÖ‡Z¨K ¯’vb¸wj wb‡q AviI cÖkœ wRÁvmv Kiæb|
* GB cwiev‡i wK †Kvb wkï‡`i gjZ¨vM Kivi Rb¨ cwU i‡q‡Q?
* ‡QvU †QvU wkïiv Zv‡`i gv‡qi/eq¯‹‡`i †Kvj Qvov Avi †Kv\_vq †Kv\_vq AwaKvsk mgq KvUvq? ¯’vb¸wji eY©bv Kiæb
* wkïiv KZ mgq DVv‡b mgq KvUvq ev eviv›`vq Ges †Kb?
* Zv‡`i‡K †K m½ †`q? wkïiv wK GKv bv A‡b‡K wg‡j †Ljvayjv K‡i?
* ejyb wKfv‡e Avcbv‡`i ev”Pviv gvwU I g‡ji ms¯ú‡k© Av‡m|
* DVvb ev eviv›`v ev N‡ii †fZ‡ii gvwU
* ev”Pv‡`i Ges cï-cvwLi gj
* cï-cvwLi aib, cÖwZ‡ekx‡`i ev”Pv‡`i
* KZ mgq ev”Pviv DVv‡bi gvwU‡Z mgq KvUvq Ges †Kb? `j‡f‡`
* <3 eQi
* <3 -6 eQi
* 6+eQi
* K Zv‡`i AvPvi-AvPiY jÿ¨ K‡i hLb Zviv DVv‡bi gvwU‡Z †Ljvayjv K‡i? wRÁvmv Kiæb- gv‡qi ev Ab¨ hZœMÖnYKvixi Dcw¯’wZ Ges Abycw¯’wZ‡Z|
* ‡Ljvayjv ev mgq KvUv‡bvi †ejvq ev”Pviv †Kvb †Kvb wRwbm gy‡L w`‡Z cv‡i? wRwbm¸wji bvg wjLyb, Dcwi-ch©vqµ‡g mvRvb I eY©bv Kiæb|
* hLb wkïiv DVv‡bi gvwU †\_‡K Zv‡`i gy‡L †Kvb wKQz †`q ZLb gv‡qiv Kx K‡ib?
* ev”Pviv hLb gvwU †\_‡K †Kvb wKQz gy‡L †`q ZLb gv‡qiv Kx fv‡eb ev g‡b K‡ib?

**Lv`¨ `~lY**

* `qv K‡i Avgv‡K GB GjvKvi Lvevi ˆZix Ges msiÿY cÖwµqv m¤ú‡K© ejyb|
* GB GjvKvi mvaviY Lvevi msiÿY c×wZ¸wj Kx Kx? cÖavb c×wZ¸wj Dcwi-ch©vqµ‡g mvRvb Ges e¨vL¨v Kiæb|
* cÖwZw`bKvi Lvevi ˆZix I msiÿ‡b †K me‡P‡q †ekx f‚wgKv cvjb K‡i? †K Zv‡`i‡K †mB `vwqZ¡ †`q I †Kb? wRÁvmv Kiæb- cÖavb cÖavb Lvevi, bv¯Ív, ‡gŠmywg Lvevi|
* GB AÂ‡j mvaviYZ Lvevi msiÿY I Zv ¯^v¯’¨m¤§Z ivLvi `vwqZ¡ Kvi? wRÁvmv Kiæb- cwiev‡ii mvgvwRK I A\_©‰bwZK ÿgZv (k¦ïi-k¦vïox, ¯^vgx)
* Lvevi ˆZixi c×wZ m¤ú‡K© †K wm×všÍ †bq Ges †Kb?
* ‰ZixK…Z I msiwÿZ Lvevi¸wj wKfv‡e nv‡Zi ms¯ú‡k© Av‡m? Kvi nv‡Z evi evi aiv nq?
* Lvevi wbivc` ivLvi Rb¨ Kx Kx Kiv nq? wRÁvmv Kiæb- Lvevi ˆZixi c~‡e© nvZ †avqv, ev”Pv‡K LvIqv‡bvi Av‡M evi evi Lvevi Mig Kiv, wkï‡`i Lvev‡ii cwigvY Ges LvIqv‡bvi c×wZ| †K LvIqvq, KLb KLb I †Kb?
* ev”Pv‡`i Rb¨ Lvevi w`‡bi †Kvb mg‡q ˆZix Kiv nq? KZÿY msiÿY Kiv nq?

**Db¥y³fv‡e \_vKv M„ncvwjZ cï-cÖvYxmg~n**

* mvaviYZ Avcbv‡`i GjvKvq GKwU mvaviY M„n¯’vjx‡Z KZ¸wj M„ncvwjZ cï-cvwL \_v‡K? MYbv Kiæb| me‡P‡q †ekx †Kvb¸wj Zv wPwýZ Kiæb| Kgc‡ÿ 3 wU †kÖYx Kiæb| me¸wj †kÖYx m¤ú‡K© wRÁvmv Kiæb|
* cï-cvLx I ‡Lvqvi ev †MvqvjNi †K †`Lv‡kvbv K‡i
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* GKwU ev”Pv wkï wKfv‡e cï-cvLxi ms¯ú‡k© Avm‡Z cv‡i? †Kvb cÖvYx Zviv cQ›` K‡i? gv-eveviv wK ev”Pv‡`i‡K cï-cvwLi ms¯ú‡k© Avm‡Z †`q?
* Ggb wK †Kvb m¤¢vebv Av‡Q †h wkïiv DVv‡bi gvwU †\_‡K cï-cvwLi †Kvb gj gy‡L w`‡Z cv‡i? †Kvb cÖvYxi, KLb I †Kv\_vq?
* ev”Pviv hw` cï-cvwLi gj gy‡L †`q Z‡e gv-eveviv Kx K‡ib? ‡Kb ev †Kb bq?
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* GB ai‡Yi gkv-gvwQ¸wj Avcbvi N‡ii †fZi ev Av‡k cv‡k †Kb cvIqv hvq? G¸wj †Kv\_v †\_‡K Av‡m? KLb KLb gkv-gvwQi Dc`ªe †ekx nq I †Kb?
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* G GjvKvi gvbylRb mPivPi †Kv\_vq mPivPi cvqLvbv/gjZ¨vM K‡ib? wRÁvmv Kiæb- †Lvjv RvqMvq, e¨w³MZ/wbR¯^ ev A‡b¨i j¨vwUª‡b|
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* Uq‡jU e¨e¯’vcbv I cwi¯‹vi ivLvi `vwqZ¡ Kvi? wRÁvmv Kiæb- cyiæl, bvix, wbw`©ó f‚wgKv, KZ mgq ci ci?
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Appendix 5: External Reviewer Comments and Response

Synthesis of Reviews for WASH Benefits Nutrition Intervention Supplement

14 June 2011

Overall Reviewer Impression

Reviewers were generally enthusiastic about the value of adding a nutrition intervention to the ongoing WASH trial. This study “has the potential to yield groundbreaking insights into WASH programming…and the design allows for the identification of the most effective component in the WASH package.” It was observed that the results of this study will allow us to better understand the relative roles of nutrition and improved WASH and the interaction between them in post-natal growth failure, a question that “has interested the global health community for decades.” “The WASH Benefits team has harnessed the expertise of world class nutrition specialists to guide this addition to their protocol.” It was noted by some reviewers that they may have misunderstood some of the issues raised since they did not have access to the primary initial proposal.

Please consider each of the specific comments below, noting when specific changes to the proposal are requested. You may respond to the remaining questions directly in this document or in the proposal.

Study Design

1. Randomization Unit:

* Is the unit of randomization a village or is it a group of compounds within a village than can be served by a single promoter?

The unit of randomization differs slightly in definition between the two countries to reflect different settlement patterns, but in practice will be a group of compounds visited by a single health promoter. The unit of randomization in Kenya is an administrative village. The unit of randomization in Bangladesh is a group of compounds within a village that can be served by a single promoter. Ultimately, the interventions we have in WASH Benefits are compound-level interventions, but we have a cluster-randomized design to help protect the study’s internal validity due to likely spillover effects between geographically and socially proximate compounds.

* If the unit is the latter, will there be more than one randomization unit within a village or will only part of the village be included in the trial?
* If the unit is the latter, how will the group of compounds be selected from among all the compounds in the village?

In Bangladesh, where the cluster is not defined with respect to administrative boundaries, we may only include part of a village in each cluster. In rural Bangladesh the settlement pattern consists of household compounds grouped together into “islands” that are separated by rice fields. We will rely on the geographic separation between groups of compounds to maintain cluster-level independence. Only in the case of exceptionally large villages could we envision enrolling multiple clusters from the same village, but the compound groups would need to be sufficiently far apart in terms of both geography and social distance toensure that contamination (spillover effects) do not undermine the trial. Since the specific settlement patterns vary greatly at the scale of our study region, we do not have pre-defined geographic buffer zone distances in our trial protocol. Instead, we will rely on our field team’s ability to identify qualitatively independent clusters of household compounds. This procedure is part of our active pilot research (now in its second year).

* It is clear there is stratification on country. It is not clear whether further stratification on other variables will be performed. Please comment.

The WASH Benefits study is designed as two, highly comparable trials (we do not plan to pool data across the countries in our primary analysis due to contextual differences and to necessary local intervention adaptations). At minimum we plan to match the randomization by geography within each country, so that we will randomize the interventions in blocks of 8 geographically close clusters. We are actively exploring whether it will be logistically feasible to use data we collect in our baseline survey to further match our sample. Given the relatively large size of each arm (90 clusters in Bangladesh, 125 clusters in Kenya), we expect the main benefit of additional matching or stratification would be increased precision of our treatment effect estimates. The logistical limitation that the study faces, despite using electronic data collection with handheld computers, is that incorporating baseline data into our randomization will increase the time lag between our baseline survey and intervention implementation. If the delay is too long, then the children we enroll in the baseline survey will be rapidly aging into the window for intervention. It is unlikely that the small gains in precision from additional stratification will justify such a delay, but this is a topic that the Berkeley team is thinking through.

* Reference is made to using blocks of size 8, presumable randomly permuted, but it is not clear how these would be allocated. There seems to be a sequential rollout, so perhaps the blocks are relevant to that timing, which makes sense, but it is not clear how this will interface with any stratification. Blocks could be assigned to each cross-classified (by covariates) stratum—perhaps time is another stratification factor. Please comment.

We arrived at a block size of 8 because there are 6 treatment arms and a double-size control arm (W, S, H, WSH, LNS, WSH+LNS, C, C). Within each block, we will allocate the eight assignments with equal probability. The sequential rollout will be incorporated in our randomization strategy in the sense that we will randomize groups of geographically proximate villages in blocks of 8 (see also last comment), and the field team will sequentially move through our sample over 6 months (Bangladesh) or 12 months (Kenya). If we incorporate matching beyond geography in our randomization strategy, we will use a heuristic clustering algorithm (a version of partitioning around medoids) that chooses the “optimal” clusters of size 8, minimizing the average silhouette, based on the mahalanobis distance of the covariates used to match. Although we are investigating whether we expect any gains in precision from additional matching, the logistical complications (last comment) will likely outweigh any benefits that would accrue from matching beyond geography. We excluded this additional technical detail from our proposal since we have not finalized the decision internally about whether this will be a fruitful exercise.

2. Randomization Arms: It would seem that comparing EE measurements in children randomized to the different WASH interventions (W, S, H, WSH, control) is more relevant than comparing EE measurements of children randomized to WASH, Nutrition, or both WASH and Nutrition. The former would provide an indicator of which WASH intervention was most effective in reducing fecal ingestion and this subclinical pathology among infants.

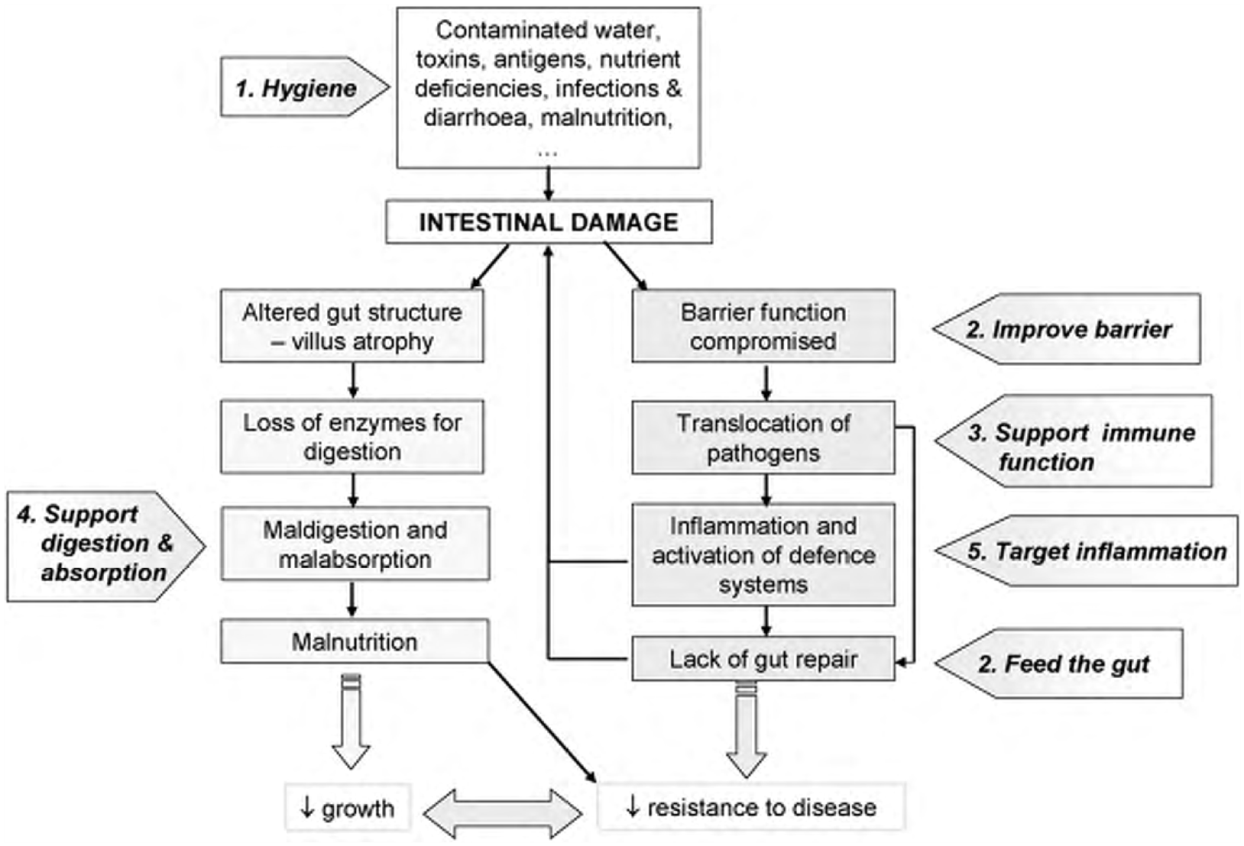
* Why was this randomization decision made?
* Do researchers hypothesize that their nutrition intervention will reduce or prevent EE?

We agree that it would be interesting to know whether different household environmental interventions have different impact on EE. The decision to include EE measurement in the arms with full WASH interventions or nutrition (control, N, WSH, N+WSH) was one based on budget and priority. We could include EE measurement in the full cohort if that would be of interest to the Foundation, but it would increase the cost of EE measurement by about 75%.

We differ in opinion with the reviewer in that we see great value in a study that can directly compare the impact of nutritional and household environmental interventions on the progression or prevention of EE. Although poor hygiene and the ingestion of bacteria is one of the hypothesized causes of EE, malnutrition and micronutrient deficiency are also hypothesized to be key contributors to the intestinal damage that characterizes EE (Figure). It is our opinion that it would be important to first identify whether a complete package of environmental interventions could impact EE before attempting to identify which component (water, sanitation, hygiene) has the largest impact.

We hypothesize that LNS will reduce or prevent EE by increasing the amount of energy and nutrients available to infants for maintenance and growth. McDade [1] outlines a life history theory of immune function, in which he describes how infants face a resource allocation tradeoff between maintenance (fighting infection, physiologic repair) and growth. To ensure survival the developing organism prioritizes maintenance over growth. When resources are limited, the absolute level of energy or nutrients available to infants can be a major determinant of growth and physiologic repair. A damaged gut in a child without access to sufficient energy or nutrients will further suffer from impaired healing, with subsequent decline in gut function and nutrient absorption for growth (i.e., a vicious cycle) [2].Effective nutritional interventions may be able to prevent or shorten the duration of EE via several mechanisms, such as a) strengthening the immune system, b) compensating for malabsorption, reallocation or losses of key nutrients during infection, c) accelerating gut repair following infection, and d) favoring the growth of beneficial gut microorganisms.

Figure. Hypothesized casual pathways and targets for intervention. Reproduced from[2]



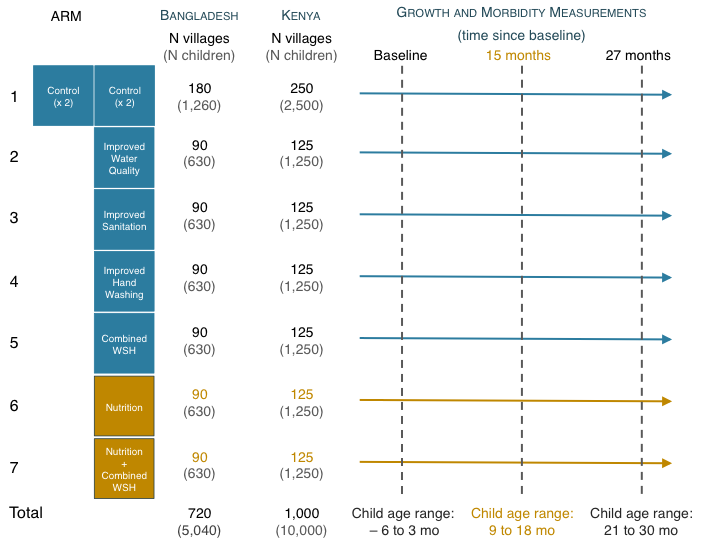
3. Age at Enrollment: The new WHO growth standards shifted our understanding of stunting from a condition of that occurs primarily after 6 months of age to one that declines linearly from birth to 18-24 months. If EE is established during the first 6 months of age due to early exposure to poor WASH, there is a concern that the investigators are enrolling the children too late.

* Noting that the logistics of this massive study are daunting, would it possible to narrow the window of enrollment from -3 to +3 months of age because during the first three months infants are more likely to be exclusively breastfed and less likely to be placed on the ground alone?

We have discussed the possibility of lowering our age of enrollment to < 3 months at our baseline survey, and feel the study would be improved if we lowered the enrollment age for the reasons the reviewers outlined. We would need to enroll children –6 to +3 months to achieve our sample size targets because we are limited by the demographics of our target populations (i.e., we do not anticipate sampling from the children in each cluster – we will attempt to enroll all children in each cluster that meet our age criteria). This earlier enrollment age would mean that we would enroll children < 3 months at our baseline survey, and all children born into the study clusters during the 6 months that follow the baseline survey.

In the context of our team’s discussion of the enrollment age, our team also decided that it would be more realistic to allow for a 3 month lag between the baseline survey and the intervention delivery. The lag would allow for randomization, promoter selection, and hardware delivery. The annual follow-up surveys will begin relative to the time of intervention delivery, not the baseline survey. With a 3 month intervention lag following the baseline, this means that 2/3 of the cohort will receive the intervention before age 3 months. It also means that the mid-study visit would take place 15 months after the baseline (12 months following intervention delivery). If we enroll children –6 to 3 months old at baseline, they will be 9 – 18 months at the mid-study visit, and 21 – 30 months at the final visit. An updated figure that summarizes the overall design is below.

Figure. WASH Benefits study design overview.



* Will you enroll fetuses at the last visit in preparation for the longer-term follow up?

We do not have plans to enroll fetuses at our last visit. We do plan to enroll children born into study compounds during the course of the study, but those children will contribute to secondary analyses (also see next comment).

4. Age at Measurement: There will be a 9 month age range in study children at baseline (-3 to 6 months), a 21 month age range at the 1 year visit (-3 to 18 months) and a 33 age range at the 2 year visit (-3 to 30 months). This wide age distribution will inflate the standard deviation around height for age z scores assessed at the two follow-up visits.

* Did the researchers consider thisin their power calculations?

Our target population for this study will include children –6 to 3 months at baseline. We will enroll additional children born to mothers living in study compounds who are born later in the study, but those children will only contribute to secondary analyses. As described above in comment 3, we will collect baseline measurements in children birth to 3 months (and will enroll households with mothers in their third trimester). At the mid-study visit, the target children will be 9 – 18 months old, and at the final visit the children will be 21 – 30 months old.

The power calculations that we used to guide our design use outcome variability estimates derived from cohorts that were aged 0 – 36 months (diarrhea, height) and 6 – 24 months (child development scores). We expect that the calculations are slightly conservative.

* What power will the study have to detect differences in severe stunting (< -3 height for age z score) as this may be the outcome of biggest effect size of an LNS intervention?

In our protocol we have included stunting (HAZ <—2) as a secondary outcome, and based on this comment we will plan to include severe stunting (HAZ <—3) as an additional secondary outcome. We repeated our power calculations with information from anthropometric data collected between 2007 and 2008 in our target populations. We will have at least 80% power to detect differences in severe stunting of 4.1 percentage points (Bangladesh) and 4.0 percentage points (Kenya) between any two arms in the trial. The prevalence of severe stunting among children < 36 months in our training datasets was 16.7% in Bangladesh and 24.7% in Kenya. We can provide additional details of our power calculations if that is of interest (we have used the same approach across all of our outcomes, informed by parameters estimated from our target populations)[3].

* The wide age distribution at enrollment and follow-up will also add variability to the impact, making it even more difficult to measure. How will the study overcome this challenge?

We are not aware of studies that demonstrate heterogeneous WASH or LNS intervention impacts over the 9-month age range that we will enroll in this study. Children in LNS arms will have varying lengths of exposure to LNS at the year 1 and year 2 follow up surveys. We might expect some heterogeneity in intervention impacts due to different LNS exposure length. A priori, we do not know how this potential heterogeneity could influence the study’s power, but we do expect to complement our unadjusted analysis with analyses that adjust for prognostic baseline characteristics. Since length of LNS treatment will be perfectly correlated with a child’s age, then an analysis that semi-parametrically accounts for child age would recover any loss in power due to this potential source of variability.

5. Choice of Baseline and Follow-up Indicators:

* Why is the study not including plasma or urinary measures of nutritional status such as vitamin A, iron, and iodine?

We agree that this is a potentially important series of measurements to include, especially in the environmental enteropathy subsample (the focus of a separate supplemental proposal to the Foundation). These data would add to our understanding of the impact of the interventions on change in micronutrient status, an important nutritional outcome in addition to child growth. The baseline data could also help to better inform our understanding of the predictors of EE, provide a better understanding of the association between micronutrient status and infection, and would allow us to explore whether the effect of the interventions varied with baseline nutritional status, given that many nutritional interventions have the largest effect in those who are the most malnourished at baseline.

The reason we did not include these biomarkers originally was because of logistics and cost. In our EE subsample (1,500 children per country), we plan to collect only capillary blood from infants. We do not think we would be able to get enough plasma from the small amount of blood collected to measure a panel of micronutrients in addition to the inflammation markers that we have planned for that sub-study (Total IgG, IgG EndoCAb, CRP). Nevertheless, we would consider collecting venous blood from the EE subsample to allow us to add a few micronutrient status markers if we were able to increase the budget to allow for the hiring of trained phlebotomists, specimen storage, shipping, and analysis costs. Based on our experience, we anticipate that the collection of venous blood may increase the refusal rates in this subsample compared to capillary blood draws. However, we are interested to pilot this more intensive measurement approach.

6. HIV Sub-groups: The proposal statues that their study does not include an HIV+ sub-group. If the Kenya site is in Kisumu, however, they will have a significant HIV prevalence in their study population (about 10-15% prevalence). If this is the case, it will strengthen the study if they could identify the HIV+ individuals. If they are infected and untreated, it will have significant effects on EE and growth of the babies. If they are infected on PMTCT treatments, that too will have significant effects on EE and growth.

* Please comment on this observation.

The latest DHS figures from 2008 estimate the prevalence among females to be 13.1% in rural Western and Nyanza Provinces (8.6% in Western, 16.2% in Nyanza)(our calculations from [4]). Prevalence is also steady or declining in the region [4]. HIV vertical transmission rates depend on whether the mother is on PMTCT treatment; in a large multisite trial in South Africa, Uganda and Tanzania, the vertical transmission rate was 22% for children of untreated mothers by age 18 months [5]. This suggests that the upper bound prevalence in our cohort would be approximately 13.1% x 0.22 = 2.9%, or 290 children from the anticipated 10,000 in the cohort (or roughly 36 per treatment arm). The cost and logistical difficulty involved in HIV screening would, in our opinion, outweigh the benefits of identifying this small subset of the cohort.

Nutrition Intervention

7. Nutrition Intervention Uptake: In the published literature on LNS interventions, the effect size of LNS has been relatively modest despite more intensive (even weekly) implementation and follow-up protocols than proposed in this study where research staff will only have three contacts with enrolled families (baseline and 1 and 2 years post-initiation of intervention). While WASH interventions may be based on sufficient efficacy data and are ready for an effectiveness trial, LNS interventions are still at the efficacy stage. This study appears more like an effectiveness study because of the infrequency of the contact between researchers and participants and because it is not clear how “promoters” will be chosen and supervised and if they will have substantial training to achieve substantial behavior change.

* Please add details in the proposal on how you will achieve uptake of the LNS supplement and detectable effect size given the infrequency of contact between research staff and participants?

Although we plan few data collection time points (at baseline, 1 year and 2 years post-initiation of the intervention), we plan to have much more frequent contact with the participants through household visits by village-level promoters. These promoters will visit each household to deliver the LNS supplements monthly throughout the trial. At the start of the trial, we plan to have more frequent contact between the participating households and the promoters, which will taper gradually as the trial progresses, never dipping below once per month at a minimum. At each of these contact points, the promoters will re-emphasize our key messages about proper feeding of LNS, as well as the additional messages about continued breastfeeding and consumption of micronutrient rich complementary foods (described in greater detail below). In addition, we may consider re-emphasizing these messages by attaching drawings and/or written messages on the LNS storage boxes that will be provided to participating households.

Our team views WASH Benefits to be much closer to an efficacy trial than an effectiveness trial because it includes fully subsidized WASH hardware, fully subsidized LNS, and intensive, ongoing household visits by community-based promoters.

* Please specify in the proposal how often the uptake of the nutrition intervention will be assessed (in the course of the “process evaluation”), what methods will be used to assess uptake, and on what size of a sample (if these issues are known at this time)?

When the promoters go to the households every four weeks to replenish the supplies of LNS, they will count and record the number of remaining sachets. They will replenish only the number of sachets to equal a full four week supply so that every household has 56 sachets at the beginning of every month. We are also exploring the possibility of making weekly contact with the participants via cell phone – either in the full sample or in a rotating subsample. If this is possible, we may also use this opportunity to ask the participants to recall how many days in the past week LNS was consumed.

8. Choice of LNS: Two reviewers commented that the project seems fixated on giving LNS rather than on improving nutrition. Improving nutrition can be done in a variety of ways. The study should be trying to demonstrate effects on the chosen outcomes from improved nutrition, not from a particular product. Mary Penny’s study in Peru observed one of the largest effect sizes on height for age z scores through education alone, suggesting that improving the underlying diet together with provision of LNS may have greater impact.

* Please include in the proposal justification for why LNS has been chosen as the nutrition intervention. Why have the investigators chosen not to address any other infant feeding practices such as exclusive breastfeeding for 6 months, feeding frequency, responsive feeding, etc.?

We have chosen to focus primarily on nutrient supplementation rather than purely behavior change communication (BCC) messages because in the context in which we are working it would be difficult for families to afford micronutrient-dense complementary foods at a reasonable cost. The intervention by Penny et al. in Peru indeed demonstrated impressive improvements in child height. However, one of the three key messages in that BCC project focused on daily consumption of animal source foods (chicken liver, fish, egg) and it was apparent from the results that the target population had access to such foods and was able to afford them. Stunting prevalence in the control group was only 15%. The conclusion from this paper, and in the Lancet series in which it was also reviewed, was that behavior change interventions are likely to be effective at improving growth in populations with sufficient access to micronutrient rich foods. We do not feel that this is the case in our two study populations in rural Bangladesh and Kenya.

Nevertheless, in addition to messages about the preparation and mixing of LNS into children’s complementary foods, we plan to deliver a series of messages about breast feeding and the consumption of micronutrient-rich complementary foods to households receiving LNS, modeling these messages on those recommended in the *Guiding Principles for Complementary Feeding of the Breastfed Child* and the recent UNICEF *Program Guide for Infant and Young Child Feeding Practices*. We will also confer with existing programs in each country to utilize formative research that has already been done and to build on existing counseling tools and promotional messages. We will pretest these messages during the pilot phase to refine the messages, but they will likely include 1) practice exclusive breastfeeding from birth to 6 months of age and introduce complementary foods at 6 months of age while continuing to breastfeed; 2) continue breast feeding as you did before receiving LNS (inserting a local term for LNS); 3) provide your child micronutrient-rich foods such as meat, fish, eggs, and vitamin A rich fruits and vegetables (adapted to locally available food examples); and 3) feed your child at least 2-3 times per day when 6-8 months old and 3-4 times per day when 9-24 months old.

* Please provide greater detail in the proposal on the rationale for the current formulation of the selected LNS and why it is different than other nutrition supplements.

The choice of this formulation is multi-fold. In contrast to multiple micronutrient powders, such as Sprinkles, LNS contains protein and fats. Notably, it includes essential omega-3 and omega-6 fatty acids, important for child growth and neurodevelopment. We feel that a small quantity LNS product similar to Nutributter is ideal for the prevention of growth faltering because at only 118 calories (4 teaspoons/day), it is less likely than large quantity supplements to displace breast milk intake or other locally available complementary foods. In fact, this has been demonstrated in Malawi and in the Democratic Republic of Congo (Owino et al, 2011 and Galpin et al, 2007). The iLiNS team is also testing this in the ongoing trial in Malawi.

Dr. Dewey and the iLiNS team have developed a modified Nutributter, which is currently being tested in efficacy trials in Ghana, Malawi and Burkina Faso, and in an effectiveness trial in Bangladesh. The nutrient content of this next generation Nutributter, in comparison to micronutrient powder and the current version of Nutributter on the market, is shown in Attachment I (end of this document). This version differs from the current version of Nutributter in a few important ways. The sugar content was reduced by 50% to make the product less sweet and to allow a greater amount of essential fatty acids to be added without increasing the total calories. Secondly, amounts of several key growth-promoting nutrients, calcium, phosphorus, potassium, zinc and magnesium, were increased. Copper was increased to match the level provided in micronutrient powders, and selenium was doubled to meet the WHO Recommended Nutrient Intake (RNI) for young children. Manganese and vitamins D, E, and K were added. For this project, the B-vitamin levels were raised to meet the RNI levels for children 1-3 years of age..These modifications make this “next generation” Nutributter the most complete supplement for children under two that can currently be produced while keeping the energy content < 120 kcal/dose.

9. Delivering the Intervention: The uptake of the intervention depends critically on who delivers it. Please add details in the proposal on the following:

* How will the local promoters be selected?
* How will the study ensure that their advice is likely to be taken up by the study households?
* With what intensity and by whom will they be trained, supervised and motivated to deliver the nutrition intervention?

Local promoters will be nominated by community members participating in the study. Two candidates from each village will be invited to an initial 3 day training workshop conducted by the research organization’s staff on interpersonal communication, introduction to behavior change communication strategies, basic adult learning theory, time management/planning and reporting producers. Upon successful completion of the initial training, and based on the trainer’s assessments of the two nominees from each village, one will be chosen as the promoter, while the other nominee from the village will be the back-up promoter in case the selected promoter is unable to satisfactorily carry out his/her responsibilities. The selected promoter will subsequently attend a two-day nutrition specific training that will address the importance of good nutrition for child development, the basics of a healthy diet for children in the target age range, the LNS product and nutrition specific health education modules that have been specifically developed for this project. In addition there will be refresher trainings at six month intervals that will last for one to two days and present a review of general themes as well as any new behavior change communication strategies that have been developed. The refresher training will serve as a venue to share ideas, lessons learned and best practices among the promoters and their supervisors.

Shortly after the training workshops, the promoter will be presented to the community and mothers participating in the study by a representative from the research organization. The study representative will then accompany the promoter on his/her first 2-3 participant interactions (lasting ~1 hr each) and provide the promoter with feedback on his/her techniques. The promoter supervisors will each oversee ~100 promoters for the duration of the study. They will stay in touch with promoters through monthly phone calls and two site visits each year. In order to ensure that study households are adequately supported, promoters will be asked to make frequent contact with study households in the first days and weeks after the intervention is launched, with interactions then tapering off after the first 6 months of the study to a long-term pattern of monthly visits by promoters to deliver LNS, provide ongoing behavior change support, and check on uptake. Promoters will be compensated for their efforts at a rate that is commensurate with the government’s pay to community health workers, with a strong emphasis on the prestige of being selected as a promoter (actualized in the form of a diploma from the training, an official promoter t-shirt and household visit kit, and potentially a program cell phone to facilitate communication between research staff and promoters).

Child Feeding

10. Assessment of dietary intakes: The quality of the IYCF indicator data will vary depending on the age of the infant at the two follow-up visits. For example, the IYCF indicators include assessment of early initiation and exclusivity of breastfeeding to 6 months, and this data is likely to be more accurate when the infant is a neonate and <6 months at the time the questionnaire is administered while mothers of older infants may not remember these practices well. This may be important because early and exclusive breastfeeding may be a strong covariate of diarrhea prevalence in the second half of infancy. Professor Dewey has published guidelines for recommended intakes of complementary foods for 6-9 months, 9-12 months, and 12-24 month old infants based on average intakes of breastmilk for these age groups. If the nutrition intervention does not result in a significant increase in dietary quality or quantity, conducting 24 hour recalls on a subsample would be important in understanding whether this was because the LNS did not improve infant diets or because infant diets were improved but diet was not the limiting factor in their growth.

* Please comment on this observation.

We agree that it is important to measure infant and young child feeding practices across the intervention groups to examine whether there are group-level differences in reported breastfeeding frequency, frequency of feeding complementary foods, and dietary diversity (frequency of consumption of complementary foods in various food groups). We plan to measure infant feeding practices using an instrument that is modified and expanded from the recommended format in the Indicators for assessing infant and young child feeding practices: Part II Measurement. Our form has been developed and pretested in a similar context in Malawi. It will be modified to include local foods and will be pretested in Kenya and Bangladesh during the pilot phase. This instrument includes modules on the intake of breast milk, other liquids, and solid or semi-solid foods in the previous 24 hours; a 7-day food frequency questionnaire; and intake of vitamin and mineral supplements in the past 7 days. Using this tool, we will be able to calculate many of the core IYCF indicators. It will be administered at enrollment in infants 0-6 months, at the 1 year follow-up (infants 9-18 months), and at endline (infants 21-30 months).

It should be noted that the reported intake of the types of liquids and foods consumed in the previous 24 hours is the format used in the IYCF guidelines, which is not a standard 24-h dietary recall. The latter would also collect data on recipes and portion sizes consumed, and theoretically allows for the calculation of nutrient intake. However, 24-h dietary recalls in this age group are fraught with problems, including large error in the assessment of portions consumed, failure to capture breast milk intake, and lack of a complete database for nutrient content of foods consumed by these population groups. To obtain accurate individual-level nutrient intake estimates, we would need to conduct multiple 24-h recalls throughout the year to capture seasonal variation in food availability and, importantly, include a quantitative measure of breast milk intake. Since breast milk is likely to comprise a large and important source of nutrients for this age group, a 24 hour recall of complementary foods consumed, without the measurement of breast milk intake, would not capture total nutrient intake. Twenty-four hour recalls would also require additional highly trained staff to administer, are time consuming for the respondent and require a substantial amount of analytic time to process the data for analysis.

The instrument we plan to use will adequately describe group-level differences in breastfeeding and complementary feeding practices. It will enable us to calculate and examine most of the indicators of infant and young child feeding and allow for a comparison of food and food group intake between intervention groups. We will also know the nutrient content of the supplement and will have an estimate of adherence to supplementation, which will permit calculation of the nutrient contribution of the LNS in the supplementation groups. Although LNS may not result in a net increase in energy intake (if it replaces other foods in the diet), it most assuredly will increase protein, fat and micronutrient intake because its nutrient density (amount per 100 kcal) is far higher than that of local complementary foods.

Measurement of Outcomes

11. Outcomes of Interest: The specific outcomes of interest to the study are not specified. It seems to be either attained height for age z scores, change in height for age z scores from baseline, or height for age z scores regressed on baseline. Differences of 0.14 in height for age z scores are quite optimistic.

* Please specify the specific outcome of interest regarding height for age in the proposal.

Section B.7 of the proposal includes a table that summarizes the primary and secondary outcomes for the trial. This question asks about our specific parameter of interest (or measure of association) between treatment groups, which we did not specify in the proposal but have specified in our trial design and analysis protocol.

In brief, since a fraction of our cohort will have no baseline length measurement, our parameter of interest will be the difference in mean HAZ between treatment arms collected in the year 1 and year 2 surveys. Our primary analysis will estimate the Intention To Treat (ITT) parameter by comparing unadjusted, post-baseline means between the different treatment arms. We will follow the unadjusted analysis with an analysis that further adjusts for highly prognostic baseline covariates, such as age and baseline HAZ (since some children who are not yet born at baseline will have missing baseline HAZ values, we will include an indicator variable to flag children not born at baseline). We have included more details of the specific hypotheses, parameters of interest, testing and estimation strategy for the WASH Benefits study in our response to comment 14, below.

Regarding our detectable effect size of 0.14 HAZ: The mean effect size of providing complementary foods along with education was +0.29 (range: 0.25, 0.32) in two efficacy trials in India and Bangladesh [6]. We would expect environmental interventions to have smaller impacts than this. Observational studies of the impact of sanitation or water supply on HAZ report adjusted effect estimates that range between +0.2 and +0.5 SDs [7-10]. If residual confounding exists, we would expect these point estimates to be biased away from the null. Thus, we have targeted effect sizes on the order of +0.14, which is roughly 50% of the effect observed in complementary feeding intervention trials and roughly 30 – 70% of the effect size observed in observational WASH studies. A large increase in the number of clusters is necessary to detect smaller differences between groups. For example, increasing the study size in Bangladesh by 2/3 (from 90 clusters to 150 clusters per treatment arm) only reduces our minimum detectable effect to +0.12 SDs in HAZ. Clearly, the logistical implications of a study that large would compromise its internal validity (not to mention the cost of conducting such a trial). Given the cost of the interventions that we are considering, if the treatment effects are smaller than +0.14 HAZ, then the interventions would likely measure very poorly on a cost-benefit scale.

12.Measurement of Diarrhea: Many diarrhea experts would say that to obtain good data, histories must be obtained frequently.

* Why have the researchers elected to rely on two 48-hour histories a year apart?

We have discussed this issue at length in the context of this study. Our rationale for our diarrhea measurement strategy is based on two main considerations:

1) Diarrhea is highly variable in space and time [11]. In order to accurately estimate differences between treatment groups, it is necessary to have a large number of measurements to characterize the experience of a population. A large number of measurements can either be obtained by measuring a small number of children with great frequency (small N / large T), or by measuring a large number of children with less frequency (large N / small T). Both designs capture heterogeneity in disease transmission; the small N / large T design captures temporal heterogeneity (with relatively limited environmental heterogeneity), and the large N / small T design captures both environmental heterogeneity and temporal heterogeneity because the surveys require time to administer over a large sample (e.g., straddling both wet and dry seasons). By covering larger and more heterogeneous spatial environments, large N / small T designs may have greater external validity (though this has not been demonstrated, to our knowledge).

The decision between the two designs depends on the objective of the study. If the study needs to accurately characterize an individual child’s diarrhea experience during the first years of life, then frequent measurements are necessary [12]. If the goal of the study is to accurately characterize a group’s diarrhea experience then either approach is valid, because either design does a good job of estimating the group / population mean.

Since the goal of WASH Benefits is to measure the impact of intervention at the group level, we decided to use a large N / small T design for diarrhea measurement because this design has good power, is logistically compatible with our need to measure a large number of children infrequently for height, and may have greater external validity by including a larger, more heterogeneous population. The use of a large N / small T design will not provide adequate information about individual-level diarrhea experiences [12], and so we will have relatively little information about the association between diarrhea and growth, development or intestinal function at the individual level (but we will have stronger group-level inference).

2) Recent studies have demonstrated that measurement frequency alone can influence caregiver-reported diarrhea, particularly when paired with other measurements such as water quality testing [13]. This means that diarrhea could be under-reported (e.g. participant fatigue) or could actually decline from measurement itself (Hawthorne effects). Seven studies that we are aware of have documented secular reductions in reported diarrhea in frequently monitored populations, independent of intervention [13-19]. The cause of the decline is unknown, but the consequence of the decline is reduced statistical power and potential bias (in an unknown direction) in estimates of intervention treatment effects.

Taken together, the joint optimization of the study design with growth and development outcomes along with the risk of biased diarrhea measurement our judgment is that infrequent diarrhea measurement will be the preferred strategy for this study.

* Do researchers think that obtaining diarrhea incidence is unimportant and if so, why?

The importance of measuring diarrhea incidence depends on the objective of the study. For some studies, particularly those of disease etiology or transmission, incidence density is critically important for inference [20]. We do not think that diarrhea incidence is unimportant in intervention studies, but we do not think that incidence is necessary to measure intervention impact on overall population health burden.

In the WASH Benefits study, our objective is to measure intervention impact on the burden of diarrheal disease – we are less concerned with our ability to parse intervention impacts into reductions driven by incidence versus duration. Period prevalence captures the overall disease burden in the population (it combines both incident and prevalent cases). If it were critically important to differentiate whether the intervention reduced diarrhea disease burden through lower incidence, shorter episode duration, or both, then the study would require daily diarrhea measurement to enable incidence calculations. Our opinion is that public health intervention studies that rely on diarrhea incidence alone miss some critical information about burden. It has been demonstrated that longitudinal prevalence (days ill / total days of observation) is more strongly associated with mortality and subsequent weight gain than incidence [21]. A recent study from Brazil also showed that episodes > 7d accounted for 50% of the diarrheal disease burden [22]. If short and long episodes were treated equally (as they are in incidence measures), then intervention impacts on episode duration would not contribute to treatment effect estimates.

Daily diarrhea records used to measure incidence require weekly or twice-weekly surveillance. Such frequent measurement would be logistically at-odds with an optimal design to measure growth and development impacts. The intensive measurement could also be an intervention in itself – either leading to measurement bias or true health improvement (see our response to the last comment, above).

13. Development Outcomes:

* What are the development outcomes that will be measured and what level of power applies to them?

Section B.7 of the original proposal briefly described our child development outcomes. As we noted in the proposal, we are still in the process of selecting our final measures, and the decision depends on the results of a large validation pilot study we are conducting in Bangladesh (among 400 children). The objective of the validation study is to determine whether a rapidly administered screening test can reliably measure child ability in communication, motor, and personal/social domains. The screening questionnaire is an adapted version of the Ages and Stages Questionnaire (ASQ) [23,24], which members of our team have used in large ongoing studies in Mexico, Madagascar, Peru, India and Indonesia. The ASQ measures child development in communication, motor and personal/social domains; it requires 15-20 minutes to administer and relies on maternal report. We would augment the ASQ with locally appropriate demonstration items.

We based our power calculations on variability observed in ASQ scores collected from children aged 4 – 24 months in cross-sectional surveys from Peru, Indonesia and India [25-27], and from longitudinal measures of the Bayley test for infant development collected in a supplemental feeding intervention in Indonesia [28]. We estimate that our design will have power to detect differences of 0.16 SDs in ASQ scores in Bangladesh, and 0.14 SDs in ASQ scores in Kenya. To put these effect sizes in perspective, they are approximately half as large as the adjusted differences observed between children with mothers who have a secondary school education or greater, compared to children with mothers who have no formal education in the ASQ datasets.

14. Analysis: The analyses are not specified in detail and are far from simple as they call for models that use repeated measures.

* How will you determine whether combination arms reflect additive or interactive effects?

We omitted details of our analysis plan in the original proposal, but we have thought through these details. Below, we extracted the following text from our design and analysis protocol that that is in development for trial registration. We have added this material as an attachment to the proposal.

*Primary Hypotheses and Parameters of Interest in the WASH Benefits Study*

Below we describe the primary hypotheses and tests planned for WASH Benefits. Let *Y* be an outcome of interest and let *A* index treatment assignment, where *A* (*c, w, s, h, wsh, n, nwsh*). There are seven arms: *c=*control; *w=*water; *s=*sanitation; *h=*handwashing; *wsh=* combined water, sanitation and handwashing; *n=*nutrition supplement; and *nwsh=* nutrition plus combined *wsh*. The control arm will be double-sized. Let *Z* be a set of indicators for baseline stratification or matched groups. Finally, let *ψ* denote parameters of interest.

*H1: Water, sanitation, handwashing, nutrition and their combination improve child health and development.*

*ITT Comparisons of Each Treatment vs. Control*

The mean outcomes in each active treatment arm (*w, s, h, wsh, n, nwsh*) will be compared to the mean outcomes in the control arm (6 comparisons per outcome). These tests will address the hypotheses that improvements in water, sanitation, handwashing, nutrition and their combination improve child health and development (specifically height-for-age, diarrhea, child development scores).

The null hypothesis for each intervention treatment is that there is no difference between treatment and control. The same control group (double sized) will be used in every comparison. The parameters of interest are the difference in means between the assigned treatment groups and the control group. For *a* (*w, s, h, wsh, n, nwsh*):

*ψ1,a* = *EZ*( *E*[*Y* | *A* = *a*, *Z* ] – *E*[*Y* | *A* = *c*, *Z* ] )

*H2: When delivered in combination, water, sanitation and handwashing interventions reduce child diarrhea more than when delivered individually.*

*ITT Comparison of W+S+H vs. individual WASH Treatments for diarrhea*

The combined arm (*wsh*) treatment effect for diarrhea will be compared to individual WASH treatment effects to determine whether the combined effect is larger than the individual effects. The parameters of interest are the difference in means between the combined group and the individual treatment groups. For *a* (*w, s, h*):

*ψ2,a* = *EZ*( *E*[*Y* | *A* = *wsh*, *Z* ] – *E*[*Y* | *A* = *a*, *Z* ] )

Note that this parameter and associated test differs than a test for interaction (departure from additive effects). We would not anticipate seeing interaction in this context, nor would it be feasible to design a study powered to detect interactions in this context.

*H3: Combined Nutrient supplementation and WASH interventions improve child growth and development more than nutrient supplementation alone*

*ITT Comparison of N+WSH vs. Nutrition treatment alone*

We will compare the combined nutrition+WASH arm (*nwsh*) treatment effects for growth and child development to the nutrient supplement arm (*n*) to determine whether nutrient supplementation is enhanced if deployed with WASH interventions. The null hypothesis is that the treatment effect in the two groups is equal: *ψ1,NWSH*= *ψ1,N,* and the parameter of interest is:

*ψ3* = *EZ*( *E*[*Y* | *A* = *nwsh*, *Z* ] – *E*[*Y* | *A* = *n*, *Z* ] )

As with *H2*, this hypothesis is not a hypothesis of interaction or synergy. Rather, it is a test to determine if one treatment arm is better than another (interaction would test whether the combined arm is greater than the sum of the independent treatment arms). If the interaction were of equal magnitude to the overall treatment effect, a roughly four-fold increase in the sample size would be required [29], which would be logistically infeasible given the already large size of the trial.

*Testing and Estimation Approach*

The strength of a randomized trial is that it allows investigators to draw inference non-parametrically, relying only on randomization, an insight first advanced by R.A. Fisher in 1925[30]. To test for statistical significance, randomization tests require randomly permuting treatment assignments in the data (following the originalrandomization strategy), and re-estimating a test statistic [30-34].This creates a null distribution for the test statistic (because treatment assignments are permuted at random), from which the probability of observing a statistic as large as that observed can be calculated exactly. This method reflects the design because it treats the observed outcomes and covariates as fixed, and recognizes that the only source of random variation in the observed data is the randomized treatment assignment. The tests are completely non-parametric and exact. We plan to use a rank-based test statistic, which has been shown to have good power against alternatives [35], and estimate it on unweighted cluster means [31,32].

The randomization test (described above) is mainly a test for independence and does not target a specific parameter of interest (and thus will not provide SEs and provide confidence intervals for our parameters).Since the WASH Benefits design will depart from a single-treatment pair-matched design, we will bootstrap the parameters of interest, resampling the groups of 8 clusters matched during randomization. Resampling matched clusters preserves the correlation structure in the data and retains the efficiency gains from the matched randomization. Since we will have a large number of units to resample (90 in Bangladesh, 125 in Kenya), the asymptotic assumptions will be very reasonable, the bootstrap distribution will be smooth, and percentile-based confidence intervals will be accurate for all parameters of interest. The SDs of the bootstrap distributions can be used as bootstrapped estimates of the SE. This general approach follows the advice of David Freedman, one of the 20th century’s leading applied statisticians: “Experiments should be analyzed as experiments,not as observational studies. A simple comparison of rates might be just the right tool,with little value added by ‘sophisticated’ models” [36].

We will complement our unadjusted analyses with a second set of estimates that are conditional on baseline covariates to potentially increase the efficiency of our analysis and reduce bias from any chance imbalances in prognostic covariates despite randomization. For example, age is strongly associated with HAZ, and so we may be able to gain additional efficiency by using it to reduce the variability of our outcomes. It is easy to extend non-parametric, design-based inference for hypothesis tests (i.e., randomization tests) to include covariate adjustment while still taking advantage of the exact distribution theory provided by randomized inference [31,33]. The basic approach is to model the observed outcomes as a function of the adjustment covariates of interest but not the randomized treatment. The model is used to predict the outcome, and the residuals are calculated. Then, the randomization test is conducted as before, but on the residuals.

For example, let *Yijk* be the outcome of interest for individual *i* in village *j* and paired group *k*; let *Ajk*be the randomized treatment indicator, and *Xijk*be a vector of adjustment covariates. Models are fit of the form: *E*[*Yijk* | *Xijk*] = *m*(*Xijk*), where *m*(.) is some function of the covariates *X*. For example, *m*(*Xijk*) = *αk* + *βXijk* + *εijk* for a linear regression, but it could be a more sophisticated prediction function such as elastic net regression [37] or SuperLearner [38]. The residuals are then calculated using predicted values of *Yijk* from the model: , and the randomization test is conducted on the difference between groups in their residuals. The test has nominal size for the null hypothesis even if the model *m*(.) is mis-specified and if the covariates are measured with error [31,33]. There is no stochastic model for *m*(.), just a reduced model / algorithmic fit; the approach increases statistical efficiency because the residuals are less variable than the original outcomes (assuming covariates that are strongly associated with the outcome or heterogeneous across paired groups [31]).

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Attachment I. Nutrient Content Comparison of our Proposed LNS to MMP and Nutributter

| Nutrient | Unit | WHO/FAO RNIs for children 1-3 y\* | **MMP†** | | **Nutributter‡** | | **Proposed LNS‡** | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Content** | **% RNI** | **Content** | **% RNI** | Content | % RNI | Chemical form |
| Dose | g |  |  |  | 20 |  | 20 |  |  |
| Energy | kcal |  |  |  | 108 |  | 118 |  |  |
| Fat | g |  |  |  | 7 |  | 9.6 |  |  |
| Linoleic acid | g |  |  |  | 1.29 |  | 4.46 |  |  |
| Alpha-linolenic acid | g |  |  |  | 0.29 |  | 0.58 |  |  |
| Ratio of LA to ALA |  |  |  |  | 4.4 |  | 7.7 |  |  |
| Protein | g |  |  |  | 2.6 |  | 2.6 |  |  |
| **Vitamins** |  |  |  |  |  |  |  |  |  |
| Vitamin A | μg | 400 | 400 | 100% | 400 | 100% | 400 | 100% | Retyinyl acetate |
| Vitamin D | μg | 5 | 5 | 100% | NA |  | 5 | 100% | Cholecalciferol (D3) |
| Vitamin E | mg | 5 | 5 | 100% | NA |  | 6 | 120% | DL-alpha-tocopherol acetate |
| Vitamin K | μg | 15 | NA |  | NA |  | 30 | 200% | Phylloquinone 5% |
| Vitamin C | mg | 30 | 30 | 100% | 30 | 100% | 30 | 100% | L-ascorbic acid |
| Biotin | μg | 8 | NA |  | NA |  | NA |  |  |
| Folic acid | μg | 150 | 150 | 100% | 80 | 53% | 150 | 100% | Pteroyl monoglutamic acid |
| Thiamine (B1) | mg | 0.5 | 0.5 | 100% | 0.3 | 60% | 0.5 | 100% | Thiamin hydrochloride |
| Riboflavin (B2) | mg | 0.5 | 0.5 | 100% | 0.4 | 80% | 0.5 | 100% | Riboflavin |
| Niacin | mg | 6 | 6 | 100% | 4 | 67% | 6 | 100% | Niacinamide |
| Pantothenic acid (B5) | mg | 2 | NA |  | 1.8 | 90% | 2 | 100% | Calcium pantothenate |
| Vitamin B6 | mg | 0.5 | 0.5 | 100% | 0.3 | 60% | 0.5 | 100% | Pyridoxine hydrochloride |
| Vitamin B12 | μg | 0.9 | 0.9 | 100% | 0.5 | 56% | 0.9 | 100% | Cyanocobalamin (0.1%) |
| **Minerals** |  |  |  |  |  |  |  |  |  |
| Calcium§ | mg | 500 | NA |  | 100 | 20% | 280 | 56% | Tri-calcium phosphate |
| Copper¶ | mg | 0.34 | 0.56 | 165% | 0.2 | 59% | 0.34 | 100% | Encapsulated copper sulfate |
| Iodine | μg | 90 | 90 | 100% | 90 | 100% | 90 | 100% | Potassium iodate |
| Iron\*\* | mg | 5.8 | 10.0 | 172% | 9 | 155% | 6 | 103% | Encapsulated ferrous sulfate |
| Magnesium§ | mg | 60 | NA |  | 16 | 27% | 40 | 67% | Magnesium citrate |
| Manganese | mg | 1.2 | NA |  | 0.08 | 7% | 1.2 | 100% | Manganeze sulfate |
| Phosphorous§ | mg | 460 | NA |  | 82 | 18% | 190 | 41% | Tri-calcium phosphate & Di-potassium phosphate |
| Potassium | mg |  | NA |  | 152 |  | 200 |  | Di-potassium phosphate & potassium chloride |
| Selenium | μg | 17 | 17 | 100% | 10 | 59% | 20 | 118% | Sodium selenite 1.5% |
| Zinc\*\* | mg | 4.1 | 4.1 | 100% | 4 | 98% | 8 | 195% | Zinc sulfate |

\*RNI=Recommended Nutrient Intake; MMP=Multiple Micronutrient Powder; LNS=Lipid-based nutrient supplement

† Formulation for UNICEF/WHO/WFP Multiple micronutrient powder

‡ In malaria endemic areas, it is recommended that the supplement be split into two 10 g servings in one day to reduce the iron consumed in a single bolus dose

§The calcium, phosphorus, and magnesium content of Nutributter and the proposed LNS do not meet the RNI for technical reasons

¶ The IOM RDA level for copper for infants 1-3 y is shown here. MNPs use the FAO/IAEA/WHO 1996 recommended intake value for copper

\*\* The RNI for iron and zinc is that assumed under a diet of moderate bioavailability.

OPP1033010 Berkeley WASH Benefits Parasites External and Internal Reviewer Feedback

Comments Sent August 26, 2011

Reviewer comments are in blue Times New Roman font. Responses are in black Helvetica font.

Version 2.0 (2011-09-02)

Overall, the reviewers felt that the supplement addresses important public health problems in the developing world: the impact of improved water, sanitation and hygiene on parasite infections. This study will significantly contribute to the field and will also help in the modeling efforts for understanding program inputs. It may also help define an indicator of WSH to follow in STH programs that would help define WSH targets. The reinfection rates will clearly change the impact of the treatment and the decision on treatment frequency and duration.

Deworming:

• I think it would be important to record carefully if the child received deworming and possibly, during data analysis, compare the group that received it and the one that would not receive it (because absent, ill or for other reasons). Deworming can be a major confounder, in other words if in an area deworming is not provided for any reason one year the result of the hygiene intervention implemented would probably be much lower and difficult to compare with the hygiene interventions implemented in area where deworming is provided to children.

• The history of deworming treatment should be collected as well or we will not be able to interpret the results. They will also need to know when the treatment occurred. The exact date is not so important but how many/weeks or months ago treatment was will be important to interpreting the data.

• Will there be individual patient data on which children have received deworming?

We have developed a standard module for both countries that measures (based on parental report) the last time each study child was dewormed. At enrollment, we do not expect that any of our target children (< 3 months) will have received deworming treatment (deworming medication is not recommended for children < 12 months). We agree that deworming campaigns could be have an important impact on the measurement in the trial, and we have in place plans to measure campaign activity in our study population (in addition to parental report for specific children in our study). Our randomization will be stratified on geography, so we would not expect deworming campaigns to differentially affect our treatment arms. Although it is unlikely that deworming will confound our randomized inference, deworming activities could certainly modify the context in which the study was conducted, and it will be crucial for us to monitor those activities in our study population.

Consistent with one of the reviewers’ comments, when we originally sent a concept note to the Foundation, two of the world’s helminth experts suggested to us that regular deworming may make it more likely for us to detect impacts from household environmental interventions because deworming will eliminate much of the transmission among the highest risk group (1), providing an opportunity for less drastic (but more consistent) interventions to further reduce transmission (D.A.P. Bundy, S. Brooker, pers. comm.). Since deworming campaigns are increasingly common in low-income countries, we expect that the conditions we observe in Bangladesh and Kenya will be relevant to populations in Asia and Africa more generally.

Safety:

• The DSMB should look at effects after 15 months of intervention and decide if they need to intervene. These kids are in the care of the investigators, and there is the possibility that there may be a large discrepancy between the groups.

We agree that there is always the possibility for both large improvements due to treatment and unforeseen adverse impacts from intervention. The specific scope of the DSMB review is still under development for this study, but we expect the DSMB in each country to monitor adverse events. We do not currently have plans to conduct interim analyses, but this remains a point of discussion between the primary investigators and BMGF.

The primary investigators of WASH Benefits have agreed internally that they would not choose to implement a positive stopping rule if interim analyses were conducted, but that a negative stopping rule in the case of harm would be an ethical imperative. Positive stopping rules are rules that stop a trial based on interim evidence for benefits of treatment; Negative stopping rules are rules that stop a trial based on interim evidence that treatment is non-efficacious or harmful to participants(2).

There is some evidence that interventions to improve growth and child development in the first years of life may have life-long consequences(3). We view the level and quality of evidence to be sufficient for us to hypothesize that the interventions in WASH Benefits may have similar long-term effects, and one of the goals of WASH Benefits is to follow enrolled participants after the conclusion of the trial to identify potentially long-term impacts on health, education and welfare outcomes later in life. For this reason, we do not recommend the inclusion of a positive stopping rule based on interim results that find beneficial impacts.

There is always a risk that interventions will have unintended consequences. Although we would not conduct the trial if we thought that such harm were possible, the interventions are complex and there is always the chance for completely unanticipated outcomes. If an independent DSMB were to find clear evidence of harm based on adverse events or based on an interim outcome analysis, then there would be an ethical responsibility to stop the harmful treatment arm under international ethical guidelines for medical research(4). A stopping guideline would need to be developed in collaboration with each country’s DSMB.

Intervention Costs:

• I think also it would be essential to evaluate the costs of the different options in order to provide to the managers not only an idea of the impact but also of the cost. Cost is crucial where resources are scarce: we can find the best option for controlling morbidity due to STH (probably good latrines and clean water system in the entire village) but if the cost of implementing this is not affordable it would not help much. I am convinced that good hand-washing accompanied with regular deworming can obtain similar results at very low cost and that will be more feasible in poor resource setting.

We agree with this suggestion and quantifying the cost benefit and cost effectiveness of each intervention package is included in the scope of the original award from BMGF.

Baseline for Older Siblings:

• Currently older siblings are tested for parasites, along with the children enrolled in the study. However, they are only tested at the end of the study – there is no baseline for parasite infection in these older children. In the study children, those not yet born would not be tested, but would also clearly have no infection at the time of intervention deployment. I would recommend to collect baseline in the older siblings. In my opinion the situation of the older sibling at baseline will provide important information on the presence of parasite in the area because it will provide the results of the only intervention implemented at baseline (i.e, regular deworming) and this intervention may probably be sufficient in maintaining the low prevalence of STH (but not the one of protozoa) and the results of the study will show the additional benefit provided by hygiene improvement.

• It will be important to collect baseline data for the older children in the study.

We agree that the collection of parasitic infection status at baseline for older siblings would likely provide useful contextual information for the study. It would also enable us to determine whether intervention impacts vary depending on the baseline prevalence of intestinal parasites. However, we have not proposed to collect stool samples from older siblings at baseline for two reasons. The first reason is cost: baseline stool sample collection and analysis would be expensive, and this project is already extremely expensive. The second reason is scientific: if we test and treat older siblings for intestinal parasites in our baseline survey, then that would become part of our intervention package. This would change the inference of our study slightly, and we feel that changing the inference by adding deworming treatment for older siblings would reduce the study’s external validity compared to treatments that focus on household environmental and nutritional interventions.

Diagnostic Technique:

• The proposed collection of samples for Kato-Katz test is not appropriate. For Kato-Katz method the stool sample should not be preserved. The addition of preserver dilutes the feces and make impossible a quantitative evaluation (number of egg for gram of feces).

We have added the following text to the proposal (Section B.5 Outcome measurement):

The standard Kato-Katz method calls for the analysis of fresh stool specimens on the same day of collection (no use of preservative). However, given the geographic scope of WASH Benefits and the logistics required to transport samples from the field to our labs, in most clusters it will be impossible to analyze the stool specimens on the same day of collection.The labs will analyze all stool samples for helminth eggs using the modified Kato-Katz technique within two weeks of collection. To obtain accurate quantitative measures of helminth eggs per gram of feces, we will mix equal quantities of stool and preservative in our collection containers. The number of eggs per gram of sample measured by Kato-Katz is then multiplied by 2 to obtain the final number of eggs per gram of feces. Our team at ICDDRB has completed an internal evaluation for this slightly modified Kato-Katz protocol and there was no significant difference in eggs per gram of feces counts with samples analyzed by the original Kato-Katz method or with samples analyzed by formol-ether concentration technique.

• Do the investigators have appropriate technical input as they move forward, as this has not been their primary area of work? What technical input will they will have into the lab and interpretation of the results? Hookworm eggs need to be read quickly as they degrade. The others are durable but have issues with the preservative as pointed out by the reviewer in the point above.

We have added the following text to the proposal (Section B.6 Anticipated implementation challenges)

Dr. Rashidul Haque, the head of ICDDRB’s parasitology laboratory, will lead the intestinal parasitology sample collection and analysis in Bangladesh. ICDDRB’s parasitology laboratory has more than 20 years of expertise with both intestinal and blood parasites using traditional microscopy tests and molecular assays. IPA Kenya has been working on research related to deworming for over 12 years, and is heavily involved in the implementation of the Kenyan government's school-based deworming program. This relationship gives IPA a link to the parasitological laboratory capacity developed within the Ministry of Public Health and Sanitation's Division of Vector Borne Diseases (regional labs), or the Eastern and Southern Africa Centre of International Parasite Control (ESACIPAC) at the Kenya Medical Research Institute (KEMRI), both of which are potential local partners for this project.

In addition, if the work goes forward we will hire a post-doctoral scholar (Audrie Lin / Stanford University PhD In Microbiology and Immunology) with field experience in both Bangladesh and Kenya. She will help oversee the parasitological and environmental enteropathy measurement in both countries.

• STH and other gut-related pathogens can now be determined by microarray assays. Would it be feasible to add collection of a blood spot for all children when stool samples are collected (i.e., once for the study children and 2 years and twice for the siblings at 2 years and at baseline)? If this is feasible for the investigators to include as part of the sample collection, the reviewer will be able to provide more information on the microarray assay testing itself.

As part of a parallel supplement we plan to collect venous serum samples from a subset of 1,500 children per country (375 children in each of the Control, WSH, Nutrition, WSH+Nutrition). Aliquots of the serum will be frozen for future analyses, which could potentially include the type of microarray assays that the reviewer mentioned. Our team is interested in the microarray tests if the reviewer is willing to provide additional information. Although the current budget does not include such testing, it may be possible depending on the laboratory requirements and interest of BMGF. The currently planned frozen aliquots would only be suitable for microarray analysis if the microarray were based on protein in the blood. If the microarray uses DNA or RNA, then we would need to process the stored samples differently: we would expect to need to extract the DNA or RNA prior to freezing the samples.

Budget:

• The budget requested seems to me very high and the description of the use of funds very poor. Please justify the costs for the budget, as they are high. "Design and implement parasite assessment" is practically the only budget line in "9. sub-awards". Are IPA planning to further sub contract the data collection and lab analysis to a local institution? Please provide better details on the use of the funds.

We assume that the reviewer did not have access to the detailed budgets for the two sub-awards (ICDDRB, IPA) and their narratives. The sub-award budgets include the line items and justification for the sample collection and lab analysis work. As mentioned above, it is likely that IPA will contract out the sample collection and analysis to either Ministry of Public Health and Sanitation's Division of Vector Borne Diseases (regional labs), or the Eastern and Southern Africa Centre of International Parasite Control (ESACIPAC) at the Kenya Medical Research Institute (KEMRI).

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OPP1038460 Berkeley WASH Benefits EE External and Internal Reviewer Feedback

Comments Sent August 5, 2011

Reviewer comments are in blue Times New Roman font. Responses are in black Helvetica font.

Version 4.0 (2011-09-02)

Overall, the reviewers felt that the proposal was an interesting approach to addressing a major health problem in developing countries – that of stunting in children.

General:

* It is stated that “WASH interventions reduce enteric infections in the early years of life”. What is the evidence for this statement? No reference was provided.

We have added a citation to six relevant systematic reviews to support this statement in our proposal(1-6). Of the main categories of WASH interventions (water quality, handwashing, sanitation), the level of supporting evidence is least for sanitation. We can provide additional details from the original WASH Benefits proposal if desired.

Alignment with collaborators/other studies:

* The primary objective of this supplement is to conduct measurements and collect biological specimens to align measures of EE and child growth and development with those being collected by MAL-ED and a separate application studying EE in Zimbabwe by Dr. Jean Humphrey. This is a worthwhile goal that should allow some comparison with ongoing MAL-ED studies and the Zimbabwe application. Efforts should be made by BMGF staff to ensure that these measures and procedures adhere to the SOPs developed by the ongoing MAL-ED study. Dr. Colford would have access to these SOPs as Bangladesh (ICDDR,B) is one of the MAL-ED field sites.

It has always been our goal to harmonize our measurement to the degree possible with MAL-ED and the Zimbabwe EE trial. We will continue to work with BMGF to adhere to this goal.

Study Design:

* Adherence:
  + It is unclear how adherence to interventions will be determined. How will investigators know if nutrition supplements were consumed by study subjects or to what extent hand washing, use of improved sanitation, or use of water purification methods were used? It seems that with only once yearly contact by field workers, mothers reports will be the only source of confirmation of adherence – not particularly reliable.

We did not include the details of our intervention adherence / uptake measurement in this supplement proposal submission, but we have plans in place to measure multiple intermediate outcomes that will help trace the causal paths of each intervention. We have included the following text in a new section (B.7) in the proposal.

In addition to collecting information at our 3 main survey points, we are designing a monitoring system for promoters to collect observable uptake measures in a rotating subsample. In Bangladesh, the field team plans to return 3 months after baseline for a round of uptake measurement in a sub-sample of study households. Below, we outline our plans for uptake measurement in our main survey rounds.

Nutrition:When intervention promoters visit the households every four weeks to replenish the supplies of LNS, they will count and record the number of remaining sachets. They will replenish only the number of sachets to equal a full four-week supply so that every household has 56 sachets at the beginning of every month. We are also exploring the possibility of making weekly contact with the participants via cell phone – either in the full sample or in a rotating subsample. If this is possible, we may also use this opportunity to ask the participants to recall how many days in the past week LNS was consumed. Additionally, we plan to measure dietary intake using a food frequency questionnaire, similar to one used in other trials of LNS (7-10). This will allow us to compare dietary intake patterns across group and calculate some commonly used indicators of infant and young child feeding practices, such as dietary diversity.

Water quality: In both countries the water quality intervention will use chlorine-based treatment to improve the microbiological quality of the water (Aquatabs in Bangladesh, source chlorine dispensers in Kenya). We will test all study households for free chlorine residuals at each visit, and we plan to measure Escherichia coli concentrations in a random subsample to quantitatively measure water quality.

Handwashing: In both countries the handwashing intervention includes the use of powdered soap to make a soapy water bottle solution to be kept at the major places for handwashing. We plan to measure the presence of water and soap or soapy water at the main place for handwashing in each household. At each visit field staff will measure the volume of soapy water present using quantitative measures on the bottles. Field staff will also conduct 3-point caregiver hand inspections (nails, pads, palms) to measure visible dirt. We will complement our objective observations of handwashing places with self-reported caregiver handwashing practices (reported handwashing at critical times, and whether caregivers used soap) in response to open questions about handwashing in the last 24 hours. Finally, on a subsample of households we plan to measure soap consumption and conduct 5-hour structured observations to gather more qualitative information about changes in handwashing behavior.

Sanitation and home hygiene: Field staff will use spot check observations during the interview to measure the condition and use of hygiene and sanitation hardware that we provide (sani-scoops, child potties, improved latrines). We are currently piloting the use of infrared sensors and infrared-triggered cameras to quantitatively measure latrine use. We are currently evaluating the utility of different quantitative measures of fly density (a potentially important transmission vector), and measures of microbiological contamination on sentinel objects (kitchen dish cloths, child toys). Field staff will collect a broad set of discrete spot check observations during household visits to measure the hygienic conditions of the child’s environment. For example, staff will collect information about the presence of animals and the quantity of human and animal feces in the compound courtyards and households.

* Sample collection frequency:
  + A key limitation in the study design is that only 2-3 measures and sample collection times will be done – at baseline, at 1 year and at 2 years post intervention. I believe this is too infrequent to allow for a robust assessment of interventions effect on the markers of EE. It may be OK to determine effects on growth over the entire study period, but will not be able to capture changes in growth acceleration or decline due to adherence to interventions in individuals. Mothers and children will only be contacted by field workers once per year to make measurements, and then only about 1/3 of the cohorts will be measured at baseline due to the fact that mothers will be recruited following birth but also within their 2nd and 3rd trimester pregnancy. For these latter children, they will not be assessed until they are 6-9 months old and will only have two sets of measures taken. Does two points on a growth curve constitute a reliable measure of the intervention on growth outcome?
  + A major concern about this supplementary proposal is that most of the biomarkers selected are tested at just 2-3 points in time. This does not yield a picture of any child’s ‘burden of enteropathy’. Given the random sampling method and large number of children participating in the intervention, it is certainly fair to compare any one of these 9 biomarkers between groups of children and conclude that differences exist and the differences are attributable to the intervention.
  + The collection of stool samples will be 2-3 times during the study during the annual contact by field staff. The infrequency of these samples is, in my opinion, a limitation of the study design. It will be difficult to put the results in temporal relationship to infections or other parameters which may influence these measures in any one participant, and the validity of pooled data from these assays as reliable measures of success of the ARM intervention should be questioned.

The three previous comments address the same fundamental issue and we will summarize the issue with a joint response. The issue is that infrequent measurements separated by one year will not provide extensive information about individual children. This measurement strategy will, however, provide information about the average cumulative impact of the interventions in our target population. Estimating the average causal effects of the interventions on our primary outcomes is the objective of WASH Benefits study.

We feel that the WASH Benefits study will generate important findings that complement detailed cohort studies such as the MAL-ED project. While MAL-ED will provide far more information about the etiology of disease and the relationship between EE and growth, it is not well positioned to gather evidence about whether EE and growth can be impacted by intervention, and if so, which interventions are most effective. We are in a better position to provide such evidence about these questions. For example, are the best household hygiene and nutrition interventions we can design sufficient to reduce the burden of EE among infants in low-income countries? That is the core question that WASH Benefits will answer, which is different than questions of etiology and pathophysiology within individual children. We provide more background and rationale for our design below.

The original objective of WASH Benefits was to measure the cumulative impact of water quality, handwashing and sanitation (WASH) interventions alone and in combination on child height-for-age, cognitive development and diarrhea during the first years life. A parallel supplement to BMGF would expand this objective to include nutritional supplements alone an in combination with WASH interventions. Since the majority of growth faltering occurs by age 24 months (11), our design is optimized to measure this cumulative average effect. Our measurement at the mid-point of the study 12 months after intervention, when the cohort is 9—18 months old, will provide additional information about the timing of intervention impacts.

Of our three primary outcomes, height-for age and cognitive development tend to be fairly “persistent” measurements – that is, two measurements collected close in time will be highly correlated within an individual child. An optimal design thus includes infrequent measurement that covers the period most likely to capture intervention impacts (the first 1000 days of life (11)). Additionally, we anticipate that if WASH interventions impact growth and development, then these impacts will be very small. The mean effect size of providing complementary foods along with education was +0.29 HAZ (range: 0.25, 0.32) in two efficacy trials in India and Bangladesh (12). We would expect environmental interventions to have smaller impacts than this. Observational studies of the impact of sanitation or water supply on HAZ report adjusted effect estimates that range between +0.2 and +0.5 HAZ(7-10). If residual confounding exists, we would expect these point estimates to be biased away from the null. Thus, we have targeted effect sizes on the order of +0.14, which is roughly 50% of the effect observed in complementary feeding intervention trials and roughly 30 – 70% of the effect size observed in observational WASH studies. The design requires a very large number of clusters and children per arm to achieve this level of statistical power. To enroll sufficient numbers of children and intervention clusters, cost and logistical constraints led us to three measurement points that cover the window for growth faltering after birth.

As the second comment notes, the design will provide information about the average effect of the interventions on measures of EE in our target population. This is a key difference between the WASH Benefits study and the MAL-ED project – the WASH Benefits study design is optimized to make causal statements about the average, cumulative impact of interventions in the target population; it is not optimized to study the progression of EE or the relationship between infection and growth within individual children. For this reason, we feel that the study complements MAL-ED: the MAL-ED project will provide rich information about the progression of EE and its inter-relationship with growth, but it will not be able to provide evidence for causal statements about likely impacts attributable to intervention.

We agree with the reviewers that the current design will not allow us to calculate growth curves for individual children or to map with high resolution the burden of EE for individual children. More generally, to the extent that outcomes we measure vary in time, our design will not provide high-resolution information for individual children (see also our response below for diarrhea measurement). However, we disagree with the third comment that questions the validity of using population averaged EE biomarker levels to measure intervention impact – from our perspective such comparisons would be analogous to comparisons of any other endpoint, including the study’s primary outcomes. We feel that our disagreement on this specific issue likely stems from different understanding about our study’s objectives: given that the objective of WASH Benefits is to quantify cumulative intervention impact, our current approach is consistent with that objective. Our design is not optimized to describe the progression of EE within individual children, or to make observations about specific temporal relationships between infection, physiology and growth within individual children – such studies would be redundant with the existing MAL-ED project. Furthermore, gathering such evidence for individual effects in our study would both require substantially more data collection and also, potentially, introduce the risk that the repeated measurements themselves would serve as an “intervention” that might impact the measurement of our primary outcomes (13).

We added a summary of this discussion to section B.4 of the proposal (Rationale for the WASH Benefits study design).

* Diarrhea Recall
  + Frequency: It appears that the assessment of diarrheal disease burden will be done by 48 hour recalls of the mother at 2-3 yearly contacts. This is not a reliable measure of infection or disease burden experienced by the child during that year. Even if the questionnaire is filled out periodically, there is likely great variability in what a mother would determine to be “diarrhea”.

We agree completely with the reviewer that infrequent diarrhea measurement will not provide a reliable measure of infection for individual children, and we have thought about this issue at length in the context of this study (see (14) for a quantitative analysis of this problem). Below, we include a response to a similar comment made on our nutrition supplement proposal to BMGF that explains our rationale for the study’s diarrhea measurement strategy.

Our rationale for our diarrhea measurement strategy is based on two main considerations:

1) Diarrhea is highly variable in space and time (15). In order to accurately estimate differences between treatment groups, it is necessary to have a large number of measurements to characterize the experience of a population. A large number of measurements can either be obtained by measuring a small number of children with great frequency (small N / large T), or by measuring a large number of children with less frequency (large N / small T). Both designs capture heterogeneity in disease transmission; the small N / large T design captures temporal heterogeneity (with relatively limited environmental heterogeneity), and the large N / small T design captures both environmental heterogeneity and temporal heterogeneity because the surveys require time to administer over a large sample (e.g., straddling both wet and dry seasons). By covering larger and more heterogeneous spatial environments, large N / small T designs may have greater external validity (though this has not been demonstrated, to our knowledge).

The decision between the two designs depends on the objective of the study. If the study needs to accurately characterize an individual child’s diarrhea experience during the first years of life, then frequent measurements are necessary (14). If the goal of the study is to accurately characterize a group’s diarrhea experience then either approach is valid, because either design does a good job of estimating the group / population mean.

Since the goal of WASH Benefits is to measure the impact of intervention at the group rather than individual level, we decided to use a large N / small T design for diarrhea measurement because this design has good power, is logistically compatible with our need to measure a large number of children infrequently for height, and may have greater external validity by including a larger, more heterogeneous and representative population. The use of a large N / small T design will not provide adequate information about individual-level diarrhea experiences (14), and so we will have relatively little information about the association between diarrhea and growth, development or intestinal function at the individual level (but we will have stronger group-level inference).

2) Recent studies have demonstrated that measurement frequency alone can influence caregiver-reported diarrhea, particularly when paired with other measurements such as water quality testing (13). This means that diarrhea could be under-reported (e.g. participant fatigue) or could actually decline from measurement itself (Hawthorne effects). Seven studies that we are aware of have documented secular reductions in reported diarrhea in frequently monitored populations, independent of intervention (13,16-21). The cause of the decline is unknown, but the consequence of the decline is reduced statistical power and potential bias (in an unknown direction) in estimates of intervention treatment effects.

Taken together, the joint optimization of the study design with growth and development outcomes along with the risk of biased diarrhea measurement our judgment is that infrequent diarrhea measurement will be the preferred strategy for this study.

* + Assessment: Only “acute diarrhea” is noted as being assessed; surely ALL diarrhea, including durations to the extent assessable, will be assessed.

The modifier “acute” diarrhea was only meant to differentiate it from more chronic conditions, such as environmental enteropathy. We do, as the reviewer notes, mean all diarrhea. We plan to measure episode duration to the extent possible using cases that terminate in the 7 days prior to our survey to avoid length biased sampling (22), recognizing that such a length measure will be less accurate than prospective studies with daily illness records.

* + Analysis: The study proposes to measure diarrhea as a primary outcome, but its potential role in the causal pathway and how it will be treated in the analysis is not made clear in the proposal.

Diarrhea (measured as a binary presence/absence outcome) will be a primary endpoint in the analysis. Unlike height, EE biomarkers and child development outcomes, our eligible population for diarrhea measurement includes all children living in study compounds who are < 36 months old at enrollment. This older age enrollment criterion reflects a longer window for impacts of our interventions compared to their impacts on length/height.

We refer the reviewers to the Appendix of our submitted proposal for details about the primary hypotheses, tests, parameters of interest and estimation strategy. The Appendix focuses on the estimation of impacts from each of the intervention treatments, as well as the comparison of combined treatments (e.g., water quality + handwashing + sanitation) versus individual treatments.

We have not specified an analysis that would attempt to quantify the role of diarrhea in the causal pathway between the interventions and other outcomes such as length or child development. We feel that such an analysis would require a robust characterization of the diarrhea burden in individual children, and that would require many more measurements because of the high variability of diarrhea in space and time (14,15) – the WASH Benefits cohort is not well suited for this type of analysis.

* Stool collection and biomarkers:
  + Proteins in stool are notorious for rapid degradation. Collecting the stool the next day from the home will probably result in large amounts of protein degradation in ¾ of proteins proposed. I would suggest collecting stool under direct observation and snap freezing it in liquid nitrogen.

We appreciate the reviewer’s comment and agree that samples stored overnight could result in protein degradation. In addition, if future studies were interested in analyzing the microbiome of the stool samples, then too much lag time before freezing the samples could affect the relative abundance of bacteria and/or increase bacterial DNA degradation.

The collection of stool samples under direct observation and snap freezing it in liquid nitrogen would be extremely expensive in the context of this study. For example, in Bangladesh our field teams rely largely on public transport, which is not possible with liquid nitrogen containers.

We think that a reasonable compromise will be to deliver a stool collection kit to mothers the day before our EE measurement. We will instruct them to collect their children’s stool in the morning on the day that our field team arrives to conduct the EE sample measurement in a central location for each cluster. For children that have not defecated before the EE measurement team arrives, we will be able to collect stool under direct observation (since urine collection will require 5 hours of observation). The field teams will then be able to freeze the samples on dry ice shortly after defecation, and return them to the lab within a few hours for storage at – 80°C.

We have updated the Stool specimen collection and analysis section of the proposal (in Section B.6 Outcome measurement) to reflect the revised stool sample collection protocol.

* + There are 9 biomarkers of EE listed in Table 4. Two of these are nonspecific serum markers of inflammation which are habitually elevated in children the developing world. Six of the biomarkers are highly dynamic, changing several fold in quantity over a period of days, as inflammation in the gut waxes and wanes. One biomarker represents a picture of gut exposure to endotoxin over the last few months. One biomarker is not a valid measure in breastfed children. The scientific basis for the choice of these biomarkers is weak, and a number of better options exist. The investigators might consider looking at stool mRNA for inflammatory proteins, or looking at antibody secreting cells in serum that are directed to the gut with gut specific surface markers.

The biomarkers we included in Table 4 represent a broad suite of measurements to characterize both general inflammation and the hypothesized EE pathway. As we wrote in our proposal, we are aware of the limitations of some markers in breastfed children (alpha-1 antitrypsin and lactoferrin), and plan to follow guidance from our colleagues at the MAL-ED project and BMGF regarding the final selection of biomarkers to measure in the cohort.

* Alignment of measurements with MAL-ED:
  + It will be difficult to align L/M ratios taken in this study at 1 and 2 years with MAL-ED measures taken quarterly in which there is context regarding infections with enteric pathogens and dietary information, and cognitive assessments in individual children. The current study performs no microbiological workup (although they mention in passing that yet another supplement application has been submitted for evaluation of worms and protozoans).

Although we will have less information for individual children, on the population level we will have similar information to that collected in MAL-ED. We will measure dietary information in all children (all measurement points). We will conduct cognitive assessments for all children at the year 1 and year 2 follow-up. If BMGF funds a parallel supplement proposal we are submitting concurrently with this supplement, we will measure intestinal helminths (Ascaris, Trichuris, hookworm) and protozoa (Giardia, Cryptosporidium, E. histolytica) in our index children as well as in an older, school-aged child living in the same compound at the final measurement point when the index children are between 21 and 30 months old.

As described in responses above, the measurement strategy of WASH Benefits is fundamentally different from MAL-ED. The WASH Benefits study will measure a very large number of children infrequently, while MAL-ED will measure a small number of children more frequently. The two broad approaches are optimized to answer different types of research questions and are complementary in the information gained. WASH Benefits is optimized to generate information about the cumulative average effects of interventions in our target population; MAL-ED is optimized to generate information about the pathophysiology of EE and its relationship to growth faltering and cognitive development.

Clearly, WASH Benefits will have less contextual information for the L/M ratio measurements than MAL-ED, but it is our expectation that results from MAL-ED will provide some additional etiologic context for the measurements collected in this study.

* Are there any potential microbiologic etiologic studies planned?

WASH Benefits does not currently have plans to include microbiological etiologic studies. While such studies interest us greatly, the current cost and logistics of the intervention study alone have fully utilized our staff and resources. If BMGF funds our concurrently submitted, parallel supplement proposal to measure intestinal parasites in the final survey round then we will conduct a correlation analysis to describe the relationship between EE biomarkers and intestinal parasite infections in our study populations. We plan to store aliquots from stool samples collected in this research exercise for potential future microbiome assessment, pending future funding.

* Testing for L/M ratio:
  + It is not clear how many urine samples will be collected in the assessment of L/M and neopterin levels. It only states that because of the logistics involved in administering the L/M test, as few villages as possible will be used and that the measures will be taken in a single day in a village. How many children does the team anticipate that they will be able to test in a single day per village? I found no explanation or justification for this plan. This seems to be vastly underpowered to be able to draw any conclusions.

We have added the following text to the proposal (Section B.6 Outcome measurement): Our field teams will collect urine samples from all eligible children in a study cluster in one day per cluster. This means 7-10 children per day. Our current logistical plan and budget assumes that each member of our EE intensive sample team will be able to collect urine, stool, and blood samples from 2 children per day. We determined in our EE pilot that each field research assistant can monitor 1-3 children without a reduction in sample quality. All measurement will take place at a central location in the study cluster using a collection protocol aligned with MAL-ED. During this time the team will also collect anthropometric measurements.

We are not sure how to interpret the statement: “This seems to be vastly underpowered to be able to draw any conclusions.” In section B.4 of the proposal we summarize our estimated minimum detectable effect sizes for two EE biomarkers (L/M, IgG EndoCAb), and the study is powered to detect effects that are smaller (much smaller in the case of L/M) than differences we observed between hygienic groups in our Bangladesh EE pilot. As we described in the proposal, the current design will have greater than 80 percent power to detect differences between arms of –0.20 SDs in the L:M ratio and –0.25 SDs in IgG EndoCAb antibodies (the effects observed in our EE pilot were –0.42 SDs for L:M and –0.29 SDs for EndoCAb). With 375 children per treatment arm, measured 2 – 3 times in their first years of life, this study would include more children than nearly all published observational studies to date. The conclusions we will be able to draw will relate to whether or not the interventions improve the population average values of EE biomarkers. If we have misinterpreted the comment then we would be happy to respond to a clarification.

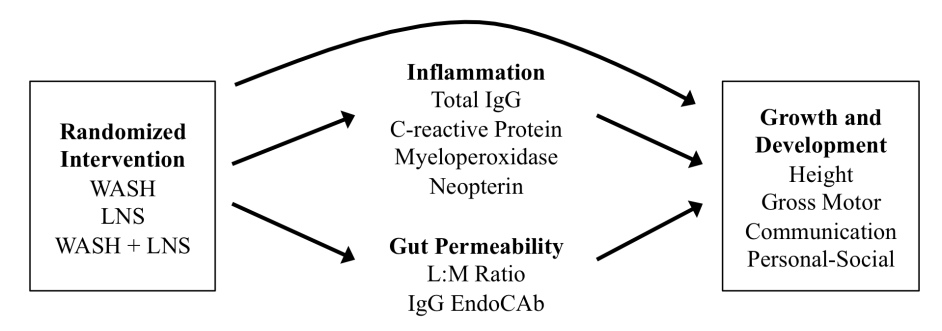
* Assessment of L/M ratio:
  + There is much variation in L/M ratio with age, infection, and dietary status among the factors that affect this measurement. The present proposal will measure the performance of the entire ARM as a group and will use L/M as an indicator of the benefits of the intervention on that ARM. To my knowledge, this is a new way to interpret the L/M ratio. Is it appropriate? If the L/M ratio goes down (interpreted as improved barrier function) what can it be ascribed to? It could be due to decreased rate of infections, for example, in one group of study villages vs. the others. In the current design, this will be impossible to assess.

Given the size of the study and our use of randomization, on average the only difference between intervention arms should be the intervention treatment that we provide. If we observe differences between arms in the L/M ratio, then we will attribute those differences to the intervention. The reviewer is correct that this study will have limited ability to trace the causal path between the interventions and the L/M ratio. Clearly, the study faces a tradeoff between measuring intervention impacts (which requires a very large cohort) and unpacking every step in the causal chain. The measurement of EE biomarkers is, in fact, an effort to help provide more resolution about the causal chain that links our interventions and two of our primary outcomes (height-for-age, child development).

* Causal link between EE and stunting:
  + The proposal states (p. 16) that the project will be conducting analysis on the different causal pathways between the WSH and nutrition interventions and the outcomes of interest. I believe the proposal only discussed the EE causal pathway. What other causal pathways is the project interested in analyzing? A short discussion of other hypothesized pathways would be useful given the proposed analysis.

An analysis that attributes an intervention effect to different causal pathways will be conditional on observing an overall intervention effect on our primary outcomes; if we observe no overall effect, then we will not plan to go through the exercise of attributing the effect to different causal pathways.[[1]](#footnote-1) We consider such analyses secondary analyses because they are ultimately observational in nature and will rely on more than our experimental design for inference.

If we observe overall effects, a secondary analysis will focus on two hypothesized EE pathways between our interventions and child growth and development: inflammation and intestinal (gut) permeability.



The third arrow that links the interventions to our outcomes includes all other potential causal pathways between them; for example, malabsorption due to acute diarrhea. Since we will measure infectious outcomes such as diarrhea only annually, we will not be able to characterize a child’s diarrhea burden over the study period (see diarrhea measurement frequency discussion, above).

Our basic approach would be to first estimate the effect of the intervention on the intermediate outcomes (e.g., L:M ratio). Second, we would estimate the association between the L:M ratio and our final outcomes (e.g., HAZ) using a regression model. Then, using the change in the L:M ratio due to intervention (first step), we can use the regression model to estimate the impact on HAZ of moving the cohort’s distribution from its observed distribution of L:M ratios to one in which we reduced the L:M ratio by the magnitude of the intervention effect. This would provide a measure of how important the L:M ratio is as a mediator between the intervention and HAZ. This type of parameter is called in the epidemiologic literature a population intervention model (23,24), because it estimates the effect of “moving” the population’s current distribution of some exposure (here: L:M ratio) by some amount and then looking at the effect on an outcome (here: HAZ). Such analyses are observational (not experimental), and are related to the association analyses between biomarkers and growth (see next comment and response).

To measure the effect through different pathways, we would propose to simply repeat the analysis for each biomarker, and use the results across the range of measurements to assess the likely attributable risk of the two pathways.

This type of analysis rests on the assumption that the EE biomarker measurements we collect are a reasonable summary of the child’s EE condition over the period. We recognize that the biomarkers for inflammation and intestinal permeability can vary over short time periods, such as following the monsoon season (25). However, most studies to date suggest that EE progresses and resolves gradually; once established, enteropathy persists for long periods because regenerating the normal mucosal structure is extremely slow (26).

* + The project can only test for an association between EE and stunting, rather than a causal link. That being said, I do not think it is possible to design a human study to test the EE causes stunting, given the current state of knowledge. I think much more frequent sampling of a panel of molecular biomarkers in stool might help elucidate a causal effect.

We agree with the reviewer’s comment, and our understanding is that the MAL-ED project is conducting the type of study that the reviewer suggested. Even with frequent measurement of a panel of molecular biomarkers, observational studies will necessarily struggle with the potential problem of unmeasured confounding. For example, nutrition could be a common cause of both EE symptoms and growth – if this were true, it could induce an association between EE and growth even if no causal association exists between EE and growth (27).



We think that WASH Benefits can make a unique contribution to our understanding of the relationship between EE and growth that MAL-ED and similar studies cannot make. The following case can be made for any of the interventions in WASH Benefits, but for clarity we use our nutrition intervention as an example.

The basic problem with purely observational studies is that growth is strongly associated with nutrition, and a child’s nutritional status is the result of numerous socio-economic characteristics that are difficult to measure and control for in a statistical analysis. Since nutrition is likely a common cause of both EE and growth, it remains difficult to identify the independent contribution of EE without somehow perfectly controlling for nutritional intake, environmental characteristics, and socio-economic status.Without a randomized experiment, the link between EE and growth is difficult to separately identify from underlying differences in nutrition and socio-economic environment.

If the WASH Benefits nutritional intervention (daily Lipid-based nutrient supplementation from 6 to 24 months) improves EE symptoms and growth, then we will have some experimental variationin both EE biomarkers and growth in our cohorts that depends on nutrition in a known way. We can use this experimental variation to help identify whether EE – as measured by biomarkers – is associated with improved growth in the cohort.

This type of analysis will be less susceptible to the confounding present in traditional association analyses between EE and growth because of the experimental variation introduced by our intervention study. The cohort will be more likely to include children with and without EE, who are similar in all ways except for randomized nutrition treatment. Heuristically, we will observe EE and growth outcomes among children in the nutrition arm who would not have had a nutritious diet absent intervention. Similar children (no nutritious diet absent intervention) will be present in the control arm, and will provide a reasonable counterfactual from which we can estimate the association between EE and growth. In this way, the experimental design will partially break the inseparable link between EE and nutrition/socio-economic status that is present in purely observational cohorts. Although imperfect, this is only one step removed from the (impossible) experiment of randomly assigning children to have EE or not, and then subsequently measuring growth.

* Sample size and changes in biomarkers:
  + The proposal gives (p. 11) the percentage of power for detection of differences for the lactulose manitol and EndoCAb biomarkers—for which the study has some preliminary data. Is there any reason to think that this may be a different situation for any of the other candidate EE biomarkers, i.e. is the sample size chosen adequate to ensure that there will be sufficient power to detect differences in the other candidate biomarkers? Perhaps the data are not available for the other biomarkers in developing country settings to meaningfully assess standard deviations, and the project has to rely on the distributions for L:M and EndoCAb alone. It would be helpful for the proposal to make reference to their assumptions about the potential detection of differences for the other candidate EE biomarkers.

We do not have preliminary data for EE biomarkers except for the L/M ratio and IgG EndoCAb. Our Bangladesh EE pilot study included children that ranged in age from 10 to 48 months who lived in more than 83 villages across rural Bangladesh. In the pilot study, we observed levels of variability in the L/M ratio and EndoCAb that were far greater than those observed in small studies conducted over more narrow age ranges and in limited geographic extents. For example, the SD of our EndoCAb measurements was two times larger than those reported from 8 week olds in The Gambia. The Table below summarizes the mean (SD) for EndoCAb and L/M measurements in the WASH Benefits pilot study and other studies conducted in Bangladesh and Gambia.

Since we expect higher levels of variability in EE biomarkers than when they are measured in smaller cohorts with uniform ages, we are reluctant to use variability estimates from existing studies to speculate about the power we would have for additional biomarkers. After we finalize the list of biomarkers included in the study based on input from MAL-ED and BMGF, then we would be interested to estimate our design’s power if the MAL-ED project has information that could inform our calculations about those specific biomarkers.

Table. Mean (SD) of EndoCAb and L:M values in multiple studies.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Study | Country | Ages | Ln EndoCAb  Mean (SD) | Ln  L:M  Mean (SD) |
| WASH Benefits EE Pilot  Improved Hygiene  Poor Hygiene | Bangladesh | 10-48 mo | 3.0 (2.2)  3.6 (1.7) | -1.92 (0.88)  -1.55 (0.88) |
|  |  |  |  |  |
| Goto 2009 (28) | Bangladesh | 3-25 mo |  | -1.90 (0.30) |
|  |  |  |  |  |
| Northrop-Clewes 2001 (25) | Bangladesh | 2-6 y |  | -1.53 (0.53) |
|  |  |  |  |  |
| Campbell 2003 (29) | Gambia | 8 weeks | 4.3 (1.1) | -1.78 (0.57) |
|  |  |  |  |  |
| Lunn 1991 (30) | Gambia | 1-24 mo |  | -1.22 (0.69) |

* Quality control:
  + There is no discussion of QA or QC plans to monitor adherence to interventions or proper conduct of study SOPs for collection of biological specimens or administration of cognitive development tests

Above in the section titled “Adherence” we provided additional details of our plans to measure adherence / uptake for each of our intervention treatments. Below we summarize our plans for QA/QC, which we have added to the proposal (Section B.6 Outcome measurement).

EE biomarker QA/QC: We will include biological and technical replicates to ensure data validity. Aliquots from the same biological sample will be analyzed separately and compared. For example, the ELISA test can be performed twice on two separate days for the same sample. We will set aside an aliquot of each batch of L-M solution for further testing in case there are any batch inconsistencies. Multiple field research assistants can record anthropometric measurements for the same child to measure human error.

Child development QA/QC: The child development specialists (Lia Fernald, Jena Hamadani, Patricia Kariger, and Fahmida Tofail) will be responsible for ensuring the parent-report child development measures are valid and reliable. Procedures to ensure the measures are valid include: translation and back-translation; adaption of items as necessary to the local context; and evaluation of item and test functioning (i.e., item difficulty, age-related variability, sensitivity to SES and stunting status, etc.). As possible, scores on the parent-report measures will be compared with scores on another test administered directly to the child. Procedures to ensure the measures are reliable include: in-class and field training of all enumerators; assessing inter-observer reliability (to be certain all enumerators administer the measures the same way); and assessing test-retest reliability (testing the same children at two different time points to be certain the instrument works consistently). In Bangladesh, Jena Hamadani and Fahmida Tofail have already completed many of these steps in a pilot study with over 400 children. Drs. Lia Fernald and Patricia Kariger (both at UC Berkeley) will work with the Kenya team to conduct training and piloting of child development measures there. During the trial, country teams will monitor quality control through daily examination of measures by supervisors, and unannounced spot checks to ensure enumerators are continuing to administer the measure accurately.

Anthropometry QA/QC: Country teams will monitor the quality control for anthropometric measurements in a variety of ways. A highly experience anthropometrist will train all field workers that collect anthropometric measurements. During training and at regular intervals during the trial, the field workers’ accuracy and precision will be checked during anthropometric standardization exercises in which their measurements are compared to the “gold standard” trainer’s measurements. Field workers whose measurements suggest bias or unreliability in measurement will be retrained as necessary. Following standard protocols (31,32), during regular field activities each field worker will measure children in duplicate. If their measurements fall outside of the acceptable range of difference (0.5 cm), they will be required to measure a third time. Supervisors will also monitor field worker measurement technique and accuracy during unannounced spot-checks of household visits. All equipment will be checked and calibrated daily using standard weights and measures. Any equipment that fails to meet pre-specified calibration targets will be removed from service.

* Additional Enrollment:
  + The project will be enrolling additional children born into participating compounds for secondary analysis (p. 11). While some of the interventions are at the household or compound level, others are at the individual level. Will these additional children receive the individual interventions (e.g. LNS starting at 6 months) if they are born into the relevant arm?
  + How many additional children are anticipated to be enrolled across the two countries?
  + Does “secondary analysis” mean they will be added to the analysis for the association between EE biomarkers and child growth and development? If so, will these children be over and above the n=1500 EE sub-sample? A bit more explanation of how these additional enrollees will be treated and measured by the project would be helpful.

We expect to have only a small number of children born into existing compounds over the course of the study, but obtaining a quantitative estimate of the number is difficult because the cohorts we have in our target population are enrolled at the household level (not compound), and major demographic datasets (e.g., DHS) provide information about household membership, but not compound membership.

We have added the following information to the proposal (Section B.5 Enrollment and randomization)

Children born into existing study compounds will receive the same intervention as the child in the compound who was originally enrolled. This will be essential to maintain a coherent and consistent intervention within each compound. Since LNS is a more targeted (and expensive) intervention, we plan to limit LNS provision to additional children born to the same mother as target children. For children who are born into existing study compounds, we will measure diarrhea, anthropometry (length, weight, head circumference) and child development outcomes (when possible: children would need to be > 4 months old to administer most tests). Due to cost and logistics, we do not plan to measure EE biomarkers in the additional enrollees, so additional newborns will not be over and above the n=1,500 EE subsample.

We do not plan to include the additional newborn children in our primary analysis because the exposure to intervention for this subset will be shorter than for our index children, and their inclusion would increase the variability of intervention exposure length in our population (and would make defining what constitutes the “intervention” more difficult).However, children born into existing compounds may provide additional information about the impact of our interventions on very young children who are born into cleaner environments. For this reason, we feel that an additional secondary analysis that stratifies intervention treatment effect by age would be a useful analysis to conduct. Such an analysis would focus on length/height and diarrhea outcomes.

Training:

* + While ICDDR,B certainly has the staff and facilities to conduct this study, considerable work will be needed in Kenya to train staff in the collection, processing, storage, and shipment of samples and administration of the cognitive development assessments. This is no small challenge.

The Kenya site has less experience with EE measurement compared to ICDDRB, and we have explicitly included more support in Kenya to ensure that the site has the necessary capacity to achieve the scientific objectives of this study. In addition to Dr. Lin (funded at 100% between this EE supplement and our intestinal parasite supplement), the Kenya site will have high level support funded through the nutrition supplement from Dr. Christine Stewart in the department of Nutrition at UC Davis (20% time), and Dr. Victor Owino (100% time), a postdoctoral scholar in nutrition who has extensive in-country experience leading the collection, storage and analysis of biological samples in nutritional intervention studies (33). Our in-country collaborator, Dr. Fabian Esamai at Moi University, has conducted multiple biomedical clinical trials in rural Kenya, and his lab will support the sample storage and all ELISA analyses (as well as shipping urine samples to ICDDRB for HPLC analyses).

Nonetheless, we recognize the importance of demonstrating the Kenya site’s capacity to undertake this work. For this reason, our proposal includes an EE pilot study in Kenya to identify any local adaptations needed in to our Bangladesh protocol, and at a more basic level, to demonstrate that EE sample collection and analysis is possible. A successful pilot study will be an important milestone for EE measurement activities in Kenya.

Based on our experience from the EE pilot in Bangladesh, we estimate that field staff training will take at most 2 months from the time that the proper equipment arrives in Kenya. Even without field experience, a person with at least a high school education can learn these skill sets (in the Bangladesh EE pilot, we had a few field staff members who had no prior field experience). Field team members with prior relevant experience will participate in a stringent training session during the week before the main training period to learn all of the new skills. These highly trained field research assistants will help our field team leaders (Drs. Lin and Owino) train less experienced team members. During the training, field staff will learn how to:collect anthropometric measurements, collect sterile collection of stool samples, administer the L/M test, and properly handle and store all of the biological samples. Each new skill is covered as a unit and after practicing on each other (within the team), team leaders will administer a practical exam to ensure that all team members have mastered the skill set. After the training is complete, the field teams will practice their skills (w/ the consent of the parents) in villages near the central research office (not in our study sample) and our team leaders will administer a final practical exam.

For the measurement of cognitive development, the Kenya team will have in-country support from Dr. Patricia Kariger (UC Berkeley) will additional support from the other child development experts on our team (Drs. Fernald, Hamadani, and Tofail). Our response under the QA/QC comments (above) summarizes the main activities that we will use to train and monitor the child development measurement in Kenya.

Oversight:

* + The PI will devote only 4% effort to this supplement in year 4 only. There is no one identified as committing significant effort to this project save for Dr. Lin (75%), a postdoctoral scholar.
  + The involvement of the PI, Dr. Colford, is for only 3% in the fourth year only; is this sufficient?

The specific supplement process requested by BMGF has led our team to submit three inter-related supplement proposals: one to cover the costs associated with adding nutritional interventions to the study, one to cover intestinal parasite measurement, and this supplement to cover EE biomarker measurement. The division of the proposal into three pieces, as well as the considerable capacity included in subcontract grants in-country, masks the significant effort planned for the inter-related activities that include EE measurement. Below, we summarize some of the key personnel and their effort funded across the three supplement proposals.

Dr. Colford commits 10% of his time to this study in all years – his time has been added only in Year 4 of the supplement proposals (3.33% x 3 proposals = 10%) because Year 4 will be an extension of the original WASH Benefits grant. Although Dr. Colford is the coordinating PI for the grant, Drs. Stephen Luby and Michael Kremer are PIs for each of the study countries and share overall responsibility for all aspects of the study; due to the nature of their positions, neither Dr. Luby nor Dr. Kremer can be paid by the grant even though they commit > 10% of their time to this study.

Dr. Lin (75% on this supplement, 25% on the parasite supplement) will indeed be a key investigator in the EE measurement effort for both countries. However, she will have additional high-level support and collaboration in both countries. In Bangladesh, our EE budget includes support for Dr. Tahmeed Ahmed (10% per year), Dr. Rubhana Raqib (10% per year); the parasite supplement includes additional support for Dr. Rashidul Haque (25% in years 3 and 4). In Kenya, Dr. Lin will work closely with Dr. Victor Owino, a 100% time postdoctoral scholar funded under the nutrition supplement, who brings considerable experience to the Kenya team in the collection and analysis of biological samples in infant populations. Drs. Lin and Owino will work with Professor Fabian Esemai at Moi University in Kenya to store, ship and analyze samples.

Finally, both country teams will draw on support from our global team – the most relevant members for this EE supplement include Dr. Christine Stewart in the Department of Nutrition at UC Davis (20% funded through the nutrition supplement), and Dr. Benjamin Arnold in the Division of Epidemiology at UC Berkeley (33% funded across all 3 supplements).

Budget:

* The costs of the nutrition intervention should be considered to assess the total costs of this full project.
* Although the assessments for this supplement on biomarkers of environmental enteropathy are to be linked with evolving MalED work, it is not clear where the $4.9m is needed or will be spent, other than to collect the added specimens for testing.
* The trial has 3000 children sampled at 3 time points for blood, urine and stool. The cost of $5M comes out to over $1650 per child. Please justify the cost.

The costs in the EE supplement reflect both the marginal cost of measurement and some of the shared costs to support the underlying activities that make the study possible. As we noted in our proposal, the original commitments of money and time have provided a platform that all of the supplemental activities are leveraging benefit from. In order to cover costs for a more robust design, we are looking for the programs that are covering supplemental activities to share the cost of steps to strengthen the underlying activities. The joint investment in the capacity of the research team will also support existing objectives that include results dissemination, process evaluation, and the creation of a long-term follow-up strategy for the cohort to enable us to track the children through their school-aged years and into adulthood (pending future funding).

We have included with these comments an update of the overall budget and rationale that summarizes costs by country and broad category across all of the supplements. Our current cost allocation reflects earlier conversations with our program officers Alix Zwane (WASH), Gretchen Meller (Enterics) and Shelly Sundberg (Nutrition). We have done our best to share costs across the supplements, but realize that some of the cost sharing decisions will need to be made internally at BMGF.

With respect to the marginal cost of EE sample collection and analysis, the current budget includes costs for a large battery of urine, stool and blood tests. We expect to include only subset of these measures with input from the MAL-ED project and BMGF. We included the full range of tests to give the Foundation an accurate set of options from which to choose. The analysis costs of each test are nearly marginal costs, so the budget impact of removing individual tests is transparent. The marginal cost of the lab analyses alone (not including storage and shipping) for the two countries exceeds $780,000. This figure will be significantly smaller should the study include fewer analyses.

We agree that this is an expensive study. We arrived at the costs from bottom-up budgeting based on a proven logistics framework that our teams have developed over years of high quality field studies in each target population. Although the figure of $1,650 per child sounds high, we feel the more appropriate denominator would be the number of measurements in the study. The EE supplement includes 3,500 measurements in Bangladesh (500 baseline + 1,500 per round of follow-up) and 3,600 measurements in Kenya (same as Bangladesh + 100 pilot study measurements). With a denominator of 7,100, the cost per measurement is about $700. To put this figure in perspective, we typically expect the cost of a simple household survey to fall between $100 and $200 per household visit. Given a five-hour urine collection time per child, and the large number of lab tests currently included in the budget, the current cost of this supplement is in the cost envelope that we would expect.

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Appendix 6: Monitoring and Process Documentation English

**Intervention Fidelity Assessment**

**Objectives:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl#** | | **Item** | | **Code** | | | | | | | **Skip** | |
|  | | Household Unique ID (see front door) | | |\_\_|\_\_|\_\_|\_\_|\_\_| | | | | | | |  | |
|  | | Identification of the household | | 1. Household with enrolled child 2. Other households of the bari | | | | | | |  | |
|  | | FRA Name and Empl. ID | |  | | | | | | |  | |
|  | | Intervention Arms | | 1. Hand washing (Open section 2) 2. Water Quality (Open section 3) 3. Sanitation (Open section 4) 4. Nutrition (Open section 5) 5. Wash Combined (Open section 6) 6. Nutrition plus Wash (Open section 6) | | | | | | |  | |
|  | | Cell phone number of the enrolled hh | | 1. Primary |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| 2. Secondary |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | | | | | | |  | |
|  | | Name of Assigned CHP and ID | |  | | | | | | |  | |
|  | | Respondent status | | 1. Mother of the target child 2. Father of the target child 3. Caregiver of the target child   777. Others (Specify) | | | | | | |  | |
|  | | What is the age of the index child? | | 1. |\_\_|\_\_| months |\_\_|\_\_| days   888.NA | | | | | | |  | |
|  | | Date of assessment | | |\_\_|\_\_| /|\_\_|\_\_|/|\_\_|\_\_| DD/MM/YY | | | | | | |  | |
| Section- 2: Adherence to Hand Washing Stations (HWS) | | | | | | | | | | | | |
|  | Have you received Hand Washing set (HWS) from icddr, b? | | | | | | 1. Yes 2. No | | | | If no, skip to HB. 206 | |
|  | Would you please tell me about the location to be used of HWS received from icddr, b? | | | | | | 1. Toilet 2. Kitchen | | | |  | |
|  | Observe the HWS near the toilet and kitchen and fill out the following tables for presence and functionality of the HWS | | | | | | | | | | | |
| Items | | | | Toilet | | | Kitchen | | | |  |
| Presence   1. Yes 2. No   888. NA | Functional   1. Yes 2. No   888. NA | | Presence   1. Yes 2. No   888. NA | Functional   1. Yes 2. No   888. NA | | |  |
| 1.Icddrb bucket with tap (functional = tap in working order, bucket does not have any leaks, handles not broken) | | | |  |  | |  |  | | |  |
| 2.Water in the icddrb bucket for handwashing | | | |  |  | |  |  | | |  |
| 3.Other water source used for handwashing | | | |  |  | |  |  | | |  |
| 4. Lid of the bucket | | | |  |  | |  |  | | |  |
| 5.Icddrb bowl (functional = no leaks) | | | |  |  | |  |  | | |  |
| 6.Icddrb tool (functional = no legs broken or other evidence of breakage) | | | |  |  | |  |  | | |  |
| 7. Empty Icddrb soapy water bottle | | | |  |  | |  |  | | |  |
| 8.Icddrb soapy water bottle with soapy water | | | |  |  | |  |  | | |  |
| 9.a Soapy water bottle full | | | |  |  | |  |  | | |  |
| 9.b Soapy water bottle partially full | | | |  |  | |  |  | | |  |
| 9.c Only small amount of soapy water at the bottom | | | |  |  | |  |  | | |  |
| 10. Soapy water in another container other than icddrb provided | | | |  |  | |  |  | | |  |
| 11. Soap of any form other than soapy water present at water source | | | |  |  | |  |  | | |  |
| 12.Powdered detergent | | | |  |  | |  |  | | |  |
| 13. HWS all together in place | | | |  |  | |  |  | | |  |
| 14.HWS available < 10 steps | | | |  |  | |  |  | | |  |
| 15. Cue card near handwashing station | | | |  |  | |  |  | | |  |
|  | What shortcomings or problems are there in your opinion with HWS? Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | 1. Leakage on bucket and tap point 2. Difficult to prepare soapy water 3. Broken cap of soapy water bottle 4. Preparing soapy water time consuming 5. Tap missing 6. Tap broken 7. The bucket is damaged 8. Sharing of hand washing station 9. Lid is cracked 10. No problem   777. Others ( Specify ) | | | | | | | If 10, skip to HB.206 |
|  | If the answer to any of H204 was “Yes”, ask:  Have any of these shortcomings or problems prevented you from (or made it difficult for you to) using HWS every day? | | | | 1. Yes 2. No | | | | | | |  |
|  |  | | | | | | | |  |  | |  |
| Exposure to handwashing BCC intervention  There are community health workers, sometimes from more than one organization, who may be visiting this community. I would first like to know about a community health worker from icddrb also know as CHP. | | | | | | | | | | | | |
|  | | | Did CHP/icddr, b staff or anybody else teach you about hand washing with soap/soapy water in your community? | | 1. Yes 2. No | | | | | | | If no, skip to HB.210 |
|  | | | Who taught you on handwashing or received information from?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | 1. Icddr,b CHP 2. ©Icddr,b staff 3. Television 4. Radio 5. Leaflet 6. Poster 7. Flipchart 8. School teacher 9. Parents/family members 10. Neighbors 11. Friends 12. Medical practioneer 13. Other NGO worker 14. GOB worker   777. Others (Specify) | | | | | | | If no to 1, skip to HB.210 |
|  | | | How did the CHP teach?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | 1. One to one discussion 2. Group meeting 3. Courtyard session 4. Games 5. Community meetings   777. Others (Specify) | | | | | | |  |
|  | | | What materials did the CHP show you? Multiple answers allowed, DO NOT READ THE RESPONSES. | | 1. Flash card 2. Poster 3. Cue Card 4. Flip Chart 5. Books   777. Others( Specify ) | | | | | | |  |
|  | | | Did the icddrb CHP negotiate with you before providing HWS? | | 1. Very well 2. Somewhat 3. Did not negotiate   999.Don’t Know  888. Not applicable | | | | | | |  |
|  | | | How many times has an icddr, b CHP visited your household about handwashing with soap /soaphy water? If not applicable put “**888”** | | 1. In the preceding week |\_\_\_|\_\_\_| 2. In the preceding month |\_\_\_|\_\_\_| 3. Until today |\_\_\_\_|\_\_\_\_| | | | | | | |  |
|  | | | How many courtyard sessions or other meetings lead by an icddrb CHP have you attended in the last 1 month? If not applicable put “**888”** | | 1. I\_\_I One to one discussion 2. I\_\_I Group meeting 3. I\_\_I Courtyard session 4. I\_\_I Community meeting 5. I\_\_I Games   777. I\_\_Others ( Specify ) | | | | | | |  |
|  | | | How many children's meetings by an icddrb CHP has your children attended in the last 1 month?) If not applicable put “**888”** | | 1. I\_\_I One to one discussion 2. I\_\_IGroup meeting 3. I\_\_I Courtyard session 4. I\_\_I Community meeting 5. I\_\_I Games   777. I\_\_IOthers ( Specify ) | | | | | | |  |
|  | | | Did you share any of your concerns related to handwashing with the CHP? | | 1. Yes 2. No   999. Don’t know | | | | | | | If no/don’t know, skip to HB. 217 |
|  | | | Did the CHP help you find a solution? | | 1. Yes , partly 2. Yes,complete solution 3. No | | | | | | |  |
|  | | | Do you still have problem now? | | 1. Yes 2. No | | | | | | |  |
|  | | | Have you heard about key times of hand washing? | | 1. Yes 2. No | | | | | | |  |
| 1. H | | | If yes what are these key times for handwashing?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | 1. Before preparing food 2. After toilet/defecation 3. After cleaning baby’s anus 4. After disposal of child feces 5. Before eating 6. After eating 7. Before feeding a child 8. After cutting fish or meat 9. Before cutting fruit and salad 10. Before mashing any food or vegetables 11. Before touching cooked food 12. After handling cow-dung 13. Don’t Know   777. Others ( Specify ) | | | | | | |  |
| Now I would please like to know about any other community health worker from another organization, other than icddrb: | | | | | | | | | | | |  |
| 1. H | | | How many times has another NGO worker visited your compound about handwashing in the last 1 month | | |\_\_\_|\_\_\_| | | | | | | |  |
| 1. H | | | How many courtyard or other meetings about handwashing, lead by antoher NGO worker, have you attended in the last 1 month? If not applicable put “**888”** | | |\_\_\_|\_\_\_| | | | | | | |  |

1. To assess the uptake status at household level by different arms periodically
2. To assess the functional status of the distributed hardware/technology

**Method**: by visiting household (In-depth interview and observation)

**Users:** Field Research Assistant (FRA)

**Section-1: Household Identification, address and visit**

Signature of interviewer: Signature of supervisor:

Section- 3: Water Quality Intervention

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Water Quality Intervention** | | | | | | | | | |
|  | | How do you store drinking water for your index child/for yourself? (Note: If no index child ask for the mother. Ask to show the container and record your observation)  Multiple answers allowed, DO NOT READ THE RESPONSES. | 1. Jug 2. Icddrb storage container-Topaz 3. Kolshi 4. Matka 5. Jerican   777. Others (Specify) | | | | |  | |
|  | | The answer to any of W301 was “Yes”, ask how frequent you or the child drinks water from that container. | 1. All the time 2. Most of the time 3. Only rarely 4. Never   777. Others (Specify) | | | | |  | |
|  | | Have you received water treatment products from icddr, b? | 1. Yes 2. No | | | | | If no, skip toWB. 318 | |
|  | | Do the direct observation and fill out the following tables for presence and functionality of the water technology for Yes=1, No=0, NA=888. “Yes” respresents presence and functional of any of the items,” No” represents absence and non-functional. If do not match with any item use “NA” | | | | | | | |
| Items | | | | Water treatment items | |  | |
| Presence  Yes/No/NA | Functional  Yes/No/NA |
| 1. icddrb storage container-Topaz | | | |  |  |  | |
| 1. Aquatab | | | |  |  |  | |
| 1. icddrb tools for storage container | | | |  |  |  | |
| 1. Cleanging agents brush | | | |  |  |  | |
| 1. Cleanging agentsliquid soap | | | |  |  |  | |
| 1. Drinking water in the icddrb storage container | | | |  |  |  | |
| 1. Other liquids in the icddrb storage container | | | |  |  |  | |
| 1. Drinking water other than icddrb storage container | | | |  |  |  | |
| 1. Others (Specify) | | | |  |  |  | |
|  | | If the water available in the icddr, b storage container asks, how long ago did you or somebody in your home collect this water? If no water in icddr, b storage container use **“888”** | | | | I\_\_I\_\_I:I\_\_II\_\_I Days:hh | |  | |
|  | | Have you done anything to make this water safer to drink? | 1. Yes 2. No   999.Don’t Know | | | | | If no/Don’t know, skip to W.312 | |
|  | | What method did you use? (DO NOT READ RESPONSES. PROBE UNTIL RESPONDENT IS FINISHED.) Multiple answer allowed | 1. Aquatab 2. Boil 3. Water filter 4. Biosand filter 5. Strain it through cloth or other material 6. Let it stand and settle 7. Coagulant (alum) 8. Solar disinfection (SODIS) | | | | | If answer is not 1, skip to W.312 | |
|  | | How many aquatabs at a time did you use in your dirinking water storage container? | I\_\_I\_\_I | | | | |  | |
|  | | How long did you wait after treating your water with aquatab to drink it? (This is a free response) | I\_\_II\_\_I:I\_\_I\_\_I h:m | | | | |  | |
|  | | How many times usually do you collect drinking water and how many times treat water with aquatab daily? | 1. I\_\_I\_\_I collect drinking water daily 2. I\_\_I\_\_I Use aquatab daily | | | | |  | |
|  | | Is there any detectable residual chlorine in the household stored water? Test water and record the reading.  **( Don’t test the water in the presence of household member) If not applicable use** “888” | I\_\_I\_\_I mg/L | | | | |  | |
|  | | How many aquatab did you receive during last delivery? | I\_\_I\_\_I\_\_I | | | | |  | |
|  | | How many days ago were they delivered? | I\_\_I\_\_I\_\_I | | | | |  | |
|  | | How many aquatab you had during last delivery? | I\_\_I\_\_I\_\_I | | | | |  | |
|  | | How many aquatab are at present? | I\_\_I\_\_I\_\_I | | | | |  | |
|  | | What shortcomings or problems are there in your opinion with safe water system water treatment? ?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | 1. Water having different taste 2. Water having odor 3. Water is cold 4. Treating water time consuming 5. Cleansing the bucket is additional task 6. Others 7. No problem | | | If 7, skip to W.318 | |
|  | | If the answer to any of W.316 was “Yes”, ask: Have any of these shortcomings or problems prevented you or your child from (or made it difficult for you to) drinking aquatab treated water every day? | | | 1. Yes 2. No | | |  | |
| Exposure to water BCC intervention  There are community health workers, sometimes from more than one organization, who may be visiting this community. I would first like to know about a community health worker from icddrb also know as CHP. | | | | | | | | | |
|  | Did CHP/icddrb staff or anybody else teach you about water purification in your community? | | | 1. Yes 2. No | | | | | If no, skip to WB.322 |
|  | Where did you learn about water purification?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | 1. CHP 2. icddr,b staff 3. Television 4. Radio 5. Leaflet 6. Poster 7. Billboard 8. Parents/family members 9. Neighbors 10. Friends 11. School teachers 12. Text book 13. Other books 14. Other NGO worker at home 15. Others (Specify ) | | | | | If no to 1, skip to WB. 322 |
|  | How did the CHP teach?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | 1. One to one discussion 2. Group meeting 3. Courtyard session 4. Community meeting 5. Games   777. Others ( Specify ) | | | | |  |
|  | What materials did the CHP show you?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | 1. Flash card 2. Poster 3. Cue Card 4. Flip Chart 5. Books   777. Others ( Specify ) | | | | |  |
|  | Did icddrb CHP negotiate with you before or during distribution of water purification materials? | | | 1. Very well 2. Somewhat 3. Did not negotiate   999. Don’t Know  888. Not applicable | | | | |  |
|  | How many times has the CHP visited in your household? If not applicable put “**888”** | | | 1. In the preceding week I\_\_I\_\_I 2. In the preceding month I\_\_II\_\_I 3. Until today I\_\_II\_\_I | | | | |  |
|  | How many courtyard sessions or other meetings lead by an icddrb CHP have you attended in the last 1 month? If not applicable put “**888”** | | | 1. I\_\_I One to one discussion 2. I\_\_I Group meeting 3. I\_\_I Courtyard session 4. I\_\_I Community meeting 5. I\_\_I Games   777. I\_\_IOthers ( Specify ) | | | | |  |
|  | How many children's meetings by an icddrb CHP has your children attended in the last 1 month?) If not applicable put “**888”** | | | 1. I\_\_IOne to one discussion 2. I\_\_IGroup meeting 3. I\_\_ICourtyard session 4. I\_\_I Community meeting 5. I\_\_I Games   777. Others ( Specify ) | | | | |  |
|  | Did you share any of your concerns related to handwashing with the CHP?  Did the CHP help you find a solution? | | | 1. Yes 2. No   999. Don’t know | | | | | If no/don’t know, skip to WB.331 |
|  | Did the CHP help you find a solution? | | | 1 .Yes , partly  2. Yes,complete solution  0. No | | | | |  |
|  | Do you still have problem now? | | | 1. Yes  0. No | | | | |  |
|  | What is safe water in your opinion?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | 1. Water having no odor 2. Water have no color 3. Water having no other taste 4. Water having no disease germs 5. Water that is not hard 6. Water that is clear with no visible dirt 7. Aquatab treated water 8. No harmful chemicals such as arsenic, iron, salt 9. Water that does not develop diseases   777. Others (Specify) | | | | |  |
|  | What diseases can happen for using unsafe water?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | 1. Diarrhea 2. Jaundice 3. Dysentery 4. Typhoid 5. Scabies 6. Worms   777. Others (Specify ) | | | | |  |
| Now I would please like to know about any other community health worker from another organization, other than icddrb: | | | | | | | | | |
|  | How many times has another NGO worker visited your bari about water treatment in the last 1 month | | | I\_\_I\_\_I | | | | |  |
|  | How many courtyard or other meetings about water treatment, lead by antoher NGO worker, have you attended in the last 1 month? If not applicable put “**888”** | | | I\_\_II\_\_I | | | | |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sanitation Intervention** | | | | | | | | | | | | | | | | | | | | |  |
|  | Record how many households are in this bari | | | | | | | | | | | | 1. |\_\_\_| Index hh 2. |\_\_\_| Non index hhs | | | | | |  | | |
|  | How many <3 children are there in this bari | | | | | | | | | | | | 1. |\_\_\_| Index hh 2. |\_\_\_| Non index hhs | | | | | |  | | |
|  | In total, how many potties have been distributed in this bari? | | | | | | | | | | | | |\_\_\_| | | | | | |  | | |
|  | In total, how many sani scoops have been distributed in this bari? | | | | | | | | | | | | |\_\_\_| | | | | | |  | | |
|  | Observe how many latrines are there in this bari. | | | | | | | | | | | | |\_\_\_| loop | | | | | |  | | |
|  | How many are icddrb provided dual pit latrines? | | | | | | | | | | | | |\_\_\_| | | | | | |  | | |
|  | Observe and note the following conditions for functionality /presence.   1. Present and functional 2. Present but broken, non functional 3. Absent   Above code applicable for first four column | | | | | | | | | | | | | | | | | | |  | |
|  | Rings | | Slabs | Siphon/  water seal | Super structure | Visible feces   1. On the slab 2. On the floor (inside) 3. Around the latrine (outside) | | | | | Signs of use (>2)   1. Yes 2. No | | | Smell of  urine/stool   1. Yes 2. No | Is this icddrb provided dual pit latrine   1. Yes   0. No | | Current status of using pit   1. Pit-1 2. Pit-2 | | Total member using this latrine |  | |
| 1. |  | |  |  |  |  | | | | |  | | |  | | | | | |  | |
| 2. |  | |  |  |  |  | | | | |  | | |  | | | | | |  | |
| To a respondent (preferably index mom) with a <3 child, who received a potty ask the following:  **Please open question S.408 to S.411 According to the number of question S.403 AND open question S.412 to S.415 according to the number of question S.404** | | | | | | | | | | | | | | | | | | | |  | |
|  | | Does your child defecate in potty? | | | | | 1. Always 2. Most of the time 3. Rarely 4. Never   888. N/A | | | | | | | | | | | If 4/888, skip to 411 | |  | |
|  | | Show me the location where your child defecates in the potty most of the time.  Stand over there with mother and ask her to bring the potty. Count the time and record | | | | | |\_\_|\_\_\_| minute |\_\_\_|\_\_\_| second | | | | | | | | | | |  | |  | |
|  | | Show me where you empty the potty?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | Emptying potty (yes=1, No=0)   1. Latrine 2. Designated pile of garbage 3. Opend pit /separate pit for child or animal 4. Bury it 5. Covered pit 6. Bush/forest/field 7. Nearby water (pond, canal, river) 8. Undefined open site near the bari   777.Others (Specify) | | | | | | | | | | |  | |  | |
|  | | Observation: Potty condition  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | Condition (yes=1, No=0)   1. Easily accessible when needed by the child 2. Easily accessible when needed by the mother 3. Visible signs of feces inside/on the potty/removable pot 4. Potty was covered with the lid 5. Potty was covered anything other than the lid 6. Dry 7. Broken so that it is unusable 8. Covered in dust/sign of non- use 9. Cannot produce a potty | | | | | | | | | | |  | |  | |
|  | | Does your household use a icddr,b supplied sani-scoop to clean up feces around your household | | | | | | | 1. Yes 2. No   999. Don’t know | | | | | | | | | If 0/999, skip to S.416 | |  | |
|  | | How often do you use the sani-scoop?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | | 1. |\_\_|\_\_\_| yestarday 2. last 3 days 3. Used to use it, but no longer use it 4. Never 5. Others (Specify) | | | | | | | | | |  | |  | |
|  | | What do you use the sani-scoop for?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | | Uses (yes=1, No=0)   1. Clean up animal feces 2. Clean up child feces 3. Clean up garbage 4. Take the scoop to the field 5. Digging/gardening   777. Other (Specify) | | | | | | | | | |  | |  | |
|  | | Could I please see the sani-scoop? Observe sani-scoop condition and record | | | | | | Observation (yes=1, No=0)   1. Visible sign of feces on the sani -scoop 2. Dry 3. Broken and needs repair 4. Easily accessible when needed by an adult 5. Signs that the sani-scoop is not used 6. Cannot produce a sani-scoop | | | | | | | | | |  | |  | |
|  | | What shortcomings or problems are there in your opinion with Sanitation?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | | **Sanitation** (Yes=1, No=0)   1. Child cannot use the potty 2. Potty use considered time consuming 3. Cleaning potty 4. Cleaning sani-scoop 5. Broken/ need to repair sani-scoop 6. Latrine without having/broken superstructure 7. No problem   777.Others ( Specify ) | | | | | | | | | | If 7 , skip to SB 418 | |  | |
|  | | If the answer to any ofN514 was “Yes”, ask:  Have any of these shortcomings or problems prevented you from (or made it difficult for you to) feed Sonomani to your child every day? | | | | | | 1Yes   1. No | | | | | | | | | |  | |  | |
| **Exposure to Sanitation BCC intervention**  There are community health workers, sometimes from more than one organization, who may be visiting this community. I would first like to know about a community health worker from icddrb also known as CHP. | | | | | | | | | | | | | | | | | | | |  | |
|  | | Did CHP/icddr, b staff or anybody else teach you about sanitation and personal hygiene in your community? | | | | | | | | | | | | | | 1. Yes  0.No | | If no, skip to SB.422 | |  | |
|  | | Who taught you on these issues?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | | | | **Person** (yes=1, No=0)   1. CHP 2. icddr,b staff 3. Television 4. Radio 5. Leaflet 6. Poster 7. Billboard 8. Parents/family members 9. Neighbors 10. Friends 11. School teachers 12. Text book 13. Other books 14. Other NGO worker at home   777. Others (Specify ) | | | | | | | | If No to 1 skip SB 422 | |  | |
|  | | How did the CHP teach?Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | | | | **Methods** (yes=1, No=0)   1. One to one discussion 2. Group meeting 3. Courtyard session 4. Community meeting 5. Family meeting 6. Games   777. Others ( Specify ) | | | | | | | |  | |  | |
|  | | What materials did the CHP show you?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | | | | **Materials** (yes=1, No=0)   1. Flash card 2. Poster 3. Cue Card 4. Flip Chart 5. Books   777. Others ( Specify ) | | | | | | | |  | |  | |
|  | | Did the icddrb CHP negotiate with you before providing sanitation items (Potty, sani-scoop and latrine)? | | | | | | | | 1. Very well 2. ‡Kvbg‡Z Somewhat 3. Av‡jvPbv K‡iwb Did not negotiate 4. Rvwb bv Don’t Know 5. cÖ‡hvR¨ bq Not applicable | | | | | | | |  | |  | |
|  | | How many times has an icddr, b CHP visited your household about sanitation?  If not applicable put “**888”** | | | | | | | | In the preceding week |\_\_\_|\_\_\_\_| In the preceding month |\_\_\_|\_\_\_\_|  until today |\_\_\_|\_\_\_\_| | | | | | | | |  | |  | |
|  | | How many courtyard sessions or other meetings lead by an icddrb CHP have you attended in the last 1 month? If not applicable put “**888”** | | | | | | | | **Methods** (yes=1, No=0)   1. |\_\_\_|One to one discussion 2. |\_\_\_|Group meeting 3. |\_\_\_| Courtyard session 4. |\_\_\_| Community meeting 5. |\_\_\_|Family meeting 6. |\_\_\_|Games   777. |\_\_\_|Others ( Specify ) | | | | | | | |  | |  | |
|  | | How many children's meetings by an icddrb CHP has your children attended in the last 1 month?) If not applicable put “**888”** | | | | | | | | **Methods** (yes=1, No=0)   1. |\_\_\_|One to one discussion 2. |\_\_\_| Group meeting 3. |\_\_\_| Courtyard session 4. |\_\_\_| Community meeting 5. |\_\_\_|Family meeting 6. |\_\_\_|Games   777. |\_\_\_|Others ( Specify ) | | | | | | | |  | |  | |
|  | | Did you share any of your concerns realted to sanitation with the CHP? | | | | | | | | 1. Yes 2. No 3. Don’t Know | | | | | | | | If no/don’t know, skip to SB.429 | |  | |
|  | | Did the CHP help you find a solution | | | | | | | | 1. Yes , partly 2. Yes,complete solution 3. No | | | | | | | |  | |  | |
|  | | Do you still have problem now? | | | | | | | | 1. Yes   1. No | | | | | | | |  | |  | |
| Now I would please like to know about any other community health worker from another organization, other than icddrb: | | | | | | | | | | | | | | | | | | | |  | |
|  | | How many times has another NGO worker visited your compound about sanitation in the last 1 month  If not applicable put “**888”** | | | | | | | | | | |\_\_\_| | | | | | |  | |  | |
|  | | How many courtyard or other meetings about sanitation, lead by antoher NGO worker, have you attended in the last 1 month? If not applicable put “**888”** | | | | | | | | | | |\_\_\_| | | | | | |  | |  | |

**Section-4: Sanitation Intervention**

Section- 5: Nutrition Intervention

(Questionnaire for primary caregiver of the child)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Section B: Adherence to Sonamoni** | | | | | | | | |
|  | | Have you received Sonamoni & other items for your child from icddr, b? | | | | 1. Yes 2. No | If no, skip to NB 516 | |
|  | | If yes, please show me the Sonamoni and other items that you received for your child from icddr, b? Record your observation.  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | Items (yes=1, No=0)   1. Sonamoni 2. Plastic container for Sonamoni 3. 250 ml pot |  | |
|  | | How many Sonamoni sachets did you receive during last delivery? (FRAs ask household & see the records) If not applicable use **“888”** | | | | I\_\_I\_\_I Sachets |  | |
|  | | How many days ago were they delivered?  (FRAs ask household and see the records ) If not applicable use **“888”** | | | | I\_\_II\_\_I days |  | |
|  | | How many unused Sonamoni sachet you had during last delivery?  (FRAs calculate and put the number) If not applicable use **“888”** | | | | I\_\_II\_\_I Sachets |  | |
|  | | How many sonamoni sachets are at present?  (FRAs count and put the number) If not applicable use **“888”** | | | | I\_\_I\_\_I Sachets |  | |
|  | | Did you feed your child the Sonamoni? | | | | 1. Yes 2. No | If no, skip to N510 | |
|  | | If yes, how did you primarily feed the sonamoni to your Child?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | Supplementation (yes=1, No=0)   1. Eaten alone directly from sachets 2. Eaten alone using mother’s finger 3. Eaten alone using spoon/plate 4. Mixed with rice 5. Mixed with other food |  | |
|  | | How much supplement did you give to your child each day?  (DO NOT READ THE RESPONSES) | | | | Amount (yes=1, No=0)   1. 2 sachets 2. 1 Sachet 3. 2/3 Sachet 4. ½ Sachet   777. Others (Specify) |  | |
|  | | If no to N507 then why sonamoni was not eaten at all?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | Reasons (Yes=1, No=0)   1. Child didn’t like 2. Not sure about the product 3. Peer pressure no to take 4. Child was sick 5. Away from home   777. Others (Specify) |  | |
|  | | Did anybody else beside the target child eat the Sonamoni? | | | | 1. Yes 2. No | If no, skip to N513 | |
|  | | If yes, by whom?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | Relationship (Yes=1, No=0)   1. Sibling 2. Other child/children 3. Adult relative(s) 4. Other adult(s) |  | |
|  | | Were any of the Sonamoni sachets damaged or opened prior or during delivery? | | | | 1.Yes   1. No |  | |
|  | | What shortcomings or problems are there in your opinion with Sonamoni?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | **Shortcoming/problems (Yes=1, No=0)**   1. Irregular supply 2. Taste is not good 3. Child vomit after swallow 4. Color changed when it is mixed with food 5. Limited supply 6. Bad smell 7. Causes indigestion 8. Loose motion 9. Allergic Reaction 10. Child doesn’t like to eat Sonamoni 11. Difficult to take out of the sachet 12. No problem   777. Others ( Specify ) | If 12, skip to NB 516 | |
|  | | If the answer to any ofN514 was “Yes”, ask:  Have any of these shortcomings or problems prevented you from (or made it difficult for you to) feed Sonomani to your child every day? | | | | 1. Yes   1. No |  | |
| Exposure to BCC Intervention  There are community health workers, sometimes from more than one organization, who may be visiting this community. I would first like to know about a community health worker from icddrb also know as CHP. | | | | | | | | |
|  | Have you heard any messages on infant/child nutrition and or Sonamoni from CHP or any one else from icddr, b ? | | 1. Yes  0. No | | | | | If no skip to NB524 |
|  | How old is the target child? | | 1. 6 months age  2. 6-24 months age  3. Child yet to born | | | | | If answer is 2/3, skip to NB.520 |
|  | If child is <6 months, ASK: What are the messages you have received from CHP?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | **Messages (Yes=1, No=0)**   1. Colostrum feeding within ½ an hour of birth of the baby 2. Exclusive breastfeeding upto **6 months** 3. Importance of breastfeeding | | | | |  |
|  | Can you tell me what you know about exclusive breast feeding?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | 1. Should breastfeed and give water  2. Breastfeed and give other food  3. Breastfeed only without anything else   1. Don’t know | | | | |  |
|  | If yes to C102 and child age > 6 months ask, what are the messages you have received from CHP?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | Messages (Yes=1, No=0)  1.Importance of complementary feeding   1. Complementary feeding and supplement of Sonamoni after completion of 6 months age of the child 2. Communicated benefit of using Sonamoni 3. Using container to preserve Sonamoni from insects 4. Mixing of sonamoni with complementary food 5. Handwashing before feeding Sonamoni 6. Dosing of Sonamoni two sachet per day 7. Sonamoni is only for 6-24 months child 8. Others ( Specify) | | | | |  |
|  | Where did you learn about infant/child nutrition and or Sonamoniits importance, and usage?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | **Source (Yes=1, No=0)**  1. CHP  2.icddr,b staff   1. Television 2. Radio 3. Leaflet 4. Poster 5. Billboard 6. Parents/family members 7. Neighbors 8. Friends 9. School teachers 10. Text book 11. Other books 12. Other NGO worker at home 13. Others (Specify) | | | | If no to 1, skip NB.524 |
|  | How did the CHP teach?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | **Methods (Yes=1, No=0)**  1.One to one discussion   1. Group meeting 2. Courtyard session 3. Community meeting 4. Family meeting 5. Games 6. Others (Specify) | | | |  |
|  | What materials did the CHP show you?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | **Materials (Yes=1, No=0)**  1. Flash card  2.Poster   1. Cue Card 2. Flip Chart 3. Books 4. Others ( Speicify) | | | |  |
|  | Did the icddrb CHP negotiate with you before providing Sonamoni? | | | 1. Very well 2. Somewhat 3. No discussion 4. Don’t Know 5. Not applicable | | | |  |
|  | How many times has an icddr, b CHP visited your household about sanitation?  If not applicable put “**888”** | | | In the preceding week |\_\_\_|\_\_\_\_|  In the preceding month |\_\_\_|\_\_\_\_|  until today |\_\_\_|\_\_\_\_| | | | |  |
|  | How many courtyard sessions or other meetings lead by an icddrb CHP have you attended in the last 1 month? If not applicable put “**888”** | | | **Methods (Yes=1, No=0)**  1.|\_\_\_| One to one discussion  2.|\_\_\_|Group meeting   1. |\_\_\_| Courtyard session 2. |\_\_\_|Community meeting 3. |\_\_\_|Family meeting 4. |\_\_\_| Games 5. |\_\_\_| Others (Specify) | | | |  |
|  | How many children's meetings by an icddrb CHP has your children attended in the last 1 month?) If not applicable put “**888”** | | | **Methods (Yes=1, No=0)**  1.|\_\_\_| One to one discussion  2.|\_\_\_| Group meeting   1. |\_\_\_| Courtyard session 2. |\_\_\_| Community meeting 3. |\_\_\_|Family meeting 4. |\_\_\_| Games 5. |\_\_\_| Others (Specify) | | | |  |
|  | Did you share any of your concerns related to infant and child nutrition with the CHP? | | | 1. Yes 2. No   999.Don’t Know | | | | If No/don’t know skip to NB531 |
|  | Did the CHP help you find a solution | | | 1.Yes , partly  2.Yes,complete solution   1. No | | | |  |
|  | Do you still have problem now? | | | 1.Yes   1. No | | | |  |
| Now I would please like to know about any other community health worker from another organization, other than icddrb: | | | | | | | | |
|  | How many times has another NGO worker visited your compound to talk about infant and child nutrition in the last 1 month  (If not applicable put “**888”)** | | | | |\_\_\_| | | |  |
|  | How many courtyard or other meetings about infant and child nutrition lead by antoher NGO worker, have you attended in the last 1 month?( If not applicable put “**888”)** | | | | |\_\_\_| | | |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl#** | DcKiY **Item** | | **Code** | | | | | | | | | | | **Skip** | | |
|  | Have you received any technology/hardware from icddr, b? | | Handwashing | | | | | | | | 1. Yes 2. No | | | If no, skip  Section 6a | | |
| Water Quality | | | | | | | | 1. Yes 2. No | | | If no, skip  Section 6b | | |
| Sanitation | | | | | | | | 1. Yes 2. No | | | If no, skip  Section 6c | | |
| Nutrition | | | | | | | | 1. Yes 2. No | | | If no, skip  Section 6d | | |
|  | Please show me what are these items/technologies?  Observe the items and record accordingly. | | **Handwashing (Yes=1, No=0)**  1. Bucket with Tape   1. tool for bucket 2. Bowl 3. Soapy water bottle 4. Detergent powder | | | | | | | | | | |  | | |
| Water Quality **(Yes=1, No=0)**   1. Aquatab 2. Cleanging agents brush 3. Icddrb storgae container –Topaz 4. tool 5. Cleansing agents liquid | | | | | | | | | | |  | | |
| Sanitation **(Yes=1, No=0)**   1. Ring 2. Slab 3. Syphon 4. Super structure 5. Sani-scoop 6. Potty | | | | | | | | | | |  | | |
| Nutrition **(Yes=1, No=0)**   1. Sonamoni 2. Plastic container for sonamoni 3. 250 ml pot | | | | | | | | | | |  | | |
|  | Did CHP /icddr, b staffs negotiate with you before distribution of any of the above mentioned items? | | | | | | | 1.Very well   1. Somewhat 2. No discussion 3. Don’t know 4. Not applicable | | | | | |  | | |
| Section 6a: Adherence to Hand Washing Stations | | | | | | | | | | | | | | | | |
|  | Would you please tell me about the location to be used of HWS received from icddr, b? | | | | Locations (Yes=1, No=0)   1. Toilet 2. Kitchen | | | | | | | | |  | | |
|  | Do the direct observation of the toilet and kitchen and fill out the following tables for presence and functionality of the HWS for Yes=1, No=0, NA=888. “Yes” respresents presence and functional of any of the items,” No” represents absence and non-functional. If do not match with any item use “NA”” | | | | | | | | | | | | | | | |
| Items | | | Toilet | | | | | | Kitchen | | | | | |  |
| Presence  (Yes/No/NA) | | | Functional  (Yes/No/NA) | | | Presence  (Yes/No/NA) | | | Functional  (Yes/No/NA) | | |  |
| 1.Icddrb bucket with tap (functional = tap in working order, bucket does not have any leaks, handles not broken) | | |  | | |  | | |  | | |  | | |  |
| 2.Water in the icddrb bucket for handwashing | | |  | | |  | | |  | | |  | | |  |
| 3.Other water source used for handwashing | | |  | | |  | | |  | | |  | | |  |
| 4. Lid of the bucket | | |  | | |  | | |  | | |  | | |  |
| 5.Icddrb bowl (functional = no leaks) | | |  | | |  | | |  | | |  | | |  |
| 6.Icddrb tool (functional = no legs broken or other evidence of breakage) | | |  | | |  | | |  | | |  | | |  |
| 7. Empty Icddrb soapy water bottle | | |  | | |  | | |  | | |  | | |  |
| 8.Icddrb soapy water bottle with soapy water | | |  | | |  | | |  | | |  | | |  |
| 9.a Soapy water bottle full | | |  | | |  | | |  | | |  | | |  |
| 9.b Soapy water bottle partially full | | |  | | |  | | |  | | |  | | |  |
| 9.c Only small amount of soapy water at the bottom | | |  | | |  | | |  | | |  | | |  |
| 10. Soapy water in another container other than icddrb provided | | |  | | |  | | |  | | |  | | |  |
| 11. Soap of any form other than soapy water present at water source | | |  | | |  | | |  | | |  | | |  |
| 12.Powdered detergent | | |  | | |  | | |  | | |  | | |  |
| 13.HWS all together in place | | |  | | |  | | |  | | |  | | |  |
| 14.HWS available < 10 steps | | |  | | |  | | |  | | |  | | |  |
| 15. Cue card near handwashing station | | |  | | |  | | |  | | |  | | |  |
|  |  | | |  | | |  | | |  | | |  | | |  |
| Section 6B: Water Quality Intervention | | | | | | | | | | | | | | | | |
|  | | How do you store drinking water for your index child/for yourself? (Note: If no index child ask for the mother. Ask to show the container and record your observation)  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | 1. Jug 2. Icddrb storage container-Topaz 3. Kolshi 4. Matka 5. Jerican   777. Others Specify) | | | | | | | |  | | |
|  | | The answer to any of C.606 was “Yes”, ask how frequent you or the child drinks water from that container. | | | | 1. All the time 2. Most of the time 3. Only rarely 4. Never   777. Others (Specify) | | | | | | | |  | | |
|  | | Do the direct observation and fill out the following tables for presence and functionality of the water technology for Yes=1, No=0, NA=888. “Yes” respresents presence and functional of any of the items,” No” represents absence and non-functional. If do not match with any item use “NA” | | | | | | | | | | | | | | |
| Items | | | | | | | Water treatment items | | | | | |  | |
| Presence  Yes/No/NA | | | Functional  Yes/No/NA | | |  | |
| Icddrb storage container-Topaz | | | | | | |  | | |  | | |  | |
| Aquatab | | | | | | |  | | |  | | |  | |
| Icddrb tools for storage container | | | | | | |  | | |  | | |  | |
| Cleanging agents | | | | | | |  | | |  | | |  | |
| Lid for storage container | | | | | | |  | | |  | | |  | |
| Drinking water in the icddrb storage container | | | | | | |  | | |  | | |  | |
| Other liquids in the icddrb storage container | | | | | | |  | | |  | | |  | |
| Drinking water other than icddrb storage container | | | | | | |  | | |  | | |  | |
| Others (Specify) | | | | | | |  | | |  | | |  | |
|  | | If the water available in the icddr, b storage container asks, how long ago did you or somebody in your home collect this water? If no water in icddr, b storage container use **“888”** | | | | | | | I\_\_I\_\_I:I\_\_II\_\_I Days:hh | | | | | |  | |
|  | | Have you done anything to make this water safer to drink? | | | | | | | 1. Yes 2. No   999.Don’t Know | | | | | | If no/Don’t know, skip to C.616 | |
|  | | What method did you use? (DO NOT READ RESPONSES. PROBE UNTIL RESPONDENT IS FINISHED.) Multiple answer allowed | | | | | | | 1. Aquatab 2. Boil 3. Water filter 4. Biosand filter 5. Strain it through cloth or other material 6. Let it stand and settle 7. Coagulant (alum) 8. Solar disinfection (SODIS) | | | | | | If answer is not 1, skip to C.616 | |
|  | | How many aquatabs at a time did you use in your dirinking water storage container? If not applicable use **“888”** | | | | | | | I\_\_I\_\_I | | | | | |  | |
|  | | How long did you wait after treating your water with aquatab to drink it? (This is a free response) **If not applicable use** “888” | | | | | | | I\_\_II\_\_I:I\_\_I\_\_I h:m | | | | | |  | |
|  | | How many times usually do you collect drinking water and how many times treat water with aquatab daily? **If not applicable use** “888” | | | | | | | 1. I\_\_I\_\_I collect drinking water daily   I\_\_I\_\_I Use aquatab daily | | | | | |  | |
|  | | Is there any detectable residual chlorine in the household stored water? Test water and record the reading.  **( Don’t test the water in the presence of household member) If not applicable use “888”** | | | | | | | I\_\_I\_\_I mg/L | | | | | |  | |
|  | | How many aquatab did you receive during last delivery? | | | | | | | I\_\_I\_\_I\_\_I | | | | | |  | |
|  | | How many days ago were they delivered? | | | | | | | I\_\_I\_\_I\_\_I | | | | | |  | |
|  | | How many aquatab you had during last delivery? | | | | | | | I\_\_I\_\_I\_\_I | | | | | |  | |
|  | | How many aquatab are at present? | | | | | | | I\_\_I\_\_I\_\_I | | | | | |  | |
| **Section 6C: Sanitation Intervention** | | | | | | | | | | | | | | | | |

**Section-6: Combined Arms (WASH & Nutrition)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Record how many households are in this bari | | | | | | | 1. |\_\_\_| Index hh 2. |\_\_\_| Non index hhs | | | |  | |
|  | How many <3 children are there in this bari | | | | | | | 1. |\_\_\_| Index hh 2. |\_\_\_| Non index hhs | | | |  | |
|  | In total, how many potties have been distributed in this bari? | | | | | | | |\_\_\_| | | | |  | |
|  | In total, how many sani scoops have been distributed in this bari? | | | | | | | |\_\_\_| | | | |  | |
|  | Observe how many latrines are there in this bari. | | | | | | | |\_\_\_|loop | | | |  | |
|  | How many are icddrb provided dual pit latrines? | | | | | | | |\_\_\_| | | | |  | |
|  | Observe and note the following conditions for functionality /presence.   1. Present and functional 2. Present but broken, non functional 3. Absent   Above code is applicable for first four column | | | | | | | | | | | | |
|  | Rings | | Slabs | Siphon/  water seal | Super structure | Visible feces   1. On the slab 2. On the floor (inside) 3. Around the latrine (outside) | | Signs of use (>2)   1. Yes   0. No | Smell of  urine/stool   1. Yes   0. No | Is this icddrb provided dual pit latrine   1. Yes   0. No | Current status of using pit   1. Pit-1 2. Pit-2 | | Total member using this latrine |
| 1. |  | |  |  |  |  | |  |  |  |  | |  |
| 2. |  | |  |  |  |  | |  |  |  |  | |  |
| To a respondent (preferably index mom) with a <3 child, who received a potty ask the following:  **Please open question S.408 to S.411 According to the number of question S.403 AND open question S.412 to S.415 according to the number of question S.404** | | | | | | | | | | | | | |
|  | | Does your child defecate in potty? | | | | | 1. Always 2. Most of the time 3. Rarely 4. Never   888. N/A | | | | | If 4/888, skip to C. 630 | |
|  | | Show me the location where your child defecates in the potty most of the time.  Stand over there with mother and ask her to bring the potty. Count the time and record. | | | | | |\_\_|\_\_\_| minute |\_\_\_|\_\_\_| second | | | | |  | |
|  | | Show me where you empty the potty?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | Emptying potty (yes=1, No=0)   1. Latrine 2. Designated pile of garbage 3. Opend pit /separate pit for child or animal 4. Bury it 5. Covered pit 6. Bush/forest/field 7. Nearby water (pond, canal, river) 8. Undefined open site near the bari   777.Others (Specify) | | | | |  | |
|  | | Observation: Potty condition  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | Condition (yes=1, No=0)   1. Easily accessible when needed by the child 2. Easily accessible when needed by the mother 3. Visible signs of feces inside/on the potty/removable pot 4. Potty was covered with the lid 5. Potty was covered anything other than the lid 6. Dry 7. Broken so that it is unusable 8. Covered in dust/sign of non- use 9. Cannot produce a potty | | | | |  | |
|  | | Does your household use a icddr,b supplied sani-scoop to clean up feces around your household | | | | | 1. Yes 2. No   999. Rvwb bv Don’t know | | | | | If 0/999, skip to C.634 | |
|  | | How often do you use the sani-scoop? DO NOT READ THE RESPONSES. | | | | | 1. Multiple times per day 2. Once per day 3. Twice per day 4. A few times each week 5. Less than once per week 6. Used to use it, but no longer use it 7. KLbI bv Never   777.Others (Specify) | | | | |  | |
|  | | What do you use the sani-scoop for?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | Uses (yes=1, No=0)   1. Clean up animal feces 2. Clean up child feces 3. Clean up garbage 4. Take the scoop to the field 5. Digging/gardening   777. Other (Specify) | | | | |  | |
|  | | Could I please see the sani-scoop? Observe sani-scoop condition and record | | | | | Observation (yes=1, No=0)   1. Visible sign of feces on the sani -scoop 2. Dry 3. Broken and needs repair 4. Easily accessible when needed by an adult 5. Signs that the sani-scoop is not used 6. Cannot produce a sani-scoop | | | | |  | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Section 6D: Adherence to Sonamoni | | | | | | |
|  | Have you received Sonamoni & other items for your child from icddr, b? | | | 1. Yes   1. No | If no, skip this section | |
|  | If yes, please show me the Sonamoni and other items that you received for your child from icddr, b? Record your observation. | | | Items (yes=1, No=0)   1. Sonamoni 2. Plastic container for Sonamoni 3. 250 ml pot |  | |
|  | How many Sonamoni sachets did you receive during last delivery? (FRAs will ask household & look on the records) If not applicable use **888** | | | I\_\_I\_\_I Sachets |  | |
|  | How many days ago were they delivered?  (FRAs ask household and see the records ) If not applicable use **“888”** | | | I\_\_II\_\_I days |  | |
|  | How many unused Sonamoni sachet you had during last delivery?  (FRAs calculate and put the number) If not applicable use **“888”** | | | I\_\_II\_\_I Sachets |  | |
|  | How many sonamoni sachets are at present?  (FRAs count and put the number) If not applicable use **“888”** | | | I\_\_I\_\_I Sachets |  | |
|  | Did you feed your child the Sonamoni? | | | 1. Yes   1. No | If no, skip to C.644 | |
|  | If yes, how did you primarily feed the sonamoni to your Child?  Multiple answers allowed, DO NOT READ THE RESPONSES. | Supplementation (yes=1, No=0)   1. Eaten alone directly from sachets 2. Eaten alone using mother’s finger 3. Eaten alone using spoon/plate 4. Mixed with rice 5. Mixed with other food | | |  | |
|  | How much supplement did you give to your child each day?  (DO NOT READ THE RESPONSES) | Amount (yes=1, No=0)   1. 2 sachets 2. 1 Sachet 3. 2/3 Sachet 4. ½ Sachet   777. Others (specify) | | |  | |
|  | If no to B107 then why sonamoni was not eaten at all?  Multiple answers allowed, DO NOT READ THE RESPONSES. | Reasons (Yes=1, No=0)   1. Child didn’t like 2. Not sure about the product 3. Peer pressure no to take 4. Child was sick 5. Away from home   777.Others (specify) | | |  | |
|  | Did anybody else beside the target child eat the Sonamoni? | 1. Yes 2. No | | | If no, skip to C.647 | |
|  | If yes, by whom?  Multiple answers allowed, DO NOT READ THE RESPONSES. | Relationship (Yes=1, No=0)   1. Sibling 2. Other child/children 3. Adult relative(s) 4. Other adult(s) | | |  | |
|  | Were any of the Sonamoni sachets damaged or opened prior or during delivery? | 1. Yes 2. No | | |  | |
| Section 6E: Shortcomings/Problems | | | | | | |
|  | What shortcomings or problems are there in your opinion with the icddrb technologies?  Multiple answers allowed, DO NOT READ THE RESPONSES. | HWS (Yes=1, No=0)   1. Leakage on bucket and tap point 2. Difficult to prepare soapy water 3. Broken cap of soapy water bottle 4. Preparing soapy water time consuming 5. Tap missing 6. Tap broken 7. The bucket is damaged 8. Sharing of hand washing station 9. Lid is cracked 10. No problem   777. Others ( Specify ) | | | |  |
| **Water quality** (Yes=1, No=0)   1. Water having different taste 2. Water having odor 3. Water is cold 4. Irregular supply of aqua tab 5. Treating water time consuming 6. , No problem 7. Others ( Specify ) | | | |  |
| **Sanitation** (Yes=1, No=0)   1. Child cannot use the potty 2. Potty use considered time consuming 3. Cleaning potty 4. Cleaning sani-scoop 5. Broken/ need to repair sani-scoop 6. Latrine without having/broken superstructure 7. No problem 8. Others ( Specify ) | | | |  |
| **Sonamoni (Yes=1, No=0)**   1. Irregular supply 2. Taste is not good 3. Child vomit after swallow 4. Color changed when it is mixed with food 5. Limited supply 6. Bad smell 7. Causes indigestion 8. Loose motion 9. Allergic Reaction 10. Child doesn’t like to eat Sonamoni 11. Difficult to take out of the sachet 12. No problem   777. Other adult(s) | | | |  |
|  | If the answer to any of C651 was “Yes”, ask:  Have any of these shortcomings or problems prevented you from (or made it difficult for you to) feed Sonomani to your child every day? | Practices (**Yes=1, No=0)**   1. Hand Washing 2. Drinking water 3. Using Potty 4. Using Sani-scoop 5. Using latrine 6. Feeding Sonamoni | | | |  |
| SECTION 6F: Exposure to BCC intervention  There are community health workers, sometimes from more than one organization, who may be visiting this community. I would first like to know about a community health worker from icddrb also know as CHP. | | | | | | |
|  | Did CHP/icddr, b staff or anybody else teach you about the technologies in your community? | | Technologies (**Yes=1, No=0)**   1. Handwashing 2. Water treatment 3. Sanitaion(Potty,sani-scoop & latrine) 4. Nutrition | |  | |
|  | Who taught you or received information from?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | **Person (Yes=1, No=0)**   1. Icddr,b CHP 2. ©Icddr,b staff 3. Television 4. Radio 5. Leaflet 6. Poster 7. Flipchart 8. School teacher 9. Parents/family members 10. Neighbors 11. Friends 12. Medical practioneer 13. Other NGO worker 14. GOB worker   777.Others (Specify) | | If No to 1, skip CB 652, CB 653 | |
|  | How did the CHP teach?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | **Methods(Yes=1, No=0)**   1. One to one discussion 2. Group meeting 3. Courtyard session 4. Games 5. Community meetings   777. Others (Specify) | |  | |
|  | What materials did the CHP show you?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | **Materials (Yes=1, No=0)**   1. ©Flash card 2. Poster 3. Cue Card 4. Flip Chart 5. Books   777. Others ( Specify ) | |  | |
|  | Have you heard about key times of hand washing? | | 1. Yes   1. No | | If no, skip CB.655 | |
|  | If yes what are these key times for handwashing?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | Messages of HW **(Yes=1, No=0)**   1. Before preparing food 2. After toilet/defecation 3. After cleaning baby’s anus 4. After disposal of child feces 5. Before eating 6. After eating 7. Before feeding a child 8. After cutting fish or meat 9. Before cutting fruit and salad 10. Before mashing any food or vegetables 11. Before touching cooked food 12. After handling cow-dung 13. Don’t Know   777. Others ( Specify ) | |  | |
|  | What is safe water in your opinion?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | Definition **(Yes=1, No=0)**   1. Water having no odor 2. Water have no color 3. Water having no other taste 4. Water having no disease germs 5. Water that is not hard 6. Water that is clear with no visible dirt 7. Aquatab treated water 8. No harmful chemicals such as arsenic, iron, salt 9. Water that does not develop diseases   777. Others (Specify) | |  | |
|  | What diseases can happen for using unsafe water?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | Diseases **(Yes=1, No=0)**   1. Diarrhea 2. Jaundice 3. Dysentery 4. Typhoid 5. Scabies 6. Worms   777. Others (Specify ) | |  | |
|  | Have you heard any messages on infant/child nutrition and or Sonamoni from CHP or icddr, b staff or any one else? | | 1. Yes 2. No | | If no, skip to CB 663 | |
|  | How old are your the index child? | | 1. 6 months age  2. 6-24 months age  3 . Child yet to born | | If answer is 2, skip to CB.662 | |
|  | If child is <6 months, ASK: What are the messages you have received from CHP?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | **Messages (Yes=1, No=0)**   1. Colostrum feeding within 1/2 hour of birth of the baby 2. Exclusive breastfeeding upto 6 months 3. Importance of breastfeeding | |  | |
|  | Can you tell me what you know about exclusive breast feeding?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | 1. Should breastfeed and give water  2.Breastfeed and give other food  3. Breastfeed only without anything else  999. Don’t know | |  | |
|  | If yes to C102 and child age > 6 months ask, what are the messages you have received from CHP?  Multiple answers allowed, DO NOT READ THE RESPONSES. | | Messages **(Yes=1, No=0)**   1. Importance of complementary feeding 2. Complementary feeding and supplement of Sonamoni after completion of 6 months age of the child 3. Communicated benefit of using Sonamoni 4. Using container to preserve Sonamoni from insects 5. Mixing of sonamoni with complementary food 6. Handwashing before feeding Sonamoni 7. Dosing of Sonamoni two sachet per day 8. Sonamoni is only for 6-24 months child   777. Others ( Specify) | |  | |
|  | How many times has an icddr, b CHP visited your household about any of the technologies?  If not applicable put “**888”** | | In the preceding week |\_\_\_|\_\_\_\_|  In the preceding month |\_\_\_|\_\_\_\_|  until today |\_\_\_|\_\_\_\_| | |  | |
|  | How many courtyard sessions or other meetings lead by an icddrb CHP have you attended in the last 1 month? If not applicable put “**888”** | | **Methods (Yes=1, No=0)**  1.|\_\_\_|One to one discussion  2.|\_\_\_| Group meeting   1. |\_\_\_| Courtyard session 2. |\_\_\_|Community meeting 3. |\_\_\_|Family meeting 4. |\_\_\_| Games   777.|\_\_\_| Others (Specify) | |  | |
|  | How many children's meetings by an icddrb CHP has your children attended in the last 1 month?) If not applicable put “**888”** | | **Methods (Yes=1, No=0)**  1.|\_\_\_|One to one discussion  2. |\_\_\_|Group meeting  3. |\_\_\_|Courtyard session   1. |\_\_\_|Community meeting 2. |\_\_\_|Family meeting 3. |\_\_\_| Games 4. |\_\_\_| Others (Specify) | |  | |
|  | Did you share any of your concerns related to handwashing/water quality/Sanitation/Nutrition with the CHP? | | 1.Yes  0. No  999.Don’t Know | | If no/don’t know, skip to CB.669 | |
|  | Did the CHP help you find a solution? | | 1.Yes , partly  2.Yes,complete solution   1. No | |  | |
|  | Do you still have problem now? | | 1. Yes 2. No | |  | |
| Now I would please like to know about any other community health worker from another organization, other than icddrb: | | | | | | |
|  | How many times has another NGO worker visited your compound about handwashing in the last 1 month. If not applicable put “**888”** | | 1. I\_\_IHandwashing 2. I\_\_I Water treatment 3. I\_\_ISanitaion(Potty,sani-scoop & latrine) 4. I\_\_I Nutrition | |  | |
|  | How many courtyard or other meetings about handwashing, lead by antoher NGO worker, have you attended in the last 1 month? If not applicable put “**888”** | | 1. I\_\_I Handwashing 2. I\_\_I Water treatment 3. I\_\_ISanitaion(Potty,sani-scoop & latrine) 4. I\_\_I Nutrition | |  | |

Quick assessment for hardware distribution of WashB main study

Objectives:

1. To assess the correctness of distribution of hard ware to the household
2. To assess the functional status of the distributed hardware

Method: by visiting Bari and Household

Users: Field Research Officer (FRO) FORM: F

Quick hardware assessment tools

| Interventions & Hardware | Eligibility  of the Bari /HH | | If Eligible  Installation Status | | If installed  Functioning status | | Remarks |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Eligible  = 1 | Non Eligible  = 2 | Installed  = 3 | Not installed = 4 | Functioning= 5 | Non Functioning = 6 |
| Hand washing |  |  |  |  |  |  |  |
| 1. Hand washing station |  |  |  |  |  |  |  |
| 1. Soapy water bottle/Soap |  |  |  |  |  |  |  |
| Water Treatment |  |  |  |  |  |  |  |
| 1. Aqua tab |  |  |  |  |  |  |  |
| 1. Storage Vessels |  |  |  |  |  |  |  |
| Sanitation |  |  |  |  |  |  |  |
| 1. Dual Pit latrine |  |  |  |  |  |  |  |
| 1. Saniscoop |  |  |  |  |  |  |  |
| 1. Potty |  |  |  |  |  |  |  |
| Nutrition |  |  |  |  |  |  |  |
| 1. LNS |  |  |  |  |  |  |  |
| Combined Wash |  |  |  |  |  |  |  |
| Hand washing |  |  |  |  |  |  |  |
| 1. Hand washing station |  |  |  |  |  |  |  |
| 1. Soapy water bottle |  |  |  |  |  |  |  |
| Water Treatment |  |  |  |  |  |  |  |
| 1. Aqua tab |  |  |  |  |  |  |  |
| 1. Storage Vessels |  |  |  |  |  |  |  |
| Sanitation |  |  |  |  |  |  |  |
| 1. Dual Pit latrine |  |  |  |  |  |  |  |
| 1. Saniscope |  |  |  |  |  |  |  |
| 1. Potty |  |  |  |  |  |  |  |
| Nutrition Plus Wash |  |  |  |  |  |  |  |
| Hand washing |  |  |  |  |  |  |  |
| 1. Hand washing station |  |  |  |  |  |  |  |
| 1. Soapy water bottle |  |  |  |  |  |  |  |
| Water Treatment |  |  |  |  |  |  |  |
| 1. Aqua tab |  |  |  |  |  |  |  |
| 1. Storage Vessels |  |  |  |  |  |  |  |
| Sanitation |  |  |  |  |  |  |  |
| 1. Dual Pit latrine |  |  |  |  |  |  |  |
| 1. Saniscope |  |  |  |  |  |  |  |
| 1. Potty |  |  |  |  |  |  |  |
| Nutrition |  |  |  |  |  |  |  |
| 1. LNS |  |  |  |  |  |  |  |

Monitoring and Reporting: WashB Field Implementation

Objectives:

* To follow up progress against target.
* To identify the problems of Hardware implementation
* To identify the status of hardware uptake and behavior change in the target community
* To identify gaps in implementing BCC plan by CHPs

Use:

* These formats will give an update of activity progress and achievements made against target.
* Gaps will be identified in the actions taken to improve behavior change to solve the specific problems.
* Provide information on quality of CHP s activities helps further CHP development plan
* Information obtained from this tool will be measured against monthly quantitative survey and necessary steps will be taken in specific action points.
* Preparation of monthly and quarterly reports.

Users: CHP, FRA, FRO, RIs, SPM

|  |  |
| --- | --- |
| Format # | Fill up by |
| Format-1 | CHP |
| Format-2 | CHP |
| Format-3 | FRA |

Format-1: Monthly Reporting Format for CHP to FRA

Name of CHP: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cluster ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of FRA: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Reporting period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| Sl No | Activity | Target | | Achievement | | Problem encountered (if any) | | How was the problem solved?  Or note so if still unsolved | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 01 | Conduct Community meetings |  | |  | |  | |  | |
| 02 | Quick assessment information collection and format fill up |  | |  | |  | |  | |
| 03 | Court Yard meeting/introductory Group discussion on Hardware introduction and negotiation with HH members | | | | |  | |  | |
| : Handwashing |  | |  | |  | |  | |
| : POU |  | |  | |  | |  | |
| : Sanitation |  | |  | |  | |  | |
| : Nutrition |  | |  | |  | |  | |
| : Combined Wash |  | |  | |  | |  | |
| : Nutrition plus Wash |  | |  | |  | |  | |
| 04 | Installation of Hardware | | | | | | | | |
|  | # Bari | | # Ind HH | | # Hardware | |  |  |
| Target | Achiv | Target | Achiv | Target | Achiv |
| : Hand washing Stations |  |  |  |  |  |  |  |  |
| : Soapy water bottle |  |  |  |  |  |  |  |  |
| : Dual Pit latrine |  |  |  |  |  |  |  |  |
| : Seniscoop |  |  |  |  |  |  |  |  |
| : Potty |  |  |  |  |  |  |  |  |
| : Aqua tab |  |  |  |  |  |  |  |  |
| : Kolshi (vessels) |  |  |  |  |  |  |  |  |
| : LNS |  |  |  |  |  |  |  |  |
| 05 | follow-up visits | | | | | | | | |
| : Handwashing |  | |  | |  | |  | |
| : POU |  | |  | |  | |  | |
| : Sanitation |  | |  | |  | |  | |
| : Nutrition |  | |  | |  | |  | |
| : Combined Wash |  | |  | |  | |  | |
| : Nutrition plus Wash |  | |  | |  | |  | |
| 06 | Conduct IPC with HH |  | |  | |  | |  | |
| 07 | Conduct child group meetings |  | |  | |  | |  | |
| 08 | Conductmother group meetings |  | |  | |  | |  | |
| 09 | Caretaker training |  | |  | |  | |  | |
| 10 | Reach out Pregnant mothers and counsel them on improving hand washing behavior and drink chlorine treated water |  | |  | |  | |  | |

Format-2: Hardware Uptake and Functionality Status

* 1. Status: Hardware Uptake

Total No of Bari given with HW stations: \_\_\_\_\_\_\_\_

Total Number of Individual HH given with HW stations: \_\_\_\_\_\_

Total Number of HHs provided with Soapy Water Bottles: \_\_\_\_\_\_\_

Total Number of HHprovided with Kolshi: \_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No of Bari visited | Hand washing | | | | | | POU | | | Remarks |
| User number of HW stations | | | User number of Soapy Water Bottle (observe the bottle and put number) | | | User number of Aqua tab | | |
| # Bari | # HH | | # Bari | # HH | | # Bari | # HH | |  |
| Elig | N Elig | Elig | N Elig | Elig | N Elig |  |
|  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No of Bari visited | Sanitation | | | | | | Nutrition | | | Remarks |
| User number of Dual pit latrine | | | User number of Seniscoop & Potty (observe and put number) | | | User number of LNS | | |
| # Bari | # HH | | # Bari | # HH | | # Bari | # HH | |  |
| Elig | N Elig | Elig | N Elig | Elig | N Elig |  |
|  |  |  |  |  |  |  |  |  |  |  |

* 1. Functionality:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Interventions | Total No of Hardware | No of HW Good in Condition | No of HW need repair | No of HW Lost/ stolen | Remarks |
| Hand washing |  |  |  |  |  |
| 1. Hand washing station |  |  |  |  |  |
| 1. Soapy water bottle/Soap |  |  |  |  |  |
| Water Treatment |  |  |  |  |  |
| 1. Aqua tab |  |  |  |  |  |
| 1. Storage Vessels |  |  |  |  |  |
| Sanitation |  |  |  |  |  |
| 1. Dual Pit latrine |  |  |  |  |  |
| 1. Saniscoop |  |  |  |  |  |
| 1. Potty |  |  |  |  |  |
| Nutrition |  |  |  |  |  |
| 1. LNS |  |  |  |  |  |

Notes from CHP diary: (describe in own language)

Write a paragraph focusing the following questions:

1. Which motivates community to practice hand washing?
2. Which motivates community to use chlorine treated water?
3. Are they motivated with the non health benefits of hand washing/POU/Latrine/LNS?
4. Which prevents them to practice handwashing?
5. Which prevents them to use chlorine treated water?
6. Which prevents them to use saniscoop and potty?
7. Which prevent them to use Latrine?
8. Which prevent them to use LNS for child?

Format-3: Monthly Reporting Format for FRA to FRO

Name of FRA: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ # of CHP supervised by: \_\_\_\_\_\_\_\_\_\_\_\_\_

| Sl No | Activity | Target | | | Achievement | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 01 | Conduct Community meetings |  | | |  | | |
| 02 | Quick assessment information collection and format fill up |  | | |  | | |
| 03 | Court Yard meeting/introductory Group discussion on Hardware introduction and negotiation with HH members | | | | | | |
| : Hand washing |  | | |  | | |
| : POU |  | | |  | | |
| : Sanitation |  | | |  | | |
| : Nutrition |  | | |  | | |
| 04 | Installation of Hardware |  | | | | | |
| # Bari | | # Ind HH | | # Hardware | |
| Traget | Achiv | Target | Achiv | Target | Achiv |
| : Hand washing Stations |  |  |  |  |  |  |
| : Aquatab & Kolshi |  |  |  |  |  |  |
| : Dual pit latrine |  |  |  |  |  |  |
| : Saniscoop and Potty |  |  |  |  |  |  |
| 05 | follow-up visits | | | | | | |
| : Handwashing |  | | |  | | |
| : POU |  | | |  | | |
| : Sanitation |  | | |  | | |
| : Nutrition |  | | |  | | |
| 06 | Conduct IPC with HH |  | | |  | | |
| 07 | Conduct child group meetings |  | | |  | | |
| 08 | Caretaker training |  | | |  | | |
| 09 | Conducts mother group meeting |  | | |  | | |
| 10 | Reach out Pregnant mothers and counsel them on improving hand washing behavior and drink chlorine treated water |  | | |  | | |

Reporting period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ # of Assigned Bari/HH of CHPS under supervision: \_\_\_\_\_\_\_\_/\_\_\_\_\_\_

1. 1. Compilation of CHP Report (work plan part)

Format: 4: Compilation of Hardware uptake and functionality Status

4.1. Hardware Uptake

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No of Bari visited | Hand washing | | | | | | POU | | | Remarks |
| User number of HW stations | | | User number of Soapy Water Bottle (observe the bottle and put number) | | | User number of aqua tab & Kolshi | | |
| # Bari | # HH | | # Bari | # HH | | # Bari | # HH | |  |
| Elig | N Elig | Elig | N Elig | Elig | N Elig |  |
|  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No of Bari visited | Sanitation | | | | | | Nutrition | | | Remarks |
| User number of Dual pit latrine | | | User number of Seniscoop & Potty (observe and put number) | | | User number of LNS | | |
| # Bari | # HH | | # Bari | # HH | | # Bari | # HH | |  |
| Elig | N Elig | Elig | N Elig | Elig | N Elig |  |
|  |  |  |  |  |  |  |  |  |  |  |

4.2. Functionality

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Interventions | Total No of Hardware | No of HW Good in Condition | No of HW need repair | No of HW Lost/ stolen | Remarks |
| Hand washing |  |  |  |  |  |
| 1. Hand washing station |  |  |  |  |  |
| 1. Soapy water bottle/Soap |  |  |  |  |  |
| Water Treatment |  |  |  |  |  |
| 1. Aqua tab |  |  |  |  |  |
| 1. Storage Vessels |  |  |  |  |  |
| Sanitation |  |  |  |  |  |
| 1. Dual Pit latrine |  |  |  |  |  |
| 1. Saniscoop |  |  |  |  |  |
| 1. Potty |  |  |  |  |  |
| Nutrition |  |  |  |  |  |
| 1. LNS |  |  |  |  |  |

1. Self Activity Report:

# of AssignedCluster: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

# of Reporting Bari/HH: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl No | Activity | Target | Achievement | Problem encountered (if any) | How was the problem solved? |
| 01 | Attend Community meetings |  |  |  |  |
| 02 | Attend court yard meetings |  |  |  |  |
| 03 | Check HW installation activities. |  |  |  |  |
| 05 | Attend follow-up visits |  |  |  |  |
| 06 | No. of IPC session observed |  |  |  |  |
| 07 | No. of mothers Group meeting attended |  |  |  |  |
| 08 | No. of child group meeting attended |  |  |  |  |
| 09 | No. of caretaker training attended |  |  |  |  |

C: Compiled list of Key Problems and means of solution

| Name of hardware | Cluster ID | Bari ID | GIS ID  HH | Reporting Problem | Status | | Causes for not being Resolved | Measure Taken |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Resolved | Not Resolved |
| Hand washing |  |  |  |  |  |  |  |  |
| 1. Hand washing station |  |  |  |  |  |  |  |  |
| 1. Soapy water bottle/Soap |  |  |  |  |  |  |  |  |
| Water Treatment |  |  |  |  |  |  |  |  |
| 1. Aqua tab |  |  |  |  |  |  |  |  |
| 1. Storage Vessels |  |  |  |  |  |  |  |  |
| Sanitation |  |  |  |  |  |  |  |  |
| 1. Dual Pit latrine |  |  |  |  |  |  |  |  |
| 1. Saniscoop |  |  |  |  |  |  |  |  |
| 1. Potty |  |  |  |  |  |  |  |  |
| Nutrition |  |  |  |  |  |  |  |  |
| 1. LNS |  |  |  |  |  |  |  |  |
| Combined Wash |  |  |  |  |  |  |  |  |
| Hand washing |  |  |  |  |  |  |  |  |
| 1. Hand washing station |  |  |  |  |  |  |  |  |
| 1. Soapy water bottle |  |  |  |  |  |  |  |  |
| Water Treatment |  |  |  |  |  |  |  |  |
| 1. Aqua tab |  |  |  |  |  |  |  |  |
| 1. Storage Vessels |  |  |  |  |  |  |  |  |
| Sanitation |  |  |  |  |  |  |  |  |
| 1. Dual Pit latrine |  |  |  |  |  |  |  |  |
| 1. Saniscope |  |  |  |  |  |  |  |  |
| 1. Potty |  |  |  |  |  |  |  |  |
| Nutrition Plus Wash |  |  |  |  |  |  |  |  |
| Hand washing |  |  |  |  |  |  |  |  |
| 1. Hand washing station |  |  |  |  |  |  |  |  |
| 1. Soapy water bottle |  |  |  |  |  |  |  |  |
| Water Treatment |  |  |  |  |  |  |  |  |
| 1. Aqua tab |  |  |  |  |  |  |  |  |
| 1. Storage Vessels |  |  |  |  |  |  |  |  |
| Sanitation |  |  |  |  |  |  |  |  |
| 1. Dual Pit latrine |  |  |  |  |  |  |  |  |
| 1. Saniscope |  |  |  |  |  |  |  |  |
| 1. Potty |  |  |  |  |  |  |  |  |
| Nutrition |  |  |  |  |  |  |  |  |
| 1. LNS |  |  |  |  |  |  |  |  |

(FRA will compile this part and will discuss with CHP who are responsible to take care the hardware problems. CHP then will visit every single Bari/HH have problem. A hotline will be established between Caretakers and the CHPs responsible for their areas. They could give call to this cadre of staff if and when required to seek solution for their hardware problem)

D: Observation Checklist for FRA to monitor CHP’s performance:

Name of CHP:

Assigned # of Bari/HH:

Cluster #

Method:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| List of work | Yes =1 | No=2 | NA=3 | Comments |
|  | | | |  |
| Worplan followed |  |  |  |  |
| CHP clearly communicates objective to the compound members before meeting |  |  |  |  |
| Delivers messages of hand washing at 3 key times clearly |  |  |  |  |
| Delivers messages of POU clearly |  |  |  |  |
| Demonstrates Use of Hand washing station in proper way |  |  |  |  |
| Demonstrates preparation of soapy water in proper way |  |  |  |  |
| Demonstrates Flip Chart in a participatory way |  |  |  |  |
| Take feedback from the HH members |  |  |  |  |
| Hardware kept in proper place. Community decision followed. |  |  |  |  |
| Caretaker/Community volunteer selected in a participatory way (ask users about this) |  |  |  |  |
| Community volunteers/caretakers can explain critical times of hand washing (ask caretaker) |  |  |  |  |
| Compound members can explain critical times of hand washing (ask users about this) |  |  |  |  |
| Compound members can explain clearly about water treatment procedure |  |  |  |  |
| Children (above 6) can explain 3 key times of hand washing |  |  |  |  |
| Pregnant Mothers are aware and convinced about drinking chlorine treated water |  |  |  |  |
| Pregnant Mothers are aware and convinced about drinking chlorine treated water |  |  |  |  |

1. Attend Bari meetings and observe CHPs performance
2. Visit Bari/HH, discuss with Bari members and observe changes

BCC Monitoring and Reporting: WashB Field Implementation

1. Objectives:

* To follow up progress against target.
* To identify the problems of Hardware implementation
* To identify the status of hardware uptake and behavior change in the target community
* To identify gaps in implementing BCC plan by CHPs

1. Use:

* These formats will give an update of activity progress and achievements made against target.
* Gaps will be identified in the actions taken to improve behavior change to solve the specific problems.
* Provide information on quality of CHP s activities helps further CHP development plan
* Information obtained from this tool will be measured against monthly quantitative survey and necessary steps will be taken in specific action points.
* Preparation of monthly and quarterly reports.

1. Users: CHP, FRA, FRO,SPM

|  |  |
| --- | --- |
| Format # | Fill up by |
| Format-1 |  |
| Format-2 |  |

Outline of Monitoring Plan: Field Research Assistant (FRA)

FRA will emphasize more on quality delivery of activities in fidelity with the BCC plan.

Objective:

1. To follow up performance of CHP and supervisors in implementing BC interventions.
2. To measure the changes of key behaviors of the target hhs and harmonize with CHPs capacity (knowledge and skill) to deliver behavior change interventions.

Responsible: FRA will follow up activities of 8-10 CHP/month.

Method:

1. Observation
2. FGD
3. Interview HH members
4. Performance of CHP against Key activities:

| Quality Indicators | Activities | Cluster | No | Comments on quality | Recommendations |
| --- | --- | --- | --- | --- | --- |
| 1. Have the messages of Handwashing been delivered appropriately? 2. Have the messages of POU/nutrition/Sanitation been delivered appropriately? 3. Has the community got the messages clearly? | Courtyard sessions observed |  |  |  |  |
| 1. Have the CHP negotiated well with the HH members regarding Hardware selection/use? 2. How did the HH members react with CHPs activities | HH visit Observed |  |  |  |  |
| 1. Did the CHP give message clearly? 2. How big/small was the gathering? 3. Were the participants interested to hear the CHP | Child sessions observed |  |  |  |  |
| 1. Have the activities done with fun? 2. How big/small was the gathering? 3. Have the Mother got clear message out of it? | Mothers session observed |  |  |  |  |

1. Assessment of Behavior Change of the target HHs:

|  |  |
| --- | --- |
| Key behaviors | Comments |
| Handwash | |
| Adult members of the household wash hands with soapy water in three critical times |  |
| Older children of the household Hand wash with soap in three critical times |  |
| HH members properly wash their hands (at least for 20 seconds) as shown in the Flip Chart |  |
| Mothers and Caregivers train their child to wash hands with soapy water |  |
| POU | |
| Caretakers/appointees chlorinate water regularly |  |
| Hh members are using chlorinated water for their drinking purpose |  |
| Sanitation | |
| HH member are cleaning latrine regularly |  |
| HH member are using potty for their child |  |
| HH member are using seniscoop for disposal of human and animal feces |  |
| Nutrition |  |
| HH member are using LNS for their child regularly |  |
| HH member preserving LNS packet after use |  |

Process documentation of household-level promotion of water, sanitation and hygiene products and behaviors for WashB main study

A. Objectives:

1. Document intervention activities implemented in chronological order
2. Determine whether the community health promoters (CHPs) are able to effectively incorporate the principles underlying the approach (re: negotiation, learning, knowledge) into their household visits and courtyard meetings.
3. Describe how households respond to the negotiation-based approach implemented by the CHPs, and to the follow-up visits.
4. Examine whether CHPs are able to correctly explain and demonstrate the different behaviors and hardware.
5. Examine whether CHPs are practicing key behaviors including h/her family/ bari members? (Hand wash,use chlorine water)
6. Examine the fidelity of BCC tools and materials to the BC strategy
7. Determine whether the BCC tools and materials, such as the flip charts, serve their purpose to facilitate interpersonal communication by CHPs.
8. Identify barriers and constraints to CHPs carrying out their work effectively.
9. Measure exposure to interventions: coverage of home visits, exposure to courtyard meetings, distribution coverage of hardware,
10. Evaluation of hardware and problem solving as needed
11. Evaluate the performance of the hardware
12. Evaluation of behavioral impact.

B.OUTLINE OF PROCESS DOCUMENTATION PLAN FOR WASHB MAIN STUDY

| Objective | Method | Tools | Responsible |
| --- | --- | --- | --- |
| 1. Document intervention activities implemented in chronological order | Compile monthly activity logs  Construct timeline graphs  Compile all documents and forms used into a reference guide |  | FRA will provide monthly action plan of CHPs  FRO will compile monthly activity logs.  SPM: final compilation and documentation |
| 1. Determine whether the community health promoters (CHPs) are able to effectively incorporate the principles underlying the approach (re: negotiation, learning, knowledge) into their household visits and courtyard meetings | Attend training sessions for CHP | Checklist:   * Training content: address knowledge and skill issues * Whether Facilitators are able to clear objective and activities to CHP * Pattern of questions asked by CHP: Category 1: Not relevant * Cat-2: close to subject * Cat-3: exactly to the point * Feedback session sufficient to capture the gap | Training Officer attend training sessions and record findings  Training team compile and documentation |
| Accompany a sample of CHPs on household visits | Monthly Monitoring tool | FRO : will provide monthly monitoring report  SPM: - check validity of the report through random field visit, compile and document |
| Review monitoring forms/ checklist completed by CHPs | Monitoring report | FRO : will Provide monthly monitoring report  SPM: check validity through random field check, compile and document |
| Focus groups (or group discussion) with CHPs | FGD guide |  |
| Individual interviews with CHPs who promoted different types of hardware | questionnaire |  |
| 1. Describe how households respond to the negotiation-based approach implemented by the CHPs, and to the follow up visits | Measurement of the “negotiation” construct  -a checklist filled out by the field interviewer observing the CHP  Elli suggests “exit” interviews w/ hhs on the next day to assess acceptance of the visit | Checklist :   * Well rapport built with HH * Informed HH clearly about hardware * HH convinced with CHPs information about Hardware * New hardware received by the HH and properly placed by the HH.   Monitoring report | FRA: monthly monitoring report  FRO: capture the part from monitoring tool and compile  SPM: final compilation and document as report |
| 1. Examine whether CHPs are practicing key behaviors including h/her family/compound members? (Hand wash,use chlorine water) | 1. CHPs received hardware: 2. Visit CHPs houses/compounds and observe the status of hand washing and water treatment 3. Interview family members and neighoubours of these selected CHPs 4. CHPs who did not receive hardware: 5. Interview CHPs to know the status whether they are practicing hand washing in key times. 6. How do they do this without hand washing stations? 7. What motivate them to change behaviour | Checklist  Questionnaire | FRO & SPM: develop checklist, visit CHPs house, interview CHPs and family members  Prepare document |
| 1. Examine whether CHPs are able to correctly explain and demonstrate the different behaviors and hardware. | Observation of courtyard meetings  Observation of hhd visits  Demonstration at office | Checklist  Monthly Monitoring tool | FRA: Provide monthly monitoring report  FRO: visit sample households and check validity of FRAs observation  SPM: Final compilation and documentation |
| 1. Determine whether the BCC tools and materials, such as the flip charts, serve their purpose to facilitate interpersonal communication by CHPs. | Qualitative assessment with household members, as described in BCC strategy  Can observe during exit interview; also get feedback during FGD with hhd members | Checklist  Monthly monitoring tool | FRA: Provide monthly monitoring report  FRO: visit sample households and check validity of FRAs observation  SPM: Final compilation and documentation |
| 1. Identify barriers and constraints to CHPs carrying out their work effectively. | Qualitative assessment with CHPs, as described in the WASH protocols | Monthly monitoring tool | FRO: Provide monthly monitoring report  SPM: Final compilation and documentation |
| 1. Measure exposure to interventions: coverage of home visits, exposure to courtyard meetings, distribution coverage of hardware’s, | visit CHPs monthly work plan  Field observation during CHPs visit  Additional questions as part of an exposure scale in the survey | Monthly monitoring tool | FRA: Provide monthly monitoring report  FRO: cross check with Supervisors, Random visit with CHP.  SPM: Final compilation and documentation |
| 1. Evaluation of hardware’s and problem solving as needed | Qualitative and quantitative assessment | Assessment tool  Tool for monthly hardware performance monitoring | Research team: assessment  FRO: provide monthly Hardware performance monthly report  SPM: compilation and documentation |
| 1. Evaluate the performance of the hardware | Qualitative and quantitative assessment | Assessment tool  Tool for monthly hardware performance monitoring | Research team: assessment  FRO: provide monthly Hardware performance monthly report  SPM: compilation and documentation |
| 1. Evaluation of behavioral impact. | Quantitative surveys, as per WASH protocols  Continuous structured observation with subsample | Assessment tool  Tool for monthly hardware performance monitoring | Research team: assessment  FRO: provide monthly Hardware performance monthly report  SPM: compilation and documentation |

Appendix 7: Monitoring and Process Documentation Bengali

**B›Uvi‡fbkb Gi h\_v\_©Zv hvPvB**

**Intervention Fidelity Assessment**

**E‡Ïk¨ Objectives:**

1. **wewfbœ mg‡q Lvbvq e¨eüZ** wewfbœ **B›Uvi‡fbkb Avig-Gi AMÖMwZ hvPvBKiv** To assess the uptake status at household level by different arms periodically
2. **weZiYK„Z nvW©Iqvi Gi Kvh©KvwiZv /e¨envwiKAe¯’v hvPvBKiv** To assess the functional status of the distributed hardware/technology

c×wZ **:** Lvbv ch©v‡q cwi`k©b Gi gva¨‡g (wbwio mv¶vrKvi Ges ch©‡e¶b ) **Method**: by visiting household (In-depth interview

and observation)

e¨enviKvix : wdì wimvP© G¨vwmm‡U›U (Gd Avi G)**Users:** Field Research Assistant (FRA)

‡mKkb 1: wVKvbv kbv³KiY, Ges cwi`k©b Section-1: Household Identification, address and visit

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl#** | | **Item** | | **Code** | | | | | | | | **Skip** | |
|  | | LvbvBDwbK AvB wW Household Unique ID (see front door) | | |\_\_|\_\_|\_\_|\_\_|\_\_| | | | | | | | |  | |
|  | | Lvbvkbv³KiY Identification of the household | | 1. wbe©vwPZ wkïmn LvbvHousehold with enrolled child 2. evoxi Ab¨vb¨ LvbvOther households of the bari | | | | | | | |  | |
|  | | Gd Avi G bvg Ges Ggcøqx AvB wW FRA Name and Empl. ID | |  | | | | | | | |  | |
|  | | B›Uvi‡fbkb Avig Intervention Arms | | 1. nvZ‡avqv Hand washing (Open section 2) 2. cvwbi ¸bv¸b Water Quality (Open section 3) 3. cqt wb®‹vkbSanitation (Open section 4) 4. cywó Nutrition (Open section 5) 5. Iqvk K¤^vBÛ Wash Combined (Open section 6) 6. cywó c­vm Iqvk Nutrition plus Wash (Open section 6) | | | | | | | |  | |
|  | | M‡elYvq Aš©Íf~³ Lvbvi †dvb bvš^vi Cell phone number of the enrolled hh | | 1. cÖv\_wgK ‡dvb **bvš^vi** Primary |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| 2. wØZxq‡dvb **bvš^vi** Secondary |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| | | | | | | | |  | |
|  | | wm GBP wci bvg Ges AvB wW Name of Assigned CHP and ID | |  | | | | | | | |  | |
|  | | DËi`vZvi cwiPq Respondent status | | 1. Uv‡M©U wkïi gvMother of the target child 2. Uv‡M©U wkïi wcZvFather of the target child 3. Uv‡M©U wkïi cwiPh©vKvix Caregiver of the target child   777. Ab¨vb¨ (wbwÏó Ki“b)Others (Specify) | | | | | | | |  | |
|  | | B‡Û· wkïi eqmWhat is the age of the index child? | | 1. |\_\_|\_\_| gvm months |\_\_|\_\_| w`b days   888. **cÖ‡Rvh¨**bq NA | | | | | | | |  | |
|  | | G‡mm‡g›UGi ZvwiL Date of assessment | | |\_\_|\_\_| /|\_\_|\_\_|/|\_\_|\_\_| w`b / gvm /eQi DD/MM/YY | | | | | | | |  | |
| ‡mKkb -2: nvZ †avqv †÷kb msµvšÍ Section- 2: Adherence to Hand Washing Stations (HWS) | | | | | | | | | | | | | |
|  | Avcwb AvBwmwWwWAviwe †\_‡K nvZ †avqvi †÷kb †c‡q‡Qb wK? Have you received Hand Washing set (HWS) from icddr, b? | | | | | | 1. n¨v Yes 2. bv No | | | | | If no, skip to HB. 206 | |
|  | AvBwmwWwWAviwe †\_‡K cvIqv nvZ †avqvi †÷kbwU †Kv\_vq ivLv n‡q‡Q Zv Avgv‡K ej‡eb wK? Would you please tell me about the location to be used of HWS received from icddr, b? | | | | | | 1. cvqLvbv Toilet 2. ivbœvNi Kitchen | | | | |  | |
|  | ch©‡e¶Y Ki“b Ges wb‡Pi †UwejwU c’iY Ki“bt cvqLvbv I ivbœvNi-Gi Ae¯’vb Ges nvZ †avqvi †÷k‡bi Dcw¯’wZ I Zvi Kvh©KvwiZv Observe the HWS near the toilet and kitchen and fill out the following tables for presence and functionality of the HWS | | | | | | | | | | | | |
| Items | | | | cvqLvbv Toilet | | | ivbœvNi Kitchen | | | | |  |
| Dcw¯’wZ Presence   1. n¨uvYes 2. bvNo   888. **cÖ‡Rvh¨**bq NA | Kvh©KvwiZv Functional   1. n¨uvYes 2. bvNo   888. **cÖ‡Rvh¨**bq NA | | Dcw¯’wZ Presence   1. n¨uvYes 2. bvNo   888. **cÖ‡Rvh¨**bq NA | Kvh©KvwiZv Functional   1. nu¨vYes 2. bvNo   888. **cÖ‡Rvh¨**bq NA | | | |  |
| 1. AvBwmwWwWAviwe †\_‡K cvIqv Kj mn evjwZ(Kvh©KvwiZv =Kj/U¨vc KvR K‡i, evjwZ‡Z †Kvb wQ`ª †bB, nvZj fvsMv bq)Icddrb bucket with tap (functional = tap in working order, bucket does not have any leaks, handles not broken) | | | |  |  | |  |  | | | |  |
| 2. AvBwmwWwWAviwei evjwU†Z nvZ †avqvi Rb¨ cvwb Av‡Q Water in the icddrb bucket for handwashing | | | |  |  | |  |  | | | |  |
| 3. nvZ †avqvi Rb¨ e¨eüZ Ab¨‡Kvb cvwbi Drm Other water source used for handwashing | | | |  |  | |  |  | | | |  |
| 4. evjwZ‡Z XvKbvAv‡Q Lid of the bucket | | | |  |  | |  |  | | | |  |
| 5. AvBwmwWwWAviwe †\_‡K cvIqv Mvgjv (Kvh©KvwiZv = Mvgjv‡Z ‡Kvb wQ`ª bvB) Icddrb bowl (functional = no leaks) | | | |  |  | |  |  | | | |  |
| 6. AvBwmwWwWAviwe †\_‡K cvIqv Uzj(Kvh©KvwiZv =cvqv/Ab¨vb¨ Ask fvsMv bq)Icddrb tool (functional = no legs broken or other evidence of breakage) | | | |  |  | |  |  | | | |  |
| 7. AvBwmwWwWAviwe †\_‡K cvIqv mvevb-cvwbi †evZj Lvwj Empty Icddrb soapy water bottle | | | |  |  | |  |  | | | |  |
| 8. AvBwmwWwWAviwe †\_‡K cvIqv mvevb-cvwbi †evZ‡j mvevb-cvwb Av‡Q Icddrb soapy water bottle with soapy water | | | |  |  | |  |  | | | |  |
| 9.a mvevb-cvwbi †evZj mvevb-cvwb‡Z m¤ú~b© fwZ© Soapy water bottle full | | | |  |  | |  |  | | | |  |
| 9.b mvevb-cvwbi †evZj mvevb-cvwb‡Z AvswkK fwZ© Soapy water bottle partially full | | | |  |  | |  |  | | | |  |
| 9.c mvevb-cvwbi †evZj mvevb-cvwb‡Z wKQyUv fwZ© Only small amount of soapy water at the bottom | | | |  |  | |  |  | | | |  |
| 10. AvBwmwWwWAviwe ‡`Iqv mvevb-cvwbi †evZj Qvov Ab¨ †Kvb †evZ‡j mvevb-cvwb Av‡Q Soapy water in another container other than icddrb provided | | | |  |  | |  |  | | | |  |
| 11. cvwbi Dr‡mi Kv‡Q mvevb-cvwb Qvov Ab¨ †h †Kvb ai‡bi mvevb Gi Dcw¯’wZ Soap of any form other than soapy water present at water source | | | |  |  | |  |  | | | |  |
| 12. wWUvi‡R›U cvDWvi Powdered detergent | | | |  |  | |  |  | | | |  |
| 13. GKB ¯’v‡b mKj Dcv`vb mn nvZ †avqvi ‡÷kb HWS all together in place | | | |  |  | |  |  | | | |  |
| 14. nvZ †avqvi ‡÷kb 10dz‡Ui g‡a¨ HWS available < 10 steps | | | |  |  | |  |  | | | |  |
| 15. nvZ †avqvi †÷k‡bi Kv‡Q wKDKvW© Av‡QCue card near handwashing station | | | |  |  | |  |  | | | |  |
|  | Avcbvi g†Z nvZ †avqvi ‡÷kb msµvšÍ wK wK mgm¨v i‡q‡Q? - GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv What shortcomings or problems are there in your opinion with HWS? Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | 1. evjwZ‡Z Ges U¨vc c‡q‡›U wQ`ª Av‡Q Leakage on bucket and tap point 2. mvevb-cvwb ˆZix Kiv KwVb Difficult to prepare soapy water 3. mvevb-cvwbi †evZ‡ji gyL fvsMv Broken cap of soapy water bottle 4. mvevb-cvwb ˆZix Kivmgq mv‡c¶¨ Preparing soapy water time consuming 5. Kj nvwi‡q‡Q Tap missing 6. Kj fvsMv Tap broken 7. evjwZ bó n‡q‡M‡Q The bucket is damaged 8. nvZ †avqvi ‡÷kbwU Ab¨ivI e¨envi K‡i Sharing of hand washing station 9. XvKbv fv½v Lid is cracked 10. ‡Kvb mgm¨v †bB No problem   777. **Ab¨vb¨ (wbwÏó Ki“b)** Others ( Specify ) | | | | | | | | If 10, skip to HB.206 |
|  | *hw` H204 Gi †Kvb GKwUDËiI nu¨v nq* ZLb wRÁvmv Ki‡Z n‡e G/Gme Kvi‡b cÖwZw`b Avcbvi nvZ †avqv e¨vnZ n‡q‡Q wK? *If the answer to any of H204 was “Yes”, ask:*  Have any of these shortcomings or problems prevented you from (or made it difficult for you to) using HWS every day? | | | | 1. nu¨vYes 2. bvNo | | | | | | | |  |
|  |  | | | | | | | | |  |  | |  |
| **nvZ‡avqv msµvšÍ wewmwmB›Uvi‡fbkb cÖ`k©b**Exposure to handwashing BCC intervention  KwgDwbwU ¯^v¯’¨Kg©x, KLbI KLbI GKvwaK cÖwZôvb GB KwgDwbwU‡Z cwi`k©‡bi Kv‡R Av‡m | cÖ\_‡g Avwg AvBwmwWwWAviwe †\_‡K AvmvKwgDwbwU ¯^v¯’¨Kg©x, whwb wm GBP wc wn‡m‡e cwiwPZ, Zvi m¤ú‡K© Rvb‡Z PvB |There are community health workers, sometimes from more than one organization, who may be visiting this community. I would first like to know about a community health worker from icddrb also know as CHP. | | | | | | | | | | | | | |
|  | | | wm GBP wc/ AvBwmwWwWAviwei Kgx© A\_ev Avcbvi GjvKvi Ab¨ †KD Avcbv‡K mvevb/mvevb-cvwb w`‡q nvZ‡avqv wkwL‡q‡Q wK?Did CHP/icddr, b staff or anybody else teach you about hand washing with soap/soapy water in your community? | | 1. nu¨vYes 2. bvNo | | | | | | | | If no, skip to HB.210 |
|  | | | GB wel‡q ‡K wkwL‡q‡Q?Who taught you on handwashing or received information from?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | 1. AvBwmwWwWAvi,wei wmGBPwc Icddr,b CHP 2. AvBwmwWwWAvi,wei Kgx©Icddr,b staff 3. ‡Uwjwfkb Television 4. †iwWI Radio 5. wjd‡jU Leaflet 6. ‡cvóvi Poster 7. wd¬c PvU© Flipchart 8. ¯‹z‡ji wk¶K School teacher 9. evev-gv/cwiev‡ii m`m¨ Parents/family members 10. cÖwZ‡ewk Neighbors 11. eÜy Friends 12. ¯^v¯’¨ civgk©K Medical practioneer 13. Ab¨vb¨ GbwRI Kgx© Other NGO worker 14. miKvix Kg©x GOB worker   777.**Ab¨vb¨ (wbwÏó Ki“b)** Others (Specify) | | | | | | | | If no to 1, skip to HB.210 |
|  | | | wmGBPwc wKfv‡e wkwL‡q‡Q? How did the CHP teach?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | 1. GKR‡bi mv‡\_ Av‡jvPbv One to one discussion 2. `jMZ wgwUs Group meeting 3. DVvb ˆeVK Courtyard session 4. ‡Ljv Games 5. KwgDwbwU wgwUs Community meetings   777. (Ab¨vb¨ wbw`©ó Ki“b **)** Others (Specify) | | | | | | | |  |
|  | | | †m Avcbv‡K wK wK DcKiY †`wL‡q‡Q? What materials did the CHP show you?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | 1. ‡d¬k KvW© Flash card 2. ‡cvóvi Poster 3. wKD KvW©Cue Card 4. wd¬cPvU©Flip Chart 5. eB Books   777. Ab¨vb¨ wbw`©ó Ki“bOthers( Specify ) | | | | | | | |  |
|  | | | nvZ †avqvi DcKib weZiY-Gi Av‡M AvBwmwWwWAviwei wm GBP wc wK Avcbvi mv‡\_ Av‡jvPbv K‡iwQ‡jv ?Did the icddrb CHP negotiate with you before providing HWS? | | 1. Lye fv‡jvfv‡e Very well 2. †Kvb g‡Zv Somewhat 3. Av‡jvPbv K‡iwb Did not negotiate   999. Rvwb bv Don’t Know  888. cÖ‡hvR¨ bq Not applicable | | | | | | | |  |
|  | | | mvevb / mvevb -cvwb w`‡q nvZ †avqvi e¨cv‡i AvBwmwWwWAviweiwmGBPwc KZevi Avcbv‡`i evmvq cwi`k©‡b G‡mwQj? hw` bv nq ZLb 888 emv‡Z n‡e| How many times has an icddr, b CHP visited your household about handwashing with soap /soaphy water? If not applicable put “**888”** | | 1. MZ mßv‡n In the preceding week |\_\_\_|\_\_\_| 2. MZ gv‡m In the preceding month |\_\_\_|\_\_\_| 3. AvR Aewa Until today |\_\_\_\_|\_\_\_\_| | | | | | | | |  |
|  | | | MZgv‡mAvBwmwWwWAviweiwmGBPwc msMwVZ GB msµvšÍ KZ ¸‡jv wgwUs/DVvb ˆeVK -G Avcwb Ask MÖnY K‡i‡Qb?hw` DVvb ˆeVK bv nq ZLb 888 emv‡Z n‡e| How many courtyard sessions or other meetings lead by an icddrb CHP have you attended in the last 1 month? If not applicable put “**888”** | | 1. I\_\_IGKR‡bi mv‡\_ Av‡jvPbv One to one discussion 2. I\_\_I`jMZ wgwUs Group meeting 3. I\_\_IDVvb ˆeVK Courtyard session 4. I\_\_IGjvKvq wgwUs Community meeting 5. I\_\_I‡Ljv Games   777. I\_\_IAb¨vb¨ wbw`©ó Ki“bOthers ( Specify ) | | | | | | | |  |
|  | | | MZgv‡mAvBwmwWwWAviweiwmGBPwc msMwVZ GB msµvšÍ KZ ¸‡jv wkï wgwUs-G Avcbvi wkï Ask MÖnY K‡i‡Qb?hw` wkï wgwUs bv nq ZLb 888 emv‡Z n‡e How many children's meetings by an icddrb CHP has your children attended in the last 1 month?) If not applicable put “**888”** | | 1. I\_\_IGKR‡bi mv‡\_ Av‡jvPbv One to one discussion 2. I\_\_I`jMZ wgwUs Group meeting 3. I\_\_IDVvb ˆeVK Courtyard session 4. I\_\_IGjvKvq wgwUs Community meeting 5. I\_\_I‡Ljv Games   777. I\_\_IAb¨vb¨ wbw`©ó Ki“bOthers ( Specify ) | | | | | | | |  |
|  | | | Avcwb nvZ‡avqv msµvšÍ †Kvb mgm¨v \_vK‡j Zv wmGBPwc mv‡\_ Avjvc K‡i‡Qb wK? Did you share any of your concerns related to handwashing with the CHP? | | 1. nu¨vYes 2. bvNo   999. Rvwb bv Don’t know | | | | | | | | If no/don’t know, skip to HB. 217 |
|  | | | wmGBPwcwKAvcbvi mgm¨v mgvav‡b mnvqZv K‡iwQj? Did the CHP help you find a solution? | | 1. nu¨vAvswkKfv‡e Yes , partly 2. nu¨vm¤ú~b©fv‡e Yes,complete solution 3. bvNo | | | | | | | |  |
|  | | | GLbI wKAvcbvi mgm¨v i‡q‡Q? Do you still have problem now? | | 1. nu¨vYes 2. bvNo | | | | | | | |  |
|  | | | KLb KLb nvZ ay‡Z nq ‡m m¤ú‡K© Avcwb ‡Kvb wKQz Rv‡bb wK? Have you heard about key times of hand washing? | | 1. nu¨vYes 2. bvNo | | | | | | | |  |
| 1. H | | | *hw` DËi nu¨v nq,* Zvn‡j KLb KLb nvZ ay‡Z nq? If yes what are these key times for handwashing?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | 1. Lvevi cª¯‘‡Zi c~‡e© Before preparing food 2. cvqLvbv Kivi ci After toilet/defecation 3. ev”Pv‡K ‡kŠPv‡bvi ci After cleaning baby’s anus 4. ev”Pv‡K cvqLvbv †djvi ci After disposal of child feces 5. Lvevi c~‡e© Before eating 6. Lvevi ci After eating 7. ev”Pv‡K LvIqv‡bvi Av‡M Before feeding a child 8. gvQ/gvsm KvuUvi ci After cutting fish or meat 9. dj Ges mvjv` KvuUviAv‡M Before cutting fruit and salad 10. fZ©v RvZxq †h †Kvb Lvevi/mewR cª¯‘‡Zi c~‡e© Before mashing any food or vegetables 11. ivbœv Kiv Lvevi aivi c~‡e© Before touching cooked food 12. ‡Mvei aivi ci After handling cow-dung 13. Rvwb bv Don’t Know   777. Ab¨vb¨ wbw`©ó Ki“bOthers ( Specify ) | | | | | | | |  |
| GLb Avwg Avcbvi Kv‡Q AvBwmwWwWAviwei wmGBPwc Qvov Ab¨‡Kvb GbwRI/cÖwZôv‡bi KwgDwbwU ¯^v¯’¨ Kg©x m¤§‡Ü Rvb‡Z PvBNow I would please like to know about any other community health worker from another organization, other than icddrb: | | | | | | | | | | | | |  |
| 1. H | | | MZgv‡m Ab¨ †Kvb GbwRI Kgx© nvZ‡avqv msµvšÍ wel‡q KZ evi Avcbvi evox cwi`k©b K‡i‡Q ?How many times has another NGO worker visited your compound about handwashing in the last 1 month | | |\_\_\_|\_\_\_| | | | | | | | |  |
| 1. H | | | MZgv‡mAb¨ †Kvb GbwRI Kgx©Øviv msMwVZ nvZ‡avqv msµvšÍ KZ ¸‡jv wgwUs /DVvb ˆeVK -G Avcwb Ask MÖnY K‡iwQ‡jb?hw` wgwUs /DVvb ˆeVK bv nq ZLb 888 emv‡Z n‡e |How many courtyard or other meetings about handwashing, lead by antoher NGO worker, have you attended in the last 1 month? If not applicable put “**888”** | | |\_\_\_|\_\_\_| | | | | | | | |  |

Section- 3:**‡mKkb -3 cvwbi ¸bv¸b msµvšÍ B›Uvi‡fbkb**Water Quality Intervention

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **cvwbi ¸bv¸b msµvšÍ B›Uvi‡fbkb Water Quality Intervention** | | | | | | | | | |
|  | | Avcbvi wb‡Ri Rb¨ /Avcbvi B‡Û· wkïi Rb¨ Avcwb wKfv‡e Lvevi cvwb msiÿb K‡ib? (hw` B‡Û· wkï bv \_v‡K ZLb gv‡qi Lvev‡ii cvwb m¤ú‡©K wRÁvmv Ki‡Z n‡e| cvwbi cvÎwU †`Lv‡Z ejyb Ges ch©‡e¶YK…Z Z\_¨ †iKW© Kiæb) ---- How do you store drinking water for your index child/for yourself? (Note: If no index child ask for the mother. Ask to show the container and record your observation)  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | 1. RM Jug 2. AvBwmwWwWAviwei cvÎ-‡UvcvR Icddrb storage container-Topaz 3. Kjwm Kolshi 4. gUKv Matka 5. ‡Rwi‡KbJerican   777. Ab¨vb¨ wbw`©ó Ki“bOthers Specify) | | | | |  | |
|  | | hw` w301Gi †Kvb DËi n¨vu nq,ZLb wRÁvmv Ki‡Z n‡e KZevi Avcwb/Avcbvi wkï‡K H cvÎ †\_‡K cvwb cvb Kivb ? the answer to any of W301 was “Yes”, ask how frequent you or the child drinks water from that container? | 1. memgq All the time 2. ‡ekxifvM mgq Most of the time 3. K`vwPr Only rarely 4. KLbI bv Never   777. Ab¨vb¨ wbw`©ó Ki“bOthers (Specify) | | | | |  | |
|  | | Avcwb cvwb weï× Kivi Rb¨ AvBwmwWwWAvi,we †\_‡K †Kvb wKQz ‡c‡q‡Qb wK? Have you received water treatment products from icddr, b? | 1. n¨vu Yes 2. bv No | | | | | If no, skip toWB. 318 | |
|  | | mivmwi ch©‡e¶Y Kiæb Ges bx‡Pi †Uwe‡j cvwbi K‡›UBbvi/Ab¨vb¨ cÖhyw³i Dcw¯’wZ I Kvh©KvwiZv †KvW Abyhvqx Yes=1, No=0, NA=888 em‡e| GLv‡b n¨vu Øviv, †h †Kvb cvwbi K‡›UBbvi/Ab¨vb¨ cÖhyw³i Dcw¯’wZ I Zvi mdj Kvh©KvwiZv †evSv‡e Ges bv Øviv †h †Kvb cvwbi K‡›UBbvi/Ab¨vb¨ cÖhyw³i AbyDcw¯’wZ I Zvi AKvh©KvwiZv †evSv‡e | Gi evwn‡i †Kvb DËi Avm‡j cÖ‡hvR¨ bq em‡e|Do the direct observation and fill out the following tables for presence and functionality of the water technology for Yes=1, No=0, NA=888. “Yes” respresents presence and functional of any of the items,” No” represents absence and non-functional. If do not match with any item use “NA” | | | | | | | |
| Items | | | | cvwb weï×Kib DcKiY Water treatment items | |  | |
| Dcw¯’wZ Presence  n¨vu/bv/cÖ‡hvR¨ bq Yes/No/NA | Kvh©KvwiZv Functional  n¨vu/bv/cÖ‡hvR¨ bq Yes/No/NA |
| 1. AvBwmwWwWAvi,wei cvÎ-‡UvcvR icddrb storage container-Topaz | | | |  |  |  | |
| 1. GKzqvU¨ve Aquatab | | | |  |  |  | |
| 1. cvwbi cvÎ ivLvi Rb¨ AvBwmwWwWAviwe-i †`Iqv Uzjicddrb tools for storage container | | | |  |  |  | |
| 1. cvwbi cvÎ cwi¯Kvi Kivi eªvk Cleanging agents brush | | | |  |  |  | |
| 1. cvwbi cvÎ cwi¯Kvi Kivi Rb¨ Zij mvevb Cleanging agentsliquid soap | | | |  |  |  | |
| 1. AvBwmwWwWAviwe-i– †`Iqv cv‡Î Lvive cvwb Av‡Q Drinking water in the icddrb storage container | | | |  |  |  | |
| 1. AvBwmwWwWAviwe-i– †`Iqv cv‡Î Lvevi cvwb Qvov Ab¨ wKQz ivLv Av‡Q Other liquids in the icddrb storage container | | | |  |  |  | |
| 1. AvBwmwWwWAviwe-i– †`Iqv cvÎ Qvov Ab¨ †Kvb cv‡Î Lvive cvwb ivLv Av‡Q Drinking water other than icddrb storage container | | | |  |  |  | |
| 1. Ab¨vb¨ wbw`©ó KiæbOthers (Specify) | | | |  |  |  | |
|  | | hw` AvBwmwWwWAviwe-i cv‡Î cvwb \_v‡K,ZLb wRÁvmv Ki‡Z n‡e KZ¶Y Av‡M Avcwb/ Avcbvi Lvbvi Ab¨‡KD H cvwb msMÖn K‡i‡Qb? hw` cv‡Î cvwb bv \_v‡K Zvn‡j 888 wjLyb If the water available in the icddr, b storage container asks, how long ago did you or somebody in your home collect this water? If no water in icddr, b storage container use **“888”** | | | | I\_\_I\_\_I:I\_\_II\_\_I w`b:N›Uv Days:hh | |  | |
|  | | Avcwb GB cvwb wK ‡Kvbfv‡e weï× K†i‡Qb? Have you done anything to make this water safer to drink? | 1. n¨vu Yes 2. bv No   999. Rvwb bv Don’t Know | | | | | If no/Don’t know, skip to W.312 | |
|  | | †Kvb c×wZ‡Z Avcwb cvwb weï× K‡i‡Qb ? DËi c‡o ïbv‡bv hv‡e bv | DËi bv cvIqv ch©šÍ cÖkœ Kiæb| GKvwaK DËi n‡Z cv‡i What method did you use? (DO NOT READ RESPONSES. PROBE UNTIL RESPONDENT IS FINISHED.) Multiple answer allowed | 1. GKzqvU¨ve Aquatab 2. dzwU‡q Boil 3. cvwbi wdëvi Water filter 4. ev‡qvt m¨vÛ wdëvi Biosand filter 5. Kvco ev Ab¨wKQy w`‡q †Qu‡K Strain it through cloth or other material 6. evwj w`‡q w\_wZ‡q Let it stand and settle 7. wdUwKix wgwk‡q Coagulant (alum) 8. m~‡h©¨i Av‡jv‡Z Solar disinfection (SODIS) | | | | | If answer is not 1, skip to W.312 | |
|  | | Avcbvi msi¶YK…Z Lvev‡ii cvwb‡Z GKmv‡\_ KZ¸‡jv GKzqvU¨ve wgwk‡qwQ‡jb ? How many aquatabs at a time did you use in your dirinking water storage container? | I\_\_I\_\_I | | | | |  | |
|  | | GKzqvU¨ve wgkv‡bvi ci cvwb LvIqvi Av‡M Avcwb KZ¶Y A‡c¶v K‡iwQ‡jb? How long did you wait after treating your water with aquatab to drink it? (This is a free response) | I\_\_II\_\_I:I\_\_I\_\_I N›Uv: wgwbU h:m | | | | |  | |
|  | | Avcwb cÖwZw`b KZevi Lvevi cvwb msMÖn K‡ib Ges Lvevi cvwb weï× Kivi Rb¨ cÖwZw`b KZevi GKzqvU¨ve †gkvb ? How many times usually do you collect drinking water and how many times treat water with aquatab daily? | 1. I\_\_I\_\_I cÖwZw`b Lvevi cvwb msMÖn Kivi msL¨v collect drinking water daily 2. I\_\_I\_\_I cÖwZw`b GKzqvU¨ve e¨envi Kivi msL¨v Use aquatab daily | | | | |  | |
|  | | Lvbvq msi¶YK…Z cvwb†Z KZUzKz †iwmwWDj †K¬vwib cvIqv †M‡Q? cvwb cix¶v K‡i djvdj wjwce×Ki‡Z n‡e| hw` cvwb bv \_v‡K †m†¶‡Î**“**888**” e**mvb| Is there any detectable residual chlorine in the household stored water? Test water and record the reading.  ( Don’t test the water in the presence of household member) If not applicable use “888” | I\_\_I\_\_I wg.MÖvg/wj mg/L | | | | |  | |
|  | | Avcwb †klevi KZ¸‡jv GKzqvU¨ve ‡c‡q‡Qb ? How many aquatab did you receive during last delivery? | I\_\_I\_\_I\_\_I | | | | |  | |
|  | | Avcwb me©†kl KZw`b Av‡M GKzqvU¨ve ‡c‡q‡Qb? How many days ago were they delivered? | I\_\_I\_\_I\_\_I | | | | |  | |
|  | | ZLb Avcbvi Kv‡Q KZ¸‡jvGKzqvU¨ve wQj ? How many aquatab you had during last delivery? | I\_\_I\_\_I\_\_I | | | | |  | |
|  | | GLb Avcbvi Kv‡Q KZ¸‡jv GKzqvU¨ve Av‡Q? How many aquatab are at present? | I\_\_I\_\_I\_\_I | | | | |  | |
|  | | cvwb weï× Kivi c×wZwUe¨envi Ki‡Z wM‡q Avcbvi ‡Kvb mgm¨v n‡q‡Q wK? DËi n¨uv n‡j cÖkœ Kiæb wK wK mgm¨v n‡q‡Q? What shortcomings or problems are there in your opinion with safe water system water treatment? ?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | 1. cvwbi ¯^v` Avjv`v Water having different taste 2. cvwb MÜhy³ Water having odor 3. cvwbVvÛv Water is cold 4. cvwbweï×Kiv mgq mv‡c¶¨ e¨cvi Treating water time consuming 5. cvwbievjwU/cvÎ cwi¯‹vi Kiv AwZwi³ KvR Cleansing the bucket is additional task 6. Ab¨vb¨ Others 7. ‡Kvb mgm¨v nq bvB, No problem | | | If 7, skip to W.318 | |
|  | | *hw`* w*.316 Gi ‡Kvb GKwU DËiI n¨vu nq Zvn‡j,* GB mgm¨vi Kvi‡b Avcwb/Avcbvi wkïi GKzqvU¨ve †gkv‡bv cvwb LvIqv ev` w`‡qwQ‡jb wK? *If the answer to any of W.316 was “Yes”, ask:* Have any of these shortcomings or problems prevented you or your child from (or made it difficult for you to) drinking aquatab treated water every day? | | | 1. n¨vu Yes 2. bv No | | |  | |
| **cvwb msµvšÍ wewmwmB›Uvi‡fbkb cÖ`k©b**Exposure to water BCC intervention  KwgDwbwU ¯^v¯’¨Kg©x, KLbI KLbI GKvwaK cÖwZôvb GB KwgDwbwU‡Z cwi`k©‡bi Kv‡R Av‡m | cÖ\_‡g Avwg AvBwmwWwWAviwe †\_‡K AvmvKwgDwbwU ¯^v¯’¨Kg©x, whwb wm GBP wc wn‡m‡e cwiwPZ, Zvi m¤ú‡K© Rvb‡Z PvB |There are community health workers, sometimes from more than one organization, who may be visiting this community. I would first like to know about a community health worker from icddrb also know as CHP. | | | | | | | | | |
|  | wm GBP wc/ AvBwmwWwWAviwei Kgx© A\_ev Avcbvi GjvKvi Ab¨ †KD Avcbv‡K cvwb weï×Ki‡Yi Rb¨ †Kvb wKQz wkwL‡q‡Q wK? Did CHP/icddrb staff or anybody else teach you about water purification in your community? | | | 1. n¨vu Yes 2. bv No | | | | | If no, skip to WB.322 |
|  | Avcwb †Kv\_v †\_‡K cvwb weï×Ki‡Yi welq †R‡b‡Qb? Where did you learn about water purification?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | 1. wmGBPwc CHP 2. icddr, b Kg©x icddr,b staff 3. ‡Uwjwfkb Television 4. †iwWI Radio 5. cÖPvi cÎ Leaflet 6. ‡cvóvi Poster 7. wej‡evW ©Billboard 8. wcZvgvZv/ cwiev‡ii m`m¨Parents/family members 9. cÖwZ‡ewk Neighbors 10. eÜy Friends 11. ¯‹z‡ji wk¶K School teachers 12. cvV¨eB Text book 13. Ab¨vb¨ eB Other books 14. evox‡Z Ab¨vb¨ NGO Kgx Other NGO worker at home 15. Ab¨vb¨ wbw`©ó Ki“bOthers (Specify ) | | | | | If no to 1, skip to WB. 322 |
|  | wmGBPwc wKfv‡e wkwL‡q‡Q?How did the CHP teach?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | 1. GKR‡bi mv‡\_ Av‡jvPbv One to one discussion 2. `jMZ wgwUs Group meeting 3. DVvb ˆeVK Courtyard session 4. GjvKvq wgwUs Community meeting 5. Ljv Games   777. Ab¨vb¨ wbw`©ó Ki“bOthers ( Specify ) | | | | |  |
|  | †m Avcbv‡K wK wK DcKiY †`wL‡q‡Q? What materials did the CHP show you?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | 1. ‡d¬k KvW©Flash card 2. ‡cvóvi Poster 3. wKD KvW©Cue Card 4. wd¬cPvU©Flip Chart 5. eB Books   777. Ab¨vb¨ wbw`©®U Ki“b Others ( Specify ) | | | | |  |
|  | AvBwmwWwWAviweiwm GBP wc cvwb weï×KiY DcKiY †`Iqvi Av‡M/†`Iqvi mg‡q Avcbvi mv‡L †Kvb Av‡jvPbv K‡iwQj wK? Did icddrb CHP negotiate with you before or during distribution of water purification materials? | | | 1. Lye fv‡jvfv‡e Very well 2. †Kvb g‡Zv Somewhat 3. Av‡jvPbv K‡iwb Did not negotiate   999. Rvwb bv Don’t Know  888. cÖ‡hvR¨ bq Not applicable | | | | |  |
|  | wmGBPwc KZevi Avcbv‡`i Lvbv cwi`k©‡b G‡m‡Q ? hw` Lvbv cwi`k©‡b bv Av‡m ZLb 888 emv‡Z n‡e|How many times has the CHP visited in your household? If not applicable put “**888”** | | | 1. MZ mßv‡n In the preceding week I\_\_I\_\_I 2. MZ gv‡m In the preceding month I\_\_II\_\_I 3. AvR‡K ch©šÍ Until today I\_\_II\_\_I | | | | |  |
|  | MZgv‡mAvBwmwWwWAviweiwmGBPwc msMwVZ GB msµvšÍ KZ ¸‡jv wgwUs/DVvb ˆeVK -G Avcwb Ask MÖnY K‡i‡Qb?hw` DVvb ˆeVK bv nq ZLb 888 emv‡Z n‡e| How many courtyard sessions or other meetings lead by an icddrb CHP have you attended in the last 1 month? If not applicable put “**888”** | | | 1. I\_\_IGKR‡bi mv‡\_ Av‡jvPbv One to one discussion 2. I\_\_I`jMZ wgwUs Group meeting 3. I\_\_IDVvb ˆeVK Courtyard session 4. I\_\_IGjvKvq wgwUs Community meeting 5. I\_\_I‡Ljv Games   777. I\_\_IAb¨vb¨ wbw`©ó Ki“bOthers ( Specify ) | | | | |  |
|  | MZgv‡mAvBwmwWwWAviweiwmGBPwc msMwVZ GB msµvšÍ KZ ¸‡jv wkï wgwUs-G Avcbvi wkï Ask MÖnY K‡i‡Qb?hw` wkï wgwUs bv nq ZLb 888 emv‡Z n‡e How many children's meetings by an icddrb CHP has your children attended in the last 1 month?) If not applicable put “**888”** | | | 1. I\_\_IGKR‡bi mv‡\_ Av‡jvPbv One to one discussion 2. I\_\_I`jMZ wgwUs Group meeting 3. I\_\_IDVvb ˆeVK Courtyard session 4. I\_\_IGjvKvq wgwUs Community meeting 5. I\_\_I Ljv Games   777. Ab¨vb¨ wbw`©ó Ki“bOthers ( Specify ) | | | | |  |
|  | Avcwb nvZ‡avqv msµvšÍ †Kvb mgm¨v \_vK‡j Zv wmGBPwc mv‡\_ Avjvc K‡i‡Qb wK? Did you share any of your concerns related to handwashing with the CHP?  wmGBPwcwKAvcbvi mgm¨v mgvav‡b mnvqZv K‡iwQj? Did the CHP help you find a solution? | | | 1. nu¨vYes 2. bvNo   999. Rvwb bv Don’t know | | | | | If no/don’t know, skip to WB.331 |
|  | wmGBPwcwKAvcbvi mgm¨v mgvav‡b mnvqZv K‡iwQj? Did the CHP help you find a solution? | | | 1 .nu¨vAvswkKfv‡e Yes , partly  2. nu¨vm¤ú~b©fv‡e Yes,complete solution  0. bvNo | | | | |  |
|  | GLbI wKAvcbvi mgm¨v i‡q‡Q? Do you still have problem now? | | | 1. nu¨vYes  0. bvNo | | | | |  |
|  | Avcbvi g‡Z wbivc` cvwb wK?What is safe water in your opinion?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | 1. ‡h cvwb‡Z †Kvb MÜ \_v†K bv Water having no odor 2. ‡h cvwb‡Z †Kvb is \_v†K bv Water have no color 3. ‡h cvwb‡Z Ab¨ †Kvb ¯^v` \_v†K bv Water having no other taste 4. †h cvwb‡Z †Kvb †ivM-RxevYy bv \_vKv Water having no disease germs 5. ‡h cvwb ¶vi hy³ bq Water that is not hard 6. ‡h cvwbwU cwi®‹vi , †Kvb `„k¨gvb gqjv †bB Water that is clear with no visible dirt 7. GKzqvU¨ve w`‡q weï× cvwb Aquatab treated water 8. ‡Kvb wec`RbK ivmvqwbK c`v\_© †bB †hgb Av‡m©wbK, Avqib, jeb No harmful chemicals such as arsenic, iron, salt 9. ‡h cvwb †ivM e„w× K‡i bv Water that does not develop diseases   777. ) Ab¨vb¨ wbw`©®U Ki“b Others (Specify) | | | | |  |
|  | wbivc` cvwb e¨envi bv Ki‡j wK wK †ivM n‡Z cv‡i?What diseases can happen for using unsafe water?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | 1. Wvqwiqv Diarrhea 2. RwÛm Jaundice 3. Avgvkv Dysentery 4. UvBd‡qW Typhoid 5. ‡¯‹wem Scabies 6. K„wg Worms   777. Ab¨vb¨ wbw`©®U Ki“b Others (Specify ) | | | | |  |
| GLb Avwg Avcbvi Kv‡Q AvBwmwWwWAviwei wmGBPwc Qvov Ab¨‡Kvb GbwRI/cÖwZôv‡bi KwgDwbwU ¯^v¯’¨ Kg©x m¤§‡Ü Rvb‡Z PvB Now I would please like to know about any other community health worker from another organization, other than icddrb: | | | | | | | | | |
|  | MZgv‡m Ab¨†Kvb GbwRI Kgx© cvwb weï×Kib msµvšÍ wel‡q KZevi Avcbvi evox cwi`k©b K‡i‡Q ?How many times has another NGO worker visited your bari about water treatment in the last 1 month | | | I\_\_I\_\_I | | | | |  |
|  | MZgv‡mAb¨†Kvb GbwRI Kgx© msMwVZ cvwb weï×Kib msµvšÍ KZ¸‡jv wgwUs /DVvb ˆeVK -G Avcwb Ask MÖnY K‡i‡Qb?hw` wgwUs /DVvb ˆeVK bv nq ZLb 888 emv‡Z n‡e| How many courtyard or other meetings about water treatment, lead by antoher NGO worker, have you attended in the last 1 month? If not applicable put “**888”** | | | I\_\_II\_\_I | | | | |  |

Section-4:cqt wb®‹vkb e¨e¯’vcbv Sanitation Intervention

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| cqt wb®‹vkb e¨e¯’vcbv **Sanitation Intervention** | | | | | | | | | | | | | | | | | | | | | |
|  | GB evox‡Z KZ¸‡jv Lvbv Av‡Q Zv wjwce× Ki“b? Record how many households are in this bari | | | | | | | | | | | | | 1. |\_\_\_| wbw`©ó Lvbv Index hh 2. |\_\_\_| Ab¨vb¨ Lvbv Non index hhs | | | | | | |  |
|  | GB evox‡Z <3 eQi eq‡mi KZ¸‡jv wkï Av‡Q ? How many <3 children are there in this bari | | | | | | | | | | | | | 1. |\_\_\_| wbw`©ó Lvbv Index hh 2. |\_\_\_| Ab¨vb¨ Lvbv Non index hhs | | | | | | |  |
|  | me©‡gvU KZ¸‡jv cwU GB evox‡ZweZiYKiv n‡q‡Q ? In total, how many potties have been distributed in this bari? | | | | | | | | | | | | | |\_\_\_| | | | | | | |  |
|  | me©‡gvU KZ¸‡jv m¨vwb®‹zc GB evox‡ZweZiYKiv n‡q‡Q ? In total, how many sani scoops have been distributed in this bari? | | | | | | | | | | | | | |\_\_\_| | | | | | | |  |
|  | ch©‡e¶Y Kiæb: GB evox‡Z KZ¸‡jv j¨vwUªb Av‡Q Observe how many latrines are there in this bari. | | | | | | | | | | | | | |\_\_\_| jyc loop | | | | | | |  |
|  | AvBwmwWwWAviwe†\_‡K `yBMZ© wewkó KZ¸‡jv j¨vwUªb†`Iqv n‡q‡Q? How many are icddrb provided dual pit latrines? | | | | | | | | | | | | | |\_\_\_| | | | | | | |  |
|  | wbgœwjwLZ Ae¯’v I Zvi Kvh©KvixZv ch©‡e¶Y Kiyb | Observe and note the following conditions for functionality /presence.   1. Present and functional Av‡Q Ges KvR K‡i 2. Present but broken, non functional Av‡Q wKš‘ fv½v, KvR K‡i bv 3. Absent bvB   Dc‡iv³ †KvW¸‡jv cÖ\_g PviwU Kjv‡gi Rb¨ cÖ‡hvR¨ | | | | | | | | | | | | | | | | | | | | |
|  | wis Rings | | møve Slabs | mvB‡dvb /IqvUvi wmj Siphon/  water seal | DcwiKvVv‡gv Super structure | `„k¨gvb ¸  Visible feces   1. møv‡ei Dci On the slab 2. ‡g‡Si Dci(fZ‡i) On the floor (inside) 3. j¨vwUª‡bi Pvicv‡k(evwn‡i) Around the latrine (outside) | | | | | | e¨env‡ii wPý i‡q‡Q Signs of use (>2)   1. n¨uv Yes 2. bv No | | | gj-g~‡Îi  MÜ  Smell of  urine/stool   1. n¨uv Yes 2. bv No | Is this icddrb provided dual pit latrine  Bnv wK AvBwmwWwWAviwei†`Iqv `yBMZ© wewkó j¨vwUªb   1. n¨uv Yes   0.bv No | | Current status of using pit  GLb †Kvb wcU e¨envi Ki‡Qb   1. wcU-1 Pit-1 2. wcU-2 Pit-2 | | Total member using this latrine KZRb m`m¨ GB j¨vwUªb e¨envi Ki‡Q | |
| 1. |  | |  |  |  |  | | | | | |  | | |  | | | | | | |
| 2. |  | |  |  |  |  | | | | | |  | | |  | | | | | | |
| <3 eQi eq‡mi wbw`©ó wkïi gv whwb cwU †c‡q‡Qb Zvi Kv‡Q wbgœwjwLZ wel‡q wRÁvmv Ki‡Z n‡e | To a respondent (preferably index mom) with a <3 child, who received a potty ask the following:  **Please open question S.408 to S.411 According to the number of question S.403 AND open question S.412 to S.415 according to the number of question S.404** | | | | | | | | | | | | | | | | | | | | | |
|  | | Avcbvi wkï wK cwU‡Z cvqLvbv K‡i ? Does your child defecate in potty? | | | | | 1. memgq Always 2. ‡ekxifvM mgq Most of the time 3. K`vwPr Rarely 4. KLbI bv Never   888. cÖ‡hvR¨ bqN/A | | | | | | | | | | | | If 4/888, skip to 411 | | |
|  | | Avcbvi wkï ‡ekxifvM mgq ‡hLv‡b cwU‡Z e‡m cvqLvbv K‡i †mB RvqMvUv Avgv‡K †`Lvb| Show me the location where your child defecate in the potty most of the time.  D³ RvqMv‡Z Avcwb Ges gv `vouvb | Gevi gv‡K ejyb Avgv‡K cwUwU G‡b †`Lvb| cwU Avb‡Z KZUzKz mgq †j‡M‡Q Zv MYYv Kiæb| Stand over there with mother and ask her to bring the potty. Count the time and record | | | | | |\_\_|\_\_\_| minute |\_\_\_|\_\_\_| second | | | | | | | | | | | |  | | |
|  | | Avgv‡K †`Lv‡eb wK †KvLvq cwUwU Lvwj Kiv nq? Show me where you empty the potty?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | cwU LvwjKiY Emptying potty (yes=1, No=0)   1. j¨vwUªb Latrine 2. wba©vwiZ gqjv †djvi RvqMvq Designated pile of garbage 3. †Lvjv M‡Z©/wkï ev cïi Rb¨ Avjv`v M‡Z© Opend pit /separate pit for child or animal 4. gvwU‡Z cyu‡Z †djv nq Bury it 5. XvKbvhy³ M‡Z© Covered pit 6. †Svc-Svo/evMvb/gvV Bush/forest/field 7. cvwbi Dr†mi cv‡k(cyKzi,Lvj,b`x)Nearby water (pond, canal, river) 8. evoxi cv‡k Awba©vwiZ †Lvjv RvqMvq Undefined open site near the bari   777. Ab¨vb¨ wbw`©ó Kiæb Others (Specify) | | | | | | | | | | | |  | | |
|  | | ch©‡e¶Y Ki“b: cwUi Ae¯’v(h\_vhZfv‡e wbw`©ó Ki“b) Observation: Potty condition  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | cwUi Ae¯’v Condition (yes=1, No=0)   1. wkï cÖ‡qvR‡bi mgq mn‡R †c‡Z cv‡i Easily accessible when needed by the child 2. gv wkïi cÖ‡qvR‡bi mgq mn‡R †c‡Z cv‡i Easily accessible when needed by the mother 3. cvqLvbvi wPý cwUi †fZ‡i/†Uª‡Z i‡q‡Q Visible signs of feces inside/on the potty/removable pot 4. cwUwU XvKbv w`‡q XvKv wQj Potty was covered with the lid 5. cwUwU XvKbv Qvov Ab¨wKQy w`‡q XvKv wQj Potty was covered anything other than the lid 6. ï®‹ Dry 7. fv½vi Kvi‡b e¨envi Kiv hvq bv Broken so that it is unusable 8. a~jvq fiv/e¨envi bv Kivi wPý i‡q‡Q Covered in dust/sign of non- use 9. cwU cvIqv hvqwb/†`Lv‡Z cv‡iwb Cannot produce a potty | | | | | | | | | | | |  | | |
|  | | Avcbvi Lvbvi Pvicv‡ki ¸ cwi®‹vi Kivi Rb¨ Avcwb wK AvBwmwWwWAviwe†L‡K cvIqv m¨vwb¯‹yc e¨envi K‡ib? Does your household use a icddr,b supplied sani-scoop to clean up feces around your household | | | | | | | 1. nu¨v Yes 2. bv No   999. Rvwb bv Don’t know | | | | | | | | | | If 0/999, skip to S.416 | | |
|  | | Avcwb KZevi m¨vwb¯‹yc e¨envi K‡ib? How often do you use the sani-scoop?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | | 1. |\_\_|\_\_\_|MZKvj KZevi yestarday 2. MZ wZb w`‡b last 3 days 3. Av‡M K‡iwQ, GLb Avi Kwi bv Used to use it, but no longer use it 4. KLbI bv Never 5. Ab¨vb¨ wbw`©ó Ki“b Others (Specify) | | | | | | | | | | |  | | |
|  | | Avcwb wK Rb¨ m¨vwb¯‹yc e¨envi K‡ib ?What do you use the sani-scoop for?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | | e¨envi Uses (yes=1, No=0)   1. cïi ¸ cwi¯‹vi Kivi Rb¨ Clean up animal feces 2. wkïi ¸ cwi¯‹vi Kivi Rb¨ Clean up child feces 3. AveR©bv cwi¯‹vi Kivi Rb¨ Clean up garbage 4. gv‡Vi/K…wl Kv‡R Take the scoop to the field 5. Lbb/evMvb Kivi Rb¨ Digging/gardening   777. Ab¨vb¨ wbw`©ó Ki“b Other (Specify) | | | | | | | | | | |  | | |
|  | | m¨vwb¯‹ycwU wK `qv K‡i Avgv‡K †`Lv‡bv hv‡e? m¨vwb¯‹ycwU ch©‡e¶Y Kiæb Ges Ae¯’v wjwce× Kiæb |Could I please see the sani-scoop? Observe sani-scoop condition and record | | | | | | ch©‡e¶Y Observation (yes=1, No=0)   1. ¸‡qi wPý m¨vwb¯‹y‡ci Dc‡i i‡q‡Q Visible sign of feces on the sani -scoop 2. ï®‹ Dry 3. fv½v Ges †givgZ Kiv `iKvi Broken and needs repair 4. eq¯‹ †jv‡Ki bvMv‡j i‡q‡Q Easily accessible when needed by an adult 5. e¨envi bv Kivi wPý i‡q‡Q Signs that the sani-scoop is not used 6. m¨vwb¯‹yc cvIqv hvqwb/†`Lv‡Z cv‡iwb Cannot produce a sani-scoop | | | | | | | | | | |  | | |
|  | | Avcbvi g‡Z †Kvb Î“wUweP¨ywZ Av‡Q wK? What shortcomings or problems are there in your opinion with Sanitation?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | | **cqt e¨e¯’vcbv Sanitation** ( n¨uv Yes=1, bv No=0)   1. wkï cwU e¨envi Ki‡Z cv‡i bv Child cannot use the potty 2. cwU e¨envi Kiv mgq mv‡c¶¨ e¨cvi Potty use considered time consuming 3. cwU cwi¯‹vi Kiv Cleaning potty 4. m¨vwb¯‹zc cwi¯‹vi Kiv Cleaning sani-scoop 5. fv½v/ m¨vwb¯‹zc †givgZ Kiv `iKvi Broken/ need to repair sani-scoop 6. j¨wUª‡bi DcwifvM bvB/ fv½v Latrine without having/broken superstructure 7. †Kvb mgm¨v nq bvB, No problem   777. Ab¨vb¨ (wbw`©ó Ki“b)Others ( Specify ) | | | | | | | | | | | If 7 , skip to SB 418 | | |
|  | | hw` *S.416* Gi GKwU DËiI n¨vu nq, Zvn‡j Gme Kvi‡b Avcwb j¨wUªb ev m¨vwb¯‹zc e¨envi/Avcbvi wkï cwU e¨envi Kiv ev` w`‡qwQj wK?*If the answer to any ofN514 was “Yes”, ask:*  Have any of these shortcomings or problems prevented you from (or made it difficult for you to) feed Sonomani to your child every day? | | | | | | 1 nu¨v.Yes   1. bv No | | | | | | | | | | |  | | |
| **Exposure to Sanitation BCC intervention**  KwgDwbwU ¯^v¯’¨Kg©x, KLbI KLbI GKvwaK cÖwZôvb GB KwgDwbwU‡Z cwi`k©‡bi Kv‡R Av‡m | cÖ\_‡g Avwg AvBwmwWwWAviwe †\_‡K AvmvKwgDwbwU ¯^v¯’¨Kg©x, whwb wm GBP wc wn‡m‡e cwiwPZ, Zvi m¤ú‡K© Rvb‡Z PvB |There are community health workers, sometimes from more than one organization, who may be visiting this community. I would first like to know about a community health worker from icddrb also known as CHP. | | | | | | | | | | | | | | | | | | | | | |
|  | | Avcbvi GjvKvq cqt e¨e¯’vcbv Ges e¨w³MZ ¯^v¯’¨ wel‡q AvBwmwWwWAviweiKgx©/wmGBPwc A\_ev Ab¨†Kn Avcbv‡K wKQy wkwL‡q‡Q wK? Did CHP/icddr, b staff or anybody else teach you about sanitation and personal hygiene in your community? | | | | | | | | | | | | | | | 1. Yes  0. bv No | | If no, skip to SB.422 | | |
|  | | GBme wel‡q †K Avcbv‡K wkwL‡q‡Q? Who taught you on these issues?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | | | | **e¨w³ Person** (yes=1, No=0)   1. wmGBPwc CHP 2. AvBwmwWwWAvi,wei Kgx©icddr,b staff 3. ‡Uwjwfkb Television 4. †iwWI Radio 5. cÖPvi cÎ Leaflet 6. ‡cvóvi Poster 7. wej‡evW© Billboard 8. cwiev‡ii m`m¨Parents/family members 9. cÖwZ‡ewk Neighbors 10. eÜz Friends 11. ¯‹z‡ji wk¶K School teachers 12. cvV¨ eB Text book 13. Ab¨vb¨ eB Other books 14. Ab¨vb¨ NGO Kgx© Other NGO worker at home   777. Ab¨vb¨ wbw`©ó Ki“b Others (Specify ) | | | | | | | | | If No to 1 skip SB 422 | | |
|  | | wmGBPwc wKfv‡e wkwL‡q‡Q?How did the CHP teach?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | | | | **c×wZ Methods** (yes=1, No=0)   1. GKR‡bi mv‡\_ GKR‡bi Av‡jvPbv One to one discussion 2. `jMZ wgwUs Group meeting 3. DVvb ˆeVK Courtyard session 4. GjvKvq wgwUs Community meeting 5. cwievwiK wgwUsFamily meeting 6. ‡Ljv Games   777. Ab¨vb¨ wbw`©ó Ki“b Others ( Specify ) | | | | | | | | |  | | |
|  | | ‡m Avcbv‡K wK wK DcKiY †`wL‡q‡Q? What materials did the CHP show you?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | | | | **DcKiY Materials** (yes=1, No=0)   1. ‡d¬k KvW Flash card 2. ‡cvóvi Poster 3. wKD KvW Cue Card 4. wd¬cPvU Flip Chart 5. eB Books   777. Ab¨vb¨ wbw`©ó Ki“b Others ( Specify ) | | | | | | | | |  | | |
|  | | m¨vwb‡Ukb DcKiY (cwU, m¨vwb¯‹zc, j¨vwUªb) †`qvi Av‡M AvBwmwWwWAviweiwmGBPwc wK Avcbvi mv‡\_ Avjvc K‡iwQj? Did the icddrb CHP negotiate with you before providing sanitation items (Potty, sani-scoop and latrine)? | | | | | | | | | 1. Lye fv‡jvfv‡e Very well 2. ‡Kvbg‡Z Somewhat 3. Av‡jvPbv K‡iwb Did not negotiate 4. Rvwb bv Don’t Know 5. cÖ‡hvR¨ bq Not applicable | | | | | | | |  | | |
|  | | AvBwmwWwWAviweiwmGBPwc cqte¨e¯’vcbvi e¨cv‡i KZevi Avcbvi Lvbv cwi`k©‡b G‡m‡Q? hw` bv nq ZLb 888 emv‡Z n‡e| How many times has an icddr, b CHP visited your household about sanitation?  If not applicable put “**888”** | | | | | | | | | MZ mßv‡n In the preceding week |\_\_\_|\_\_\_\_|  MZ gv‡m In the preceding month |\_\_\_|\_\_\_\_|  AvR Aewa until today |\_\_\_|\_\_\_\_| | | | | | | | |  | | |
|  | | MZgv‡mAvBwmwWwWAviweiwmGBPwc msMwVZ GB msµvšÍ KZ ¸‡jv wgwUs/DVvb ˆeVK -G Avcwb Ask MÖnY K‡i‡Qb?hw` DVvb ˆeVK bv nq ZLb 888 emv‡Z n‡e| How many courtyard sessions or other meetings lead by an icddrb CHP have you attended in the last 1 month? If not applicable put “**888”** | | | | | | | | | **c×wZ Methods** (yes=1, No=0)   1. |\_\_\_|GKR‡bi mv‡\_ GKR‡bi Av‡jvPbv One to one discussion 2. |\_\_\_|`jMZ wgwUs Group meeting 3. |\_\_\_|DVvb ˆeVK Courtyard session 4. |\_\_\_|GjvKvq wgwUs Community meeting 5. |\_\_\_|cwievwiK wgwUsFamily meeting 6. |\_\_\_|‡Ljv Games   777. |\_\_\_|Ab¨vb¨ wbw`©ó Ki“b Others ( Specify ) | | | | | | | |  | | |
|  | | MZgv‡mAvBwmwWwWAviweiwmGBPwc msMwVZ GB msµvšÍ KZ ¸‡jv wkï wgwUs-G Avcbvi wkï Ask MÖnY K‡iwQj?hw` wkï wgwUs bv nq ZLb 888 emv‡Z n‡e How many children's meetings by an icddrb CHP has your children attended in the last 1 month?) If not applicable put “**888”** | | | | | | | | | **c×wZ Methods** (yes=1, No=0)   1. |\_\_\_|GKR‡bi mv‡\_ GKR‡bi Av‡jvPbv One to one discussion 2. |\_\_\_|`jMZ wgwUs Group meeting 3. |\_\_\_|DVvb ˆeVK Courtyard session 4. |\_\_\_|GjvKvq wgwUsCommunity meeting 5. |\_\_\_|cwievwiK wgwUsFamily meeting 6. |\_\_\_|‡Ljv Games   777. |\_\_\_|Ab¨vb¨ wbw`©ó Ki“b Others ( Specify ) | | | | | | | |  | | |
|  | | Avcbvi g‡Z GB msµvšÍ †Kvb mgm¨v \_vK‡j Zv wmGBPwc mv‡\_ Avjvc K‡i‡Qb wK? Did you share any of your concerns realted to sanitation with the CHP? | | | | | | | | | 1. nu¨v Yes 2. bvNo 3. Rvwb bv Don’t Know | | | | | | | | If no/don’t know, skip to SB.429 | | |
|  | | wmGBPwcwKAvcbvi mgm¨v mgvav‡b mnvqZv K‡i‡Q? Did the CHP help you find a solution | | | | | | | | | 1. nu¨v ,AvswkKfv‡e Yes , partly 2. nu¨v ,m¤ú~b©fv‡e mgvavb Yes,complete solution 3. bv No | | | | | | | |  | | |
|  | | GLbI wKAvcbvi mgm¨v i‡q‡Q? Do you still have problem now? | | | | | | | | | 1. nu¨v Yes   1. bv No | | | | | | | |  | | |
| GLb Avwg Avcbvi Kv‡Q AvBwmwWwWAviwei wmGBPwc Qvov Ab¨‡Kvb GbwRI/cÖwZôv‡bi KwgDwbwU ¯^v¯’¨ Kg©x m¤§‡Ü Rvb‡Z PvB Now I would please like to know about any other community health worker from another organization, other than icddrb: | | | | | | | | | | | | | | | | | | | | | |
|  | | MZgv‡m Ab¨†Kvb GbwRI Kgx© cqte¨e¯’vcbv msµvšÍ wel‡q KZevi Avcbvi evox cwi`k©b K‡i‡Q ?hw` bv nq ZLb 888 emv‡Z n‡e How many times has another NGO worker visited your compound about sanitation in the last 1 month  If not applicable put “**888”** | | | | | | | | | | | |\_\_\_| | | | | | |  | | |
|  | | MZgv‡mAb¨†Kvb GbwRI Kgx© msMwVZcqte¨e¯’vcbv msµvšÍ KZ¸‡jv wgwUs /DVvb ˆeVK -G Avcwb Ask MÖnY K‡i‡Qb?hw` bv nq ZLb 888 emv‡Z n‡e |How many courtyard or other meetings about sanitation, lead by antoher NGO worker, have you attended in the last 1 month? If not applicable put “**888”** | | | | | | | | | | | |\_\_\_| | | | | | |  | | |

Section- 5: cywó Nutrition Intervention

(Questionnaire for primary caregiver of the child)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Section B:** ‡mvbvgwb m¤ú©wKZ **Adherence to Sonamoni** | | | | | | |
|  | Avcwb wK AvBwmwWwWAviwe †\_‡K Avcbvi ev”Pvi Rb¨ ‡mvbvgwb Ges †Kvb DcKiY †c‡q‡Qb? Have you received Sonamoni & other items for your child from icddr, b? | | | | 1. nu¨v Yes 2. bv No | If no, skip to NB 516 |
|  | hw` n¨vu nq,Zvn‡j Avcbvi ev”Pvi Rb¨ ‡mvbvgwb Ges †Kvb †Kvb DcKiY †c‡q‡Qb Zv Avgv‡K †`Lvb ?Avcbvi ch©‡e¶Y wjwce× Kiæb|If yes, please show me the Sonamoni and other items that you received for your child from icddr, b? Record your observation.  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | Items (yes=1, No=0)   1. †mvbvgwb Sonamoni 2. †mvbvgwbivLvi Rb¨ cøvw÷‡Ki cvÎ Plastic container for Sonamoni 3. 250 ml pot 250 wgwj.evwU |  |
|  | Avcwb KZ¸‡jv †mvbvgwb m¨v‡kU †kl weZi‡bi w`b †c‡qwQ‡jb? cÖkœ Kiæb Ges †iKW© Ki“b|hw` bv cvb ZLb 888 emv‡Z n‡e |How many Sonamoni sachets did you receive during last delivery? (FRAs ask household & see the records) If not applicable use **“888”** | | | | I\_\_I\_\_I m¨v‡kU Sachets |  |
|  | KZ w`b Av‡M Zviv G¸‡jv mieivn K‡i‡Q? cÖkœ Kiæb Ges †iKW© Kiæb|hw` bv nq ZLb 888 emv‡Z n‡e How many days ago were they delivered?  (FRAs ask household and see the records ) If not applicable use **“888”** | | | | I\_\_II\_\_I w`b days |  |
|  | †kl weZi‡bi w`b Avcbvi Kv‡Q KZ¸‡jv Ae¨eüZ Gj Gb Gm m¨v‡kU wQj? MbYv Kiæb Ges †iKW© Kiæb|hw` bv nq ZLb 888 emv‡Z n‡e How many unused Sonamoni sachet you had during last delivery?  (FRAs calculate and put the number) If not applicable use **“888”** | | | | I\_\_II\_\_I m¨v‡kU Sachets |  |
|  | GLb I KZ¸‡jv m¨v‡kU Av‡Q? Mbbv Kiæb Ges b¤^iwU wjLyb| hw` bv nq ZLb 888 emv‡Z n‡e How many sonamoni sachets are at present?  (FRAs count and put the number) If not applicable use **“888”** | | | | I\_\_I\_\_I m¨v‡kU Sachets |  |
|  | Avcwb wK Avcbvi wkï‡K †mvbvgwb LvB‡qwQ‡jb? Did you feed your child the Sonamoni? | | | | 1. nu¨v Yes 2. bv No | If no, skip to N510 |
|  | hw` n¨vu nq, Zvn‡j Avcwb wKfv‡e Avcbvi wkï‡K †mvbvgwb LvB‡qwQ‡jb ? DËi c‡o ïbv‡bv hv‡e bv| If yes, how did you primarily feed the sonamoni to your Child?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | mieivn Supplementation (yes=1, No=0)   1. m¨v‡kU †\_‡K mivmwi wb‡q LvIqv‡bv n‡qwQj Eaten alone directly from sachets 2. m¨v‡kU †\_‡K gv‡qi AvOy‡j wb‡q LvIqv‡bv n‡qwQj Eaten alone using mother’s finger 3. m¨v‡kU †\_‡K Pvg‡P/†cø‡U wb‡q LvIqv‡bv n‡qwQj Eaten alone using spoon/plate 4. fv‡Zi mv‡\_ wgwk‡q LvIqv‡bv n‡qwQj Mixed with rice 5. Ab¨vb¨ Lvev‡ii mv‡\_ wgwk‡q LvIqv‡bv n‡qwQj Mixed with other food |  |
|  | ˆ`wbK KZ¸‡jv m¨v‡kU Avcwb Avcbvi wkï‡K †`b? DËi c‡o ïbv‡bv hv‡e bv| How much supplement did you give to your child each day?  (DO NOT READ THE RESPONSES) | | | | cwigvb Amount (yes=1, No=0)   1. 2 m¨v‡kU sachets 2. 1 m¨v‡kU Sachet 3. 2/3 m¨v‡kU(3fv‡Mi 2 fvM) Sachet 4. ½ m¨v‡kU(2fv‡Mi 1 fvM )Sachet   777. Ab¨vb¨ wbw`©ó Ki“b Others (Specify) |  |
|  | hw` DËi N507 bv, Zvn‡j ‡Kb †mvbvgwb Lvqwb?If no to N507 then why sonamoni was not eaten at all?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | Kvib Reasons (Yes=1, No=0)   1. wkï cQ›` K‡i bv Child didn’t like 2. `ªe¨wU m¤§‡Ü Rvwb bv Not sure about the product 3. Ab¨iv †L‡Z wb‡la K‡i‡Q Peer pressure no to take 4. wkïwU Amy¯’ wQj Child was sick 5. wkïwU evox‡Z wQj bv Away from home   777. Ab¨vb¨ wbw`©ó Ki“b Others (Specify) |  |
|  | wbw`©ó wkï Qvov Ab¨‡Kn †mvbvgwb †L‡qwQj wK? Did anybody else beside the target child eat the Sonamoni? | | | | 1. nu¨v Yes 2. bv No | If no, skip to N513 |
|  | hw` DËi n¨vu nq, Zvn‡j †K †K †mvbvgwb †L‡qwQj?If yes, by whom?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | m¤úK© Relationship (Yes=1, No=0)   1. GKB gv‡qi Ab¨ wkï Sibling 2. Ab¨ wkï/iv Other child/children 3. eq¯‹ AvZ¡xq Adult relative(s) 4. Ab¨vb¨ wbw`©ó Ki“b Other adult(s) |  |
|  | †mvbvgwb m¨v‡kU ¸‡jv mieiv‡ni mgq wK bó A\_ev ‡Lvjv wQj?Were any of the Sonamoni sachets damaged or opened prior or during delivery? | | | | 1. nu¨v Yes   1. bv No |  |
|  | Avcbvi g‡Z †Kvb Î“wUweP¨ywZ Av‡Q wK? What shortcomings or problems are there in your opinion with Sonamoni?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | Î“wUweP¨ywZ **Shortcoming/problems (Yes=1, No=0)**   1. AwbqwgZ mieivn Irregular supply 2. ¯^v` fvj bv Taste is not good 3. wM‡j †djvi c‡i ev”Pviv ewg K‡i Child vomit after swallow 4. Lvev‡ii mv‡\_ wgkv‡j is cwiewZ©Z nq Color changed when it is mixed with food 5. cwiwgZ mieivn Limited supply 6. cuPv MÜ Bad smell 7. nRg nq bv Causes indigestion 8. cvZjv cvqLvbv Loose motion 9. GjviwRK cÖwZwKªqv Allergic Reaction 10. wkï **‡mvbvgwb** †L‡Z cQ›` K‡i bv Child doesn’t like to eat Sonamoni 11. m¨v‡kU †\_‡K †ei Kiv Kómva¨ Difficult to take out of the sachet 12. †Kvb mgm¨v nq bvB, No problem   777. Ab¨vb¨ wbw`©ó Ki“b Others ( Specify ) | If 12, skip to NB 516 |
|  | hw` *N514* Gi GKwU DËiI n¨vu nq, Zvn‡j Gme Kvi‡b Avcbvi wkïi †mvbvgwb LvIqv ev` †`Iqv n‡qwQj wK?*If the answer to any ofN514 was “Yes”, ask:*  Have any of these shortcomings or problems prevented you from (or made it difficult for you to) feed Sonomani to your child every day? | | | | 1. nu¨v.Yes   1. bv No |  |
| **Exposure to BCC Intervention**  KwgDwbwU ¯^v¯’¨Kg©x, KLbI KLbI GKvwaK cÖwZôvb GB KwgDwbwU‡Z cwi`k©‡bi Kv‡R Av‡m | cÖ\_‡g Avwg AvBwmwWwWAviwe †\_‡K AvmvKwgDwbwU ¯^v¯’¨Kg©x, whwb wm GBP wc wn‡m‡e cwiwPZ, Zvi m¤ú‡K© Rvb‡Z PvB |There are community health workers, sometimes from more than one organization, who may be visiting this community. I would first like to know about a community health worker from icddrb also know as CHP. | | | | | | |
|  | wm GBP wc/ AvBwmwWwWAvi,wei Kgx© A\_ev Ab¨ Kv‡ivi Kv‡Q wkïi cywó ev †mvbvgwb m¤ú©‡K wKQz ï‡b‡Qb wK?Have you heard any messages on infant/child nutrition and or Sonamoni from CHP or any one else from icddr, b ? | 1. nu¨v Yes  0. bv No | | | | If no skip to NB524 |
|  | Avcbvi wbw`©ó wkïi eqm KZ ? How old is the target child? | 1. c~Y© 6 gvm eqm ch©šÍ 6 months age  2. 6-24 gvm eqm ch©šÍ 6-24 months age  3. wkï GLbI R‡¯§ wb Child yet to born | | | | If answer is 2/3, skip to NB.520 |
|  | hw` wkïi eqm 6 gv‡mi bx‡P nq ,ZLb cÖkœ Kiæb wm GBP wc‡\_‡K Avcwb wKwK evZ©v †c‡q‡Qb ? If child is <6 months, ASK: What are the messages you have received from CHP?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | evZ©v **Messages (Yes=1, No=0)**   1. R‡b¥i ci ci kvj `ya LvIqv‡bv Colostrum feeding within ½ an hour of birth of the baby 2. 6 gvm ch©šÍ ïay gvÎ ey‡Ki `ya LvIqv‡bv Exclusive breastfeeding upto **6 months** 3. ey‡Ki `ya LvIqv‡bvi Myi“Z¡ Importance of breastfeeding | | | |  |
|  | 6 gvm ch©šÍ wkï‡K ïaygvÎ ey‡Ki `ya LvIqv‡Z nq /G·K¬zwmf †eª÷ †dwWs-Gi e¨cv‡i wK wK †R‡b‡Qb ?Can you tell me what you know about exclusive breast feeding?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | 1. ey‡Ki `ya Ges cvwb †`qv DwPr Should breastfeed and give water  2. ey‡Ki `ya Ges Ab¨ Lvevi Breastfeed and give other food  3. ïaygvÎ ey‡Ki `ya, GQvov Ab¨wKQy bq Breastfeed only without anything else   1. Rvwb bv Don’t know | | | |  |
|  | hw` wkïi eqm 6 gv‡mi Dc‡i nq , ZLb cÖkœ Kiæb wm GBP wc‡\_‡K Avcwb wKwK evZ©v †c‡q‡Qb ? If yes to C102 and child age > 6 months ask, what are the messages you have received from CHP?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | evZ©v Messages (Yes=1, No=0)  1. evowZ Lvev‡ii Myi“Z¡ Importance of complementary feeding   1. 6 gv‡mi †ekx eq‡mi wkï‡K evowZ Lvevi Ges mieivnK…Z †mvbvgwbi wel‡q Complementary feeding and supplement of Sonamoni after completion of 6 months age of the child 2. †mvbvgwb e¨env‡ii mydj Communicated benefit of using Sonamoni 3. †cvuKv-gvKo †\_‡K †mvbvgwb wbivc` Kivi Rb¨ cvÎ e¨envi Kiv Using container to preserve Sonamoni from insects 4. evowZ Lvev‡ii mv‡\_ †mvbvgwb †gkv‡bvi welq Mixing of sonamoni with complementary food 5. †mvbvgwb LvIqv‡bvi Av‡M nvZ‡avqvi welq Handwashing before feeding Sonamoni 6. w`‡b 2 m¨v‡kU cwigvb †mvbvgwb LvIqv‡bv Dosing of Sonamoni two sachet per day 7. †mvbvgwb ïaygvÎ 6-24 gv‡mi wkï‡`i Rb¨ Sonamoni is only for 6-24 months child 8. 2 eQi eqm ch©šÍ ey‡Ki `ya LvIqv‡Z n‡e 9. Ab¨vb¨ wbw`©ó Ki“b Others ( Specify) | | | |  |
|  | beRvZK/wkïi cywó Ges †mvbvgwbi ¸iæZ¡ I Zvi e¨envi wel‡q Avcwb †Kv\_v †\_‡K wk‡L‡Qb? Where did you learn about infant/child nutrition and or Sonamoniits importance, and usage?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | **Drm Source (Yes=1, No=0)**  1. wmGBPwc CHP  2. AvBwmwWwWAvi,wei Kgx©icddr,b staff   1. ‡Uwjwfkb Television 2. †iwWI Radio 3. cÖPvi cÎ Leaflet 4. ‡cvóvi Poster 5. wej‡evW Billboard 6. cwiev‡ii m`m¨ Parents/family members 7. cÖwZ‡ewk Neighbors 8. eÜz Friends 9. ¯‹z‡ji wk¶K School teachers 10. cvV¨ eB Text book 11. Ab¨vb¨ eB Other books 12. Ab¨vb¨ NGO Kgx Other NGO worker at home 13. Ab¨vb¨ wbw`©ó Ki“b Others (Specify) | | | If no to 1, skip NB.524 |
|  | wmGBPwc wKfv‡e wkwL‡q‡Q? How did the CHP teach?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | **c×wZ Methods (Yes=1, No=0)**  1. GKR‡bi mv‡\_ GKR‡bi Av‡jvPbv One to one discussion   1. `jMZ wgwUs Group meeting 2. DVvb ˆeVK Courtyard session 3. GjvKvq wgwUs Community meeting 4. cwievwiK wgwUsFamily meeting 5. ‡Ljv Games 6. Ab¨vb¨ wbw`©ó Ki“b Others (Specify) | | |  |
|  | ‡m Avcbv‡K wK wK DcKiY †`wL‡q‡Q? What materials did the CHP show you?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | **DcKiY Materials (Yes=1, No=0)**  1. ‡d¬k KvW Flash card  2. ‡cvóvi Poster   1. wKD KvW Cue Card 2. wd¬cPvU Flip Chart 3. eB Books 4. Ab¨vb¨ wbw`©ó Ki“b Others ( Speicify) | | |  |
|  | †mvbvgwb †`qvi Av‡M wmGBPwc wK Avcbvi mv‡\_ Av‡jvPbv K‡iwQj? Did the icddrb CHP negotiate with you before providing Sonamoni? | | 1. Lye fv‡jvfv‡e Very well 2. ‡Kvbg‡Z Somewhat 3. Av‡jvPbv K‡iwb No discussion 4. Rvwb bv Don’t Know 5. cÖ‡hvR¨ bq Not applicable | | |  |
|  | icddr, b wmGBPwc beRvZK/wkïi cywó Ges †mvbvgwbi e¨cv‡i KZevi Avcbvi Lvbv cwi`k©‡b G‡m‡Q? hw` bv nq ZLb 888 emv‡Z n‡e| How many times has an icddr, b CHP visited your household about sanitation?  If not applicable put “**888”** | | MZ mßv‡n In the preceding week |\_\_\_|\_\_\_\_|  MZ gv‡m In the preceding month |\_\_\_|\_\_\_\_|  AvR Aewa until today |\_\_\_|\_\_\_\_| | | |  |
|  | MZgv‡mAvBwmwWwWAviweiwmGBPwc msMwVZ GB msµvšÍ KZ ¸‡jv wgwUs/DVvb ˆeVK -G Avcwb Ask MÖnY K‡i‡Qb?hw` DVvb ˆeVK bv nq ZLb 888 emv‡Z n‡e| How many courtyard sessions or other meetings lead by an icddrb CHP have you attended in the last 1 month? If not applicable put “**888”** | | **Methods (Yes=1, No=0)**  1.|\_\_\_|GKR‡bi mv‡\_ GKR‡bi Av‡jvPbv One to one discussion  2.|\_\_\_|`jMZ wgwUs Group meeting   1. |\_\_\_|DVvb ˆeVK Courtyard session 2. |\_\_\_|GjvKvq wgwUs Community meeting 3. |\_\_\_|cwievwiK wgwUsFamily meeting 4. |\_\_\_|‡Ljv Games 5. |\_\_\_|Ab¨vb¨ wbw`©ó Ki“b Others (Specify) | | |  |
|  | MZgv‡mAvBwmwWwWAviweiwmGBPwc msMwVZ GB msµvšÍ KZ ¸‡jv wkï wgwUs-G Avcbvi wkï Ask MÖnY K‡iwQj?hw` wkï wgwUs bv nq ZLb 888 emv‡Z n‡e How many children's meetings by an icddrb CHP has your children attended in the last 1 month?) If not applicable put “**888”** | | **Methods (Yes=1, No=0)**  1.|\_\_\_|GKR‡bi mv‡\_ GKR‡bi Av‡jvPbv One to one discussion  2.|\_\_\_|`jMZ wgwUs Group meeting   1. |\_\_\_|DVvb ˆeVK Courtyard session 2. |\_\_\_| GjvKvq wgwUs Community meeting 3. |\_\_\_|cwievwiK wgwUsFamily meeting 4. |\_\_\_|‡Ljv Games 5. |\_\_\_|Ab¨vb¨ wbw`©ó Ki“b Others (Specify) | | |  |
|  | Avcbvi g‡Z GB msµvšÍ †Kvb mgm¨v \_vK‡j Zv wmGBPwci mv‡\_ Avjvc K‡i‡Qb wK? Did you share any of your concerns related to infant and child nutrition with the CHP? | | 1. nu¨v Yes 2. bv No   999. Rvwb bv Don’t Know | | | If No/don’t know skip to NB531 |
|  | wmGBPwcwKAvcbvi mgm¨v mgvav‡b mnvqZv K‡i‡Q? Did the CHP help you find a solution | | 1. nu¨v ,AvswkKfv‡e Yes , partly  2. nu¨v ,m¤ú~b©fv‡e mgvavb Yes,complete solution   1. bvNo | | |  |
|  | GLbI wKAvcbvi mgm¨v i‡q‡Q? Do you still have problem now? | | 1. nu¨v Yes   1. bv No | | |  |
| GLb Avwg Avcbvi Kv‡Q AvBwmwWwWAviwei wmGBPwc Qvov Ab¨‡Kvb GbwRI/cÖwZôv‡bi KwgDwbwU ¯^v¯’¨ Kg©x m¤§‡Ü Rvb‡Z PvB Now I would please like to know about any other community health worker from another organization, other than icddrb: | | | | | | |
|  | MZgv‡m Ab¨†Kvb GbwRI Kgx© beRvZK/wkïi cywó Ges †mvbvgwbi e¨cv‡i KZevi Avcbvi evox cwi`k©b K‡i‡Q ?hw` bv nq ZLb 888 emv‡Z n‡e | How many times has another NGO worker visited your compound to talk about infant and child nutrition in the last 1 month  (If not applicable put “**888”)** | | | |\_\_\_| | |  |
|  | MZgv‡mAb¨†Kvb GbwRI Kgx© msMwVZbeRvZK/wkïi cywó Ges †mvbvgwbi e¨cv‡i KZ¸‡jv wgwUs /DVvb ˆeVK -G Avcwb Ask MÖnY K‡i‡Qb?hw` bv nq ZLb 888 emv‡Z n‡e | How many courtyard or other meetings about infant and child nutrition lead by antoher NGO worker, have you attended in the last 1 month?( If not applicable put “**888”)** | | | |\_\_\_| | |  |

Section-6:m¤§wjZ Avg ©(Iqvm I cywó)Combined Arms (WASH & Nutrition)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl#** | DcKiY **Item** | | **Code** | | | | | | | | | | | | | **Skip** | | |
|  | Avcwb wK AvBwmwWwWAviwe‡\_‡K †Kvb cÖhyw³/DcKiY †c‡q‡Qb ? Have you received any technology/hardware from icddr, b? | | | nvZ‡avqv Handwashing | | | | | | | | | 1. nu¨v Yes 2. bv No | | | If no, skip  Section 6a | | |
| cvwbi ¸bv¸Y Water Quality | | | | | | | | | 1. nu¨v Yes 2. bv No | | | If no, skip  Section 6b | | |
| cqt e¨e¯’vcbv Sanitation | | | | | | | | | 1. nu¨v Yes 2. bv No | | | If no, skip  Section 6c | | |
| cywó Nutrition | | | | | | | | | 1. nu¨v Yes 2. bv No | | | If no, skip  Section 6d | | |
|  | `qv K‡i Gme DcKib/cÖhyw³ Avgv‡K †`Lv‡eb wK ? ch©‡e¶Y Ges wjwce×Ki“b |  Please show me what are these items/technologies?  Observe the items and record accordingly. | | | nvZ‡avqv **Handwashing (Yes=1, No=0)**  1. U¨vcmn evjwZ Bucket with Tape   1. evjwZ ivLvi Uzj tool for bucket 2. Mvgjv Bowl 3. mvevb cvwbi †evZj Soapy water bottle 4. wWUvi‡R›UcvDWvi Detergent powder | | | | | | | | | | | |  | | |
| cvwbi ¸bv¸Y Water Quality **(Yes=1, No=0)**   1. GKzqvU¨ve Aquatab 2. cvwbi cvÎ cwi¯Kvi Kivi eªvk Cleanging agents brush 3. AvBwmwWwWAviwei -msi¶Y cvÎ-‡UvcvR Icddrb storgae container –Topaz 4. Uzj tool 5. cwi®‹vi Kivi Dcv`vb Cleansing agents liquid | | | | | | | | | | | |  | | |
| cqt e¨e¯’vcbv Sanitation **(Yes=1, No=0)**   1. wis Ring 2. møve Slab 3. mvBdzb Syphon 4. DcwiKvVv‡gv Super structure 5. m¨vwb¯‹zc Sani-scoop 6. cwU Potty | | | | | | | | | | | |  | | |
| cywó Nutrition **(Yes=1, No=0)**   1. ‡mvbvgwb Sonamoni 2. ‡mvbvgwb ivLvi cvÎ Plastic container for sonamoni 3. 250 ml pot 250 wgwj.evwU | | | | | | | | | | | |  | | |
|  | wmGBPwc /AvBwmwWwWAviweiKg©x Gme †`Iqvi Av‡M wK Avcbvi mv‡\_ Av‡jvPbv K‡iwQj? Did CHP /icddr, b staffs negotiate with you before distribution of any of the above mentioned items? | | | | | | | | 1. Lye fv‡jvfv‡e Very well   1. ‡Kvbg‡Z Somewhat 2. Av‡jvPbv K‡iwb No discussion 3. Rvwb bv Don’t know 4. cÖ‡hvR¨ bq Not applicable | | | | | | |  | | |
| Section 6a: nvZ‡avqvi †ókb m¤úwK©Z Adherence to Hand Washing Stations | | | | | | | | | | | | | | | | | | |
|  | Avcwb Avgv‡K ej‡eb wK AvBwmwWwWAviwe †\_‡K cvIqv nvZ †avqvi DcKiY/ cÖhyw³ †Kv\_vq ivLv n‡q‡Q? Would you please tell me about the location to be used of HWS received from icddr, b? | | | | | Ae¯’vb Locations (Yes=1, No=0)   1. cvqLvbv Toilet 2. ivbœvNi Kitchen | | | | | | | | | |  | | |
|  | ch©‡e¶Y Kiæb Ges wb‡Pi †UwejwU c~iY Kiæbt cvqLvbv I ivbœvNi-Gi Ae¯’vb Ges nvZ †avqvi DcKiY/ cÖhyw³i Dcw¯’wZ I Zvi Kvh©KvwiZv †KvW Abyhvqx c~iY Kiæb(n¨uv Yes=1,bv No=0, cÖ‡hvR¨ bq NA=888)|GLv‡b n¨uv ej‡Z †h‡Kvb DcKi‡bi Dcw¯’wZ Ges Kvh©KvwiZv/Kvh©Ki Ae¯’vq \_vKv Ges bv ej‡Z †h‡Kvb DcKi‡bi AbyDcw¯’wZ Ges AKvh©KvwiZv/AKvh©Ki Ae¯’vq \_vKv ‡evSv‡bv n‡q‡Q| hw` DcKib mswk­›U bv nq Zvn‡j cÖ‡hvR¨ bq emv‡Z n‡e| Do the direct observation of the toilet and kitchen and fill out the following tables for presence and functionality of the HWS for Yes=1, No=0, NA=888. “Yes” respresents presence and functional of any of the items,” No” represents absence and non-functional. If do not match with any item use “NA”” | | | | | | | | | | | | | | | | | |
| DcKiY Items | | | | cvqLvbv Toilet | | | | | | | ivbœvNi Kitchen | | | | | |  |
| Dcw¯’wZ Presence  (Yes/No/NA) | | | Kvh©KvwiZv Functional  (Yes/No/NA) | | | | Dcw¯’wZ Presence  (Yes/No/NA) | | | Kvh©KvwiZv Functional  (Yes/No/NA) | | |  |
| 1. AvBwmwWwWAviwe †\_‡K cvIqv Kj mn evjwZ(Kvh©KvwiZv =Kj/U¨vc KvR K‡i, evjwZ‡Z †Kvb wQ`ª †bB, nvZj fvsMv bq)Icddrb bucket with tap (functional = tap in working order, bucket does not have any leaks, handles not broken) | | | |  | | |  | | | |  | | |  | | |  |
| 2. AvBwmwWwWAviwei evjwU†Z nvZ †avqvi Rb¨ cvwb Av‡Q Water in the icddrb bucket for handwashing | | | |  | | |  | | | |  | | |  | | |  |
| 3. nvZ †avqvi Rb¨ e¨eüZ Ab¨‡Kvb cvwbi Drm Other water source used for handwashing | | | |  | | |  | | | |  | | |  | | |  |
| 4. evjwZ‡Z XvKbvAv‡Q Lid of the bucket | | | |  | | |  | | | |  | | |  | | |  |
| 5. AvBwmwWwWAviwe †\_‡K cvIqv Mvgjv (Kvh©KvwiZv = Mvgjv‡Z ‡Kvb wQ`ª bvB) Icddrb bowl (functional = no leaks) | | | |  | | |  | | | |  | | |  | | |  |
| 6. AvBwmwWwWAviwe †\_‡K cvIqv Uzj(Kvh©KvwiZv =cvqv/Ab¨vb¨ Ask fvsMv bq)Icddrb tool (functional = no legs broken or other evidence of breakage) | | | |  | | |  | | | |  | | |  | | |  |
| 7. AvBwmwWwWAviwe †\_‡K cvIqv mvevb-cvwbi †evZj Lvwj Empty Icddrb soapy water bottle | | | |  | | |  | | | |  | | |  | | |  |
| 8. AvBwmwWwWAviwe †\_‡K cvIqv mvevb-cvwbi †evZ‡j mvevb-cvwb Av‡Q Icddrb soapy water bottle with soapy water | | | |  | | |  | | | |  | | |  | | |  |
| 9.a mvevb-cvwbi †evZj mvevb-cvwb‡Z m¤ú~b© fwZ© Soapy water bottle full | | | |  | | |  | | | |  | | |  | | |  |
| 9.b mvevb-cvwbi †evZj mvevb-cvwb‡Z AvswkK fwZ© Soapy water bottle partially full | | | |  | | |  | | | |  | | |  | | |  |
| 9.c mvevb-cvwbi †evZj mvevb-cvwb‡Z wKQyUv fwZ© Only small amount of soapy water at the bottom | | | |  | | |  | | | |  | | |  | | |  |
| 10. AvBwmwWwWAviwe ‡`Iqv mvevb-cvwbi †evZj Qvov Ab¨ †Kvb †evZ‡j mvevb-cvwb Av‡Q Soapy water in another container other than icddrb provided | | | |  | | |  | | | |  | | |  | | |  |
| 11. cvwbi Dr‡mi Kv‡Q mvevb-cvwb Qvov Ab¨ †h †Kvb ai‡bi mvevb Gi Dcw¯’wZ Soap of any form other than soapy water present at water source | | | |  | | |  | | | |  | | |  | | |  |
| 12. wWUvi‡R›U cvDWvi Powdered detergent | | | |  | | |  | | | |  | | |  | | |  |
| 13. . GKB ¯’v‡b mKj Dcv`vb mn nvZ †avqvi ‡÷kb HWS all together in place | | | |  | | |  | | | |  | | |  | | |  |
| 14. nvZ †avqvi ‡÷kb 10dz‡Ui g‡a¨ HWS available < 10 steps | | | |  | | |  | | | |  | | |  | | |  |
| 15. nvZ †avqvi †÷k‡bi Kv‡Q wKDKvW© Av‡QCue card near handwashing station | | | |  | | |  | | | |  | | |  | | |  |
|  |  | | | |  | | |  | | | |  | | |  | | |  |
| **Section 6B: cvwbi ¸bv¸b msµvšÍ B›Uvi‡fbkbWater Quality Intervention** | | | | | | | | | | | | | | | | | | |
|  | | Avcbvi wb‡Ri Rb¨ /Avcbvi B‡Û· wkïi Rb¨ Avcwb wKfv‡e Lvevi cvwb msiÿb K‡ib? (hw` B‡Û· wkï bv \_v‡K ZLb gv‡qi Lvev‡ii cvwb m¤ú‡©K wRÁvmv Ki‡Z n‡e| cvwbi cvÎwU †`Lv‡Z ejyb Ges ch©‡e¶YK…Z Z\_¨ †iKW© Kiæb) ---- How do you store drinking water for your index child/for yourself? (Note: If no index child ask for the mother. Ask to show the container and record your observation)  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | 1. RM Jug 2. AvBwmwWwWAviwei cvÎ-‡UvcvR Icddrb storage container-Topaz 3. Kjwm Kolshi 4. gUKv Matka 5. ‡Rwi‡KbJerican   777. Ab¨vb¨ wbw`©ó Ki“bOthers Specify) | | | | | | | | |  | | |
|  | | hw` C.606 Gi †Kvb DËi n¨vu nq,ZLb wRÁvmv Ki‡Z n‡e KZevi Avcwb/Avcbvi wkï‡K H cvÎ †\_‡K cvwb cvb Kivb ? the answer to any of C.606 was “Yes”, ask how frequent you or the child drinks water from that container. | | | | | 1. memgq All the time 2. ‡ekxifvM mgq Most of the time 3. K`vwPr Only rarely 4. KLbI bv Never   777. Ab¨vb¨ wbw`©ó Ki“bOthers (Specify) | | | | | | | | |  | | |
|  | | mivmwi ch©‡e¶Y Kiæb Ges bx‡Pi †Uwe‡j cvwbi K‡›UBbvi/Ab¨vb¨ cÖhyw³i Dcw¯’wZ I Kvh©KvwiZv †KvW Abyhvqx Yes=1, No=0, NA=888 em‡e| GLv‡b n¨vu Øviv, †h †Kvb cvwbi K‡›UBbvi/Ab¨vb¨ cÖhyw³i Dcw¯’wZ I Zvi mdj Kvh©KvwiZv †evSv‡e Ges bv Øviv †h †Kvb cvwbi K‡›UBbvi/Ab¨vb¨ cÖhyw³i AbyDcw¯’wZ I Zvi AKvh©KvwiZv †evSv‡e | Gi evwn‡i †Kvb DËi Avm‡j cÖ‡hvR¨ bq em‡e|Do the direct observation and fill out the following tables for presence and functionality of the water technology for Yes=1, No=0, NA=888. “Yes” respresents presence and functional of any of the items,” No” represents absence and non-functional. If do not match with any item use “NA” | | | | | | | | | | | | | | | | |
| Items | | | | | | | | cvwb weï×Kib DcKiY Water treatment items | | | | | | |  | |
| Dcw¯’wZ Presence  n¨vu/bv/cÖ‡hvR¨ bq Yes/No/NA | | | | Kvh©KvwiZv Functional  n¨vu/bv/cÖ‡hvR¨ bq Yes/No/NA | | |  | |
| AvBwmwWwWAvi,wei cvÎ-‡UvcvR Icddrb storage container-Topaz | | | | | | | |  | | | |  | | |  | |
| GKzqvU¨ve Aquatab | | | | | | | |  | | | |  | | |  | |
| cvwbi cvÎ ivLvi Rb¨ AvBwmwWwWAviwe-i †`Iqv UzjIcddrb tools for storage container | | | | | | | |  | | | |  | | |  | |
| cwi¯Kvi Kivi DcKiY Cleanging agents | | | | | | | |  | | | |  | | |  | |
| cvwb msi¶Y cv‡Îi XvKbv Lid for storage container | | | | | | | |  | | | |  | | |  | |
| AvBwmwWwWAviwe-i– †`Iqv cv‡Î Lvive cvwb Av‡Q Drinking water in the icddrb storage container | | | | | | | |  | | | |  | | |  | |
| AvBwmwWwWAviwe-i– †`Iqv cv‡Î Ab¨vb¨ ZijRvZxq `ªe¨ ivLv Av‡Q Other liquids in the icddrb storage container | | | | | | | |  | | | |  | | |  | |
| AvBwmwWwWAviwe-i– †`Iqv cvÎ Qvov Ab¨ †Kvb cv‡Î Lvive cvwb ivLv Av‡Q Drinking water other than icddrb storage container | | | | | | | |  | | | |  | | |  | |
| Ab¨vb¨ wbw`©ó KiæbOthers (Specify) | | | | | | | |  | | | |  | | |  | |
|  | | hw` AvBwmwWwWAviwe-i cv‡Î cvwb \_v‡K,ZLb wRÁvmv Ki‡Z n‡e KZ¶Y Av‡M Avcwb/ Avcbvi Lvbvi Ab¨‡KD H cvwb msMÖn K‡i‡Qb? hw` cv‡Î cvwb bv \_v‡K Zvn‡j 888 wjLyb If the water available in the icddr, b storage container asks, how long ago did you or somebody in your home collect this water? If no water in icddr, b storage container use **“888”** | | | | | | | | I\_\_I\_\_I:I\_\_II\_\_I w`b:N›Uv Days:hh | | | | | | |  | |
|  | | Avcwb GB cvwb weï× Kivi Rb¨ wKQy K‡i‡Qb wK? Have you done anything to make this water safer to drink? | | | | | | | | 1. n¨vu Yes 2. bv No   999. Rvwb bv Don’t Know | | | | | | | If no/Don’t know, skip to C.616 | |
|  | | †Kvb ‡Kvb c×wZ Avcwb e¨envi K‡ib ? DËi c‡o ïbv‡bv hv‡e bv | DËi bv cvIqv ch©šÍ cÖkœ Kiæb| GKvwaK DËi n‡Z cv‡i What method did you use? (DO NOT READ RESPONSES. PROBE UNTIL RESPONDENT IS FINISHED.) Multiple answer allowed | | | | | | | | 1. GKzqvU¨ve Aquatab 2. dzwU‡q Boil 3. cvwbi wdëvi Water filter 4. ev‡qvt m¨vÛ wdëvi Biosand filter 5. Kvco ev Ab¨wKQy w`‡q †Qu‡K Strain it through cloth or other material 6. evwj w`‡q w\_wZ‡q Let it stand and settle 7. wdUwKix wgwk‡q Coagulant (alum) 8. m~‡h©¨i Av‡jv‡Z Solar disinfection (SODIS) | | | | | | | If answer is not 1, skip to C.616 | |
|  | | Avcbvi msi¶YK…Z Lvev‡ii cvwb‡Z GKmv‡\_ KZ¸‡jv GKzqvU¨ve wgwk‡qwQ‡jb ? hw` cÖ‡hvR¨ bv nq †m †¶‡Î**“888” e**mvb | How many aquatabs at a time did you use in your dirinking water storage container? If not applicable use **“888”** | | | | | | | | | I\_\_I\_\_I | | | | | |  | |
|  | | GKzqvU¨ve wgkv‡bvi ci cvwb LvIqvi Av‡M Avcwb KZ¶Y A‡c¶v K‡iwQ‡jb? hw` cÖ‡hvR¨ bv nq †m†¶‡Î“888” emvb | How long did you wait after treating your water with aquatab to drink it? (This is a free response) If not applicable use “888” | | | | | | | | | I\_\_II\_\_I:I\_\_I\_\_I N›Uv: wgwbU h:m | | | | | |  | |
|  | | Avcwb cÖwZw`b KZevi Lvevi cvwb msMÖn K‡ib Ges Lvevi cvwb weï× Kivi Rb¨ cÖwZw`b KZevi GKzqvU¨ve †gkvb ? hw` cÖ‡hvR¨ bv nq †m†¶‡Î“888” emvb | How many times usually do you collect drinking water and how many times treat water with aquatab daily? If not applicable use “888” | | | | | | | | | 1. I\_\_I\_\_I cÖwZw`b Lvevi cvwb msMÖn Kivi msL¨v collect drinking water daily   I\_\_I\_\_I cÖwZw`b GKzqvU¨ve e¨envi Kivi msL¨v Use aquatab daily | | | | | |  | |
|  | | Lvbvq msi¶YK…Z cvwb†Z KZUzKz †iwmwWDj †K¬vwib cvIqv †M‡Q? cvwb cix¶v K‡i djvdj wjwce×Ki‡Z n‡e| (Lvbvi m`m¨‡`i Dcw¯’wZ‡Z cvwb cixÿv Ki‡eb bv)hw` cÖ‡hvR¨ bv nq †m†¶‡Î**“888” e**mvb| Is there any detectable residual chlorine in the household stored water? Test water and record the reading.  ( Don’t test the water in the presence of household member) If not applicable use “888” | | | | | | | | | I\_\_I\_\_I wg.MÖvg/wj mg/L | | | | | |  | |
|  | | Avcwb †klevi KZ¸‡jv GKzqvU¨ve ‡c‡q‡Qb ? How many aquatab did you receive during last delivery? | | | | | | | | | I\_\_I\_\_I\_\_I | | | | | |  | |
|  | | †klevi KZw`b Av‡M GKzqvU¨ve ‡`Iqv n‡qwQj? How many days ago were they delivered? | | | | | | | | | I\_\_I\_\_I\_\_I | | | | | |  | |
|  | | †klevi GKzqvU¨ve ‡`qvi mgq Avcbvi Kv‡Q KZ¸‡jv wQj ? How many aquatab you had during last delivery? | | | | | | | | | I\_\_I\_\_I\_\_I | | | | | |  | |
|  | | GLb Avcbvi Kv‡Q KZ¸‡jv GKzqvU¨ve Av‡Q? How many aquatab are at present? | | | | | | | | | I\_\_I\_\_I\_\_I | | | | | |  | |
| **Section 6C:**  cqt wb®‹vkb e¨e¯’vcbv **Sanitation Intervention** | | | | | | | | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | GB evox‡Z KZ¸‡jv Lvbv Av‡Q Zv wjwce× Ki“b? Record how many households are in this bari | | | | | | | 1. |\_\_\_| wbw`©ó Lvbv Index hh 2. |\_\_\_| Ab¨vb¨ Lvbv Non index hhs | | | |  | |
|  | GB evox‡Z <3 eQi eq‡mi KZ¸‡jv wkï Av‡Q ? How many <3 children are there in this bari | | | | | | | 1. |\_\_\_| wbw`©ó Lvbv Index hh 2. |\_\_\_| Ab¨vb¨ Lvbv Non index hhs | | | |  | |
|  | me©‡gvU KZ¸‡jv cwU GB evox‡ZweZiYKiv n‡q‡Q ? In total, how many potties have been distributed in this bari? | | | | | | | |\_\_\_| | | | |  | |
|  | me©‡gvU KZ¸‡jv m¨vwb®‹zc GB evox‡ZweZiYKiv n‡q‡Q ? In total, how many sani scoops have been distributed in this bari? | | | | | | | |\_\_\_| | | | |  | |
|  | ch©‡e¶Y Kiæb: GB evox‡Z KZ¸‡jv j¨vwUªb Av‡Q Observe how many latrines are there in this bari. | | | | | | | |\_\_\_| jyc loop | | | |  | |
|  | AvBwmwWwWAviwe†\_‡K `yBMZ© wewkó KZ¸‡jv j¨vwUªb†`qv ? How many are icddrb provided dual pit latrines? | | | | | | | |\_\_\_| | | | |  | |
|  | wbgœwjwLZ Ae¯’v I Zvi Kvh©KvixZv ch©‡e¶Y Kiyb | Observe and note the following conditions for functionality /presence.   1. Present and functional Av‡Q Ges KvR K‡i 2. Present but broken, non functional Av‡Q wKš‘ fv½v, KvR K‡i bv 3. Absent bvB   Dc‡iv³ †KvW¸‡jv cÖ\_g PviwU Kjv‡gi Rb¨ cÖ‡hvR¨ | | | | | | | | | | | | |
|  | wis Rings | | ¯­ve Slabs | mvB‡dvb /IqvUvi wmj Siphon/  water seal | DcwiKvVv‡gv Super structure | `„k¨gvb ¸ Visible feces   1. ¯­v‡ii Dci On the slab 2. ‡g‡Si Dci(wfZ‡i) On the floor (inside) 3. j¨vwUª‡bi Pvicv‡k(evwn‡i) Around the latrine (outside) | | e¨env‡ii wPý i‡q‡Q Signs of use (>2)   1. n¨uv Yes   0.bv No | gj-g~‡Îi  MÜ  Smell of  urine/stool   1. n¨uv Yes   0.bv No | Is this icddrb provided dual pit latrine  Bnv AvBwmwWwWAviwe†`Iqv `yBMZ© wewkó j¨vwUªb   1. n¨uv Yes   0.bv No | Current status of using pit  GLb †Kvb wcU e¨envi Ki‡Q   1. wcU-1 Pit-1 2. wcU-2 Pit-2 | | Total member using this latrine KZRb m`m¨ GB j¨vwUªb e¨envi Ki‡Q |
| 1. |  | |  |  |  |  | |  |  |  |  | |  |
| 2. |  | |  |  |  |  | |  |  |  |  | |  |
| <3 eQi eq‡mi wbw`©ó wkïi gv whwb cwU †c‡q‡Qb Zvi Kv‡Q wbgœwjwLZ wel‡q wRÁvmv Ki‡Z n‡e | To a respondent (preferably index mom) with a <3 child, who received a potty ask the following:  **Please open question S.408 to S.411 According to the number of question S.403 AND open question S.412 to S.415 according to the number of question S.404** | | | | | | | | | | | | | |
|  | | Avcbvi wkï wK cwU‡Z cvqLvbv K‡i ? Does your child defecate in potty? | | | | | 1. memgq Always 2. ‡ekxifvM mgq Most of the time 3. K`vwPr Rarely 4. KLbI bv Never   888. cÖ‡hvR¨ bqN/A | | | | | If 4/888, skip to C. 630 | |
|  | | Avcbvi wkï ‡ekxifvM mgq ‡hLv‡b cwU‡Z e‡m cvqLvbv K‡i †mB RvqMvUv Avgv‡K †`Lvb| Show me the location where your child defecate in the potty most of the time.  D³ RvqMv‡Z Avcwb Ges gv `vouvb | Gevi gv‡K ejyb Avgv‡K cwUwU G‡b †`Lvb| cwU Avb‡Z KZUzKz mgq †j‡M‡Q Zv MYYv Kiæb| Stand over there with mother and ask her to bring the potty. Count the time and record. | | | | | |\_\_|\_\_\_| minute |\_\_\_|\_\_\_| second | | | | |  | |
|  | | Avgv‡K †`Lv‡eb wK †KvLvq cwUwU Lvwj Kiv nq? Show me where you empty the potty?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | cwU LvwjKiY Emptying potty (yes=1, No=0)   1. j¨vwUªb Latrine 2. wba©vwiZ gqjv †djvi RvqMvq Designated pile of garbage 3. †Lvjv M‡Z©/wkï ev cïi Rb¨ Avjv`v M‡Z© Opend pit /separate pit for child or animal 4. gvwU‡Z cyu‡Z †djv nq Bury it 5. XvKbvhy³ M‡Z© Covered pit 6. †Svc-Svo/evMvb/gvV Bush/forest/field 7. cvwbi Dr†mi cv‡k(cyKzi,Lvj,b`x)Nearby water (pond, canal, river) 8. evoxi cv‡k Awba©vwiZ †Lvjv RvqMvq Undefined open site near the bari   777. Ab¨vb¨ wbw`©ó Kiæb Others (Specify) | | | | |  | |
|  | | ch©‡e¶Y Kiæb: cwUi Ae¯’v(h\_vhZfv‡e wbw`©ó Ki“b) Observation: Potty condition  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | cwUi Ae¯’v Condition (yes=1, No=0)   1. wkï cÖ‡qvR‡bi mgq mn‡R †c‡Z cv‡i Easily accessible when needed by the child 2. gv wkïi cÖ‡qvR‡bi mgq mn‡R †c‡Z cv‡i Easily accessible when needed by the mother 3. cvqLvbvi wPý cwUi †fZ‡i/†Uª‡Z i‡q‡Q Visible signs of feces inside/on the potty/removable pot 4. cwUwU XvKbv w`‡q XvKv wQj Potty was covered with the lid 5. cwUwU XvKbv Qvov Ab¨wKQy w`‡q XvKv wQj Potty was covered anything other than the lid 6. ï®‹ Dry 7. fv½vi Kvi‡b e¨envi Kiv hvq bv Broken so that it is unusable 8. a~jvq fiv/e¨envi bv Kivi wPý i‡q‡Q Covered in dust/sign of non- use 9. cwU cvIqv hvqwb/†`Lv‡Z cv‡iwb Cannot produce a potty | | | | |  | |
|  | | Avcbvi Lvbvi Pvicv‡ki ¸ cwi®‹vi Kivi Rb¨ Avcwb wK AvBwmwWwWAviwe†L‡K cvIqv m¨vwb¯‹yc e¨envi K‡ib? Does your household use a icddr,b supplied sani-scoop to clean up feces around your household | | | | | 1. nu¨v Yes 2. bv No   999. Rvwb bv Don’t know | | | | | If 0/999, skip to C.634 | |
|  | | Avcwb KZevi m¨vwb¯‹yc e¨envi K‡ib? DËi c‡o ïbv‡bv hv‡e bv| How often do you use the sani-scoop? DO NOT READ THE RESPONSES. | | | | | 1. cÖwZw`b A‡bKevi Multiple times per day 2. w`‡b GKevi Once per day 3. w`‡b `yBevi Twice per day 4. mßv‡n K‡qKevi A few times each week 5. mßv‡n GKev‡ii Kg Less than once per week 6. **cÖ\_gw`‡K e¨envi K‡i†Q wKš‘ GLb Avi bv**Used to use it, but no longer use it 7. KLbI bv Never   Ab¨vb¨ wbw`©ó Ki“b Others (Specify) | | | | |  | |
|  | | Avcwb wK Rb¨ m¨vwb¯‹yc e¨envi K‡ib ? DËi c‡o ïbv‡bv hv‡e bv| What do you use the sani-scoop for?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | | | | e¨envi Uses (yes=1, No=0)   1. cïi ¸ cwi¯‹vi Kivi Rb¨ Clean up animal feces 2. wkïi ¸ cwi¯‹vi Kivi Rb¨ Clean up child feces 3. AveR©bv cwi¯‹vi Kivi Rb¨ Clean up garbage 4. gv‡Vi Kv‡R Take the scoop to the field 5. Lbb/evMvb Kivi Rb¨ Digging/gardening   777. Ab¨vb¨ wbw`©ó Ki“b Other (Specify) | | | | |  | |
|  | | m¨vwb¯‹ycwU wK `qv K‡i Avgv‡K †`Lv‡bv hv‡e? m¨vwb¯‹ycwU ch©‡e¶Y Kiæb Ges Ae¯’v wjwce× Kiæb |Could I please see the sani-scoop? Observe sani-scoop condition and record | | | | | ch©‡e¶Y Observation (yes=1, No=0)   1. cvqLvbvi wPý m¨vwb¯‹y‡ci Dc‡i i‡q‡Q Visible sign of feces on the sani -scoop 2. ï®‹ Dry 3. fv½v Ges †givgZ Kiv `iKvi Broken and needs repair 4. eq¯‹ †jv‡Ki bvMv‡j i‡q‡Q Easily accessible when needed by an adult 5. e¨envi bv Kiv wPý i‡q‡Q Signs that the sani-scoop is not used 6. m¨vwb¯‹yc cvIqv hvqwb/†`Lv‡Z cv‡iwb Cannot produce a sani-scoop | | | | |  | |

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| **Section 6D:** ‡mvbvgwb m¤ú©wKZ **Adherence to Sonamoni** | | | | | | | |
|  | Avcwb wK AvBwmwWwWAviwe †\_‡K Avcbvi ev”Pvi Rb¨ ‡mvbvgwb Ges †Kvb DcKiY †c‡q‡Qb? Have you received Sonamoni & other items for your child from icddr, b? | | | | 1. n¨uv Yes   1. bv No | | If no, skip this section |
|  | hw` n¨vu nq,Zvn‡j Avcbvi ev”Pvi Rb¨ ‡mvbvgwb Ges †Kv †Kvb DcKiY †c‡q‡Qb Zv Avgv‡K †`Lvb ?Avcbvi ch©‡e¶Y wjwce× Kiæb|If yes, please show me the Sonamoni and other items that you received for your child from icddr, b? Record your observation. | | | | Items (yes=1, No=0)   1. †mvbvgwb Sonamoni 2. †mvbvgwbivLvi Rb¨ cøvw÷‡Ki cvÎ Plastic container for Sonamoni 3. 250 ml pot 250 wgwj.evwU | |  |
|  | Avcwb KZ¸‡jv †mvbvgwb m¨v‡kU †kl weZi‡bi w`b †c‡qwQ‡jb? cÖkœ Kiæb Ges †iKW© Ki“b|hw` bv nq ZLb 888 emv‡Z n‡e How many Sonamoni sachets did you receive during last delivery? (FRAs will ask household & look on the records) If not applicable use **888** | | | | I\_\_I\_\_I m¨v‡kU Sachets | |  |
|  | KZ w`b Av‡M Zviv G¸‡jv mieivn K‡i‡Q? cÖkœ Kiæb Ges †iKW© Kiæb|hw` bv nq ZLb 888 emv‡Z n‡e How many days ago were they delivered?  (FRAs ask household and see the records ) If not applicable use **“888”** | | | | I\_\_II\_\_I days | |  |
|  | †kl weZi‡bi w`b Avcbvi Kv‡Q KZ¸‡jv Ae¨eüZ Gj Gb Gm m¨v‡kU wQj? MbYv Kiæb Ges †iKW© Kiæb|hw` bv nq ZLb 888 emv‡Z n‡e How many unused Sonamoni sachet you had during last delivery?  (FRAs calculate and put the number) If not applicable use **“888”** | | | | I\_\_II\_\_I m¨v‡kU Sachets | |  |
|  | GLb I KZ¸‡jv m¨v‡kU Av‡Q? Mbbv Kiæb Ges b¤^iwU wjLyb| hw` bv nq ZLb 88 emv‡Z n‡e How many sonamoni sachets are at present?  (FRAs count and put the number) If not applicable use **“888”** | | | | I\_\_I\_\_I m¨v‡kU Sachets | |  |
|  | Avcwb wK Avcbvi wkï‡K †mvbvgwb LvB‡qwQ‡jb? Did you feed your child the Sonamoni? | | | | 1. n¨uv Yes   1. bv No | | If no, skip to C.644 |
|  | hw` n¨vu nq, Zvn‡j Avcwb wKfv‡e Avcbvi wkï‡K †mvbvgwb LvB‡qwQ‡jb ? DËi c‡o ïbv‡bv hv‡e bv| If yes, how did you primarily feed the sonamoni to your Child?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | mieivn Supplementation (yes=1, No=0)   1. m¨v‡kU †\_‡K mivmwi wb‡q LvIqv‡bv n‡qwQj Eaten alone directly from sachets 2. m¨v‡kU †\_‡K gv‡qi AvOy‡j wb‡q LvIqv‡bv n‡qwQj Eaten alone using mother’s finger 3. m¨v‡kU †\_‡K Pvg‡P/†c­‡U wb‡q LvIqv‡bv n‡qwQj Eaten alone using spoon/plate 4. fv‡Zi mv‡\_ wgwk‡q LvIqv‡bv n‡qwQj Mixed with rice 5. Ab¨vb¨ Lvev‡ii mv‡\_ wgwk‡q LvIqv‡bv n‡qwQj Mixed with other food | | | | |  |
|  | ˆ`wbK KZ¸‡jv m¨v‡kU Avcwb Avcbvi wkï‡K †`b? DËi c‡o ïbv‡bv hv‡e bv| How much supplement did you give to your child each day?  (DO NOT READ THE RESPONSES) | cwigvb Amount (yes=1, No=0)   1. 2 m¨v‡kU sachets 2. 1 m¨v‡kU Sachet 3. 2/3 m¨v‡kU(3fv‡Mi 2 fvM) Sachet 4. ½ m¨v‡kU(2fv‡Mi 1 fvM )Sachet   777. Ab¨vb¨ wbw`©ó Ki“b | | | | |  |
|  | hw` DËi bv nq, Zvn‡j ‡Kb †mvbvgwb Lvqwb?If no to B107 then why sonamoni was not eaten at all?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | Kvib Reasons (Yes=1, No=0)   1. wkï cQ›` K‡i bv Child didn’t like 2. `ªe¨wU m¤§‡Ü Rv‡b bv Not sure about the product 3. Ab¨iv †L‡Z wb‡la K‡i‡Q Peer pressure no to take 4. wkïwU Amy¯’ wQj Child was sick 5. wkïwU evox‡Z wQj bv Away from home   Ab¨vb¨ Others | | | | |  |
|  | wbw`©ó wkï Qvov Ab¨‡Kn †mvbvgwb †L‡qwQj wK? Did anybody else beside the target child eat the Sonamoni? | 1. n¨uv Yes 2. bv No | | | | | If no, skip to C.647 |
|  | hw` DËi n¨vu nq, Zvn‡j †K †K †mvbvgwb †L‡qwQj?If yes, by whom?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | m¤úK© Relationship (Yes=1, No=0)   1. GKB gv‡qi Ab¨ wkï Sibling 2. Ab¨ wkï/iv Other child/children 3. eq¯‹ AvZ¡xq Adult relative(s) 4. Ab¨vb¨ wbw`©ó Ki“b Other adult(s) | | | | |  |
|  | †mvbvgwb m¨v‡kU ¸‡jv mieiv‡ni mgq wK bó A\_ev ‡Lvjv wQj? Were any of the Sonamoni sachets damaged or opened prior or during delivery? | 1. n¨uv Yes 2. bv No | | | | |  |
| **Section 6E:**  Î“wUweP¨ywZ **Shortcomings/Problems** | | | | | | | |
|  | Avcbvi g‡Z AvBwmwWwWAviwe‡\_‡K †`qv DcKiY/cÖhyw³‡Z †Kvb Î“wUweP¨ywZ Av‡Q wK? What shortcomings or problems are there in your opinion with the icddrb technologies?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | nvZ‡avqv †ókb HWS (n¨uv Yes=1, bv No=0)   1. evjwZ Ges evjwZi Kj †\_‡K cvwb †Puvqvi Leakage on bucket and tap point 2. mvevb-cvwb ˆZix Kiv KwVb Difficult to prepare soapy water 3. mvevb-cvwbi †evZ‡ji gyL fvsMv Broken cap of soapy water bottle 4. mvevb-cvwb ˆZix Kivmgq mv‡c¶¨ Preparing soapy water time consuming 5. Kj nvwi‡q‡Q Tap missing 6. Kj fvsMv Tap broken 7. evjwZ m¤ú~b© bó n‡q‡Q The bucket is damaged 8. nvZ †avqvi ¯’vbwU (fv‡Mi) Ab¨ivI e¨envi K‡i Sharing of hand washing station 9. XvKbv fvsMv Lid is cracked 10. †Kvb mgm¨v nq bvB, No problem   777. **Ab¨vb¨ (wbw`©ó Ki“b)**Others ( Specify ) | | | | |  |
| **cvwbi ¸bv¸Y Water quality** ( n¨uv Yes=1, bv No=0)   1. cvwbi ¯^v` Avjv`v Water having different taste 2. cvwb MÜhy³ Water having odor 3. cvwbVvÛv Water is cold 4. AwbqwgZ GkzqvU¨ve mieivn Irregular supply of aqua tab 5. cvwbweï×Kiv mgq mv‡c¶¨ e¨cvi Treating water time consuming 6. †Kvb mgm¨v nq bvB, No problem 7. **Ab¨vb¨ (wbw`©ó Ki“b)**Others ( Specify ) | | | | |  |
| **cqt e¨e¯’vcbv Sanitation** ( n¨uv Yes=1, bv No=0)   1. wkï cwU e¨envi Ki‡Z cv‡i bv Child cannot use the potty 2. cwU e¨envi Kiv mgq mv‡c¶¨ e¨cvi Potty use considered time consuming 3. cwU cwi¯‹vi Kiv Cleaning potty 4. m¨vwb¯‹zc cwi¯‹vi Kiv Cleaning sani-scoop 5. fvsMv/ m¨vwb¯‹zc †givgZ Kiv `iKvi Broken/ need to repair sani-scoop 6. j¨wUª‡bi DcwifvM bvB/ fv½v Latrine without having/broken superstructure 7. †Kvb mgm¨v nq bvB, No problem 8. Ab¨vb¨ (wbw`©ó Ki“b) Others ( Specify ) | | | | |  |
| **‡mvbvgywb Sonamoni ( n¨uv Yes=1, bv No=0)**   1. AwbqwgZ mieivn Irregular supply 2. ¯^v` fvj bv Taste is not good 3. wM‡j †djvi c‡i ev”Pviv ewg K‡i Child vomit after swallow 4. Lvev‡ii mv‡\_ wgkv‡j is cwiewZ©Z nq Color changed when it is mixed with food 5. cwiwgZ mieivn Limited supply 6. cPv MÜ Bad smell 7. nRg nq bv Causes indigestion 8. cvZjv cvqLvbv Loose motion 9. GjviwRK cÖwZwKªqv Allergic Reaction 10. wkï **‡mvbvgwb** †L‡Z cQ›` K‡i bv Child doesn’t like to eat Sonamoni 11. ‡mvbvgwb m¨v‡kU †\_‡K ‡ei KivKómva¨ Difficult to take out of the sachet 12. †Kvb mgm¨v nq bvB, No problem   777. Ab¨vb¨ eq¯K/iv Other adult(s) | | | | |  |
|  | hw` *C651* Gi GKwU DËiI n¨vu nq, Zvn‡j Gme Kvi‡b Avcbvi ‡Kvb ‡Kvb B›Uvi‡fbkb e¨envi evuavMÖ¯’ n‡qwQj wK?*If the answer to any of C651 was “Yes”, ask:*  Have any of these shortcomings or problems prevented you from (or made it difficult for you to) feed Sonomani to your child every day? | Abykxjb Practices ( **n¨uv Yes=1, bv No=0)**   1. *nvZ‡avqv Hand Washing* 2. *cvwb cvb Drinking water* 3. *cwU e¨envi Using Potty* 4. *m¨vwb¯‹zc e¨envi Using Sani-scoop* 5. *j¨vwUªb e¨envi Using latrine* 6. *‡mvbvgywb LvIqv‡bv Feeding Sonamoni* | | | | |  |
| **SECTION 6F: Exposure to BCC intervention**  KwgDwbwU ¯^v¯’¨Kg©x, KLbI KLbI GKvwaK cÖwZôvb GB KwgDwbwU‡Z cwi`k©‡bi Kv‡R Av‡m | cÖ\_‡g Avwg AvBwmwWwWAviwe †\_‡K AvmvKwgDwbwU ¯^v¯’¨Kg©x, whwb wm GBP wc wn‡m‡e cwiwPZ, Zvi m¤ú‡K© Rvb‡Z PvB |There are community health workers, sometimes from more than one organization, who may be visiting this community. I would first like to know about a community health worker from icddrb also know as CHP. | | | | | | | |
|  | Avcbvi GjvKvq wmGBPwc / AvBwmwWwWAviwe Kg©x A\_ev Ab¨‡Kn Avcbv‡K †Kvb †Kvb cÖhyw³ wel‡q wk‡L‡Q ?  Did CHP/icddr, b staff or anybody else teach you about the technologies in your community? | | cÖhyw³ Technologies ( **n¨uv Yes=1, bv No=0)**   1. *nvZ‡avqv* Handwashing 2. cvwb weï×KiY Water treatment 3. **cqt e¨e¯’vcbv (cwU,m¨vwb¯‹zc Ges j¨vwUªb )** Sanitaion(Potty,sani-scoop & latrine) 4. cywó Nutrition | | | |  |
|  | Avcbv‡K †K G wel‡q wkwL‡q‡Q A\_ev †Kv\_v †\_‡K Avcwb wk‡L‡Qb? Who taught you or received information from?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | **e¨w³ Person (n¨uv Yes=1, bv No=0)**   1. AvBwmwWwWAvi,wei wmGBPwc Icddr,b CHP 2. AvBwmwWwWAvi,wei Kgx©Icddr,b staff 3. ‡Uwjwfkb Television 4. †iwWI Radio 5. cÖPvi cÎ Leaflet 6. ‡cvóvi Poster 7. wd¬c PvU© Flipchart 8. ¯‹z‡ji wk¶K School teacher 9. cwiev‡ii m`m¨Parents/family members 10. cÖwZ‡ewk Neighbors 11. eÜy Friends 12. ¯^v¯’ civgk©K Medical practioneer 13. Ab¨vb¨ NGO Kgx© Other NGO worker 14. miKvix Kgx GOB worker   777. **Ab¨vb¨ (wbwÏó Ki“b)** Others (Specify) | | | | I  If No to 1, skip CB 652, CB 653 |
|  | wmGBPwc wKfv‡e wkwL‡q‡Q? How did the CHP teach?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | **c×wZ Methods( n¨uv Yes=1, bv No=0)**   1. GKR‡bi mv‡\_ Av‡jvPbv One to one discussion 2. `jMZ wgwUs Group meeting 3. DVvb ˆeVK Courtyard session 4. ‡Ljv Games 5. GjvKvq wgwUs Community meetings   777. (Ab¨vb¨ wbw`©ó Ki“b **)** Others (Specify) | | | |  |
|  | ‡m Avcbv‡K wK wK DcKiY †`wL‡q‡Q? What materials did the CHP show you?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | **DcKiY Materials ( n¨uv Yes=1, bv No=0)**   1. ‡d¬k KvW©Flash card 2. ‡cvóvi Poster 3. wKD KvW© Cue Card 4. wd¬cPvU©Flip Chart 5. eB Books   777. Ab¨vb¨ wbw`©®U Ki“b Others ( Specify ) | | | |  |
|  | KLb KLb nvZ ay‡Z nq ‡m m¤ú‡K© Avcwb ‡Kvb K\_v ï‡b‡Qb wK? Have you heard about key times of hand washing? | | 1. n¨uv Yes   1. bv No | | | | If no, skip CB.655 |
|  | *hw` DËi nu¨v nq,* Zvn‡j KLb KLb nvZ ay‡Z nq? If yes what are these key times for handwashing?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | nvZ‡avqv m¤úwK©Z evZ©v Messages of HW **( n¨uv Yes=1, bv No=0)**   1. Lvevi cª¯‘‡Zi c~‡e© Before preparing food 2. cvqLvbv Kivi ci After toilet/defecation 3. ev”Pv‡K ‡kŠPv‡bvi ci After cleaning baby’s anus 4. ev”Pv‡K cvqLvbv †djvi ci After disposal of child feces 5. Lvevi c~‡e© Before eating 6. Lvevi ci After eating 7. ev”Pv‡K LvIqv‡bvi Av‡M Before feeding a child 8. gvQ/gvsm KvuUvi ci After cutting fish or meat 9. dj Ges mvjv` KvuUviAv‡M Before cutting fruit and salad 10. fZ©v RvZxq †h †Kvb Lvevi/mewR cª¯‘‡Zi c~‡e© Before mashing any food or vegetables 11. ivbœv Kiv Lvevi aivi c~‡e© Before touching cooked food 12. ‡Mvei aivi ci After handling cow-dung 13. Rvwb bv Don’t Know   777. Ab¨vb¨ wbw`©ó Ki“bOthers ( Specify ) | | | |  |
|  | Avcbvi g‡Z wbivc` cvwb wK?What is safe water in your opinion?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | msMv Definition **( n¨uv Yes=1, bv No=0)**   1. ‡h cvwb‡Z †Kvb MÜ \_v†K bv Water having no odor 2. ‡h cvwb‡Z †Kvb is \_v†K bv Water have no color 3. ‡h cvwb‡Z Ab¨ †Kvb ¯^v` \_v†K bv Water having no other taste 4. †h cvwb‡Z †Kvb †ivM-RxevYy bv \_vKv Water having no disease germs 5. ‡h cvwb ¶vi hy³ bq Water that is not hard 6. ‡h cvwbwU cwi®‹vi , †Kvb `„k¨gvb gqjv †bB Water that is clear with no visible dirt 7. GKzqvU¨ve w`‡q weï× cvwb Aquatab treated water 8. ‡Kvb wec`RbK ivmvqwbK c`v\_© †bB †hgb Av‡m©wbK, Avqib, jeb No harmful chemicals such as arsenic, iron, salt 9. ‡h cvwb †ivM e„w× K‡i bv Water that does not develop diseases   777. ) Ab¨vb¨ wbw`©®U Ki“b Others (Specify) | | | |  |
|  | wbivc` cvwb e¨envi bv Ki‡j wK wK †ivM n‡Z cv‡i?What diseases can happen for using unsafe water?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | †ivMmg~n Diseases **( n¨uv Yes=1, bv No=0)**   1. Wvqwiqv Diarrhea 2. RwÛm Jaundice 3. Avgvkq Dysentery 4. UvBd‡qW Typhoid 5. ‡¯‹wem Scabies 6. K„wg Worms   777. Ab¨vb¨ wbw`©®U Ki“b Others (Specify ) | | | |  |
|  | wm GBP wc/ AvBwmwWwWAvi,wei Kgx© A\_ev Ab¨ Kv‡ivi Kv‡Q wkïi cywó, †eª÷ †dwWs ev †mvbvgwb m¤ú©‡K wKQz ï‡b‡Qb wK? Have you heard any messages on infant/child nutrition and or Sonamoni from CHP or icddr, b staff or any one else? | | 1. n¨uv Yes 2. bv No | | | | If no, skip to CB 663 |
|  | Avcbvi wbw`©ó wkïi eqm KZ ? How old are your the index child? | | 1. c~Y© 6 gvm eqm ch©šÍ 6 months age  2. 6-24 gvm eqm ch©šÍ 6-24 months age  3 . wkï GLbI R‡¯§ wb Child yet to born | | | | If answer is 2, skip to CB.662 |
|  | hw` wkïi eqm 6 gv‡mi bx‡P nq ,ZLb cÖkœ Kiæb wm GBP wc‡\_‡K Avcwb wKwK evZ©v †c‡q‡Qb ? If child is <6 months, ASK: What are the messages you have received from CHP?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | evZ©v **Messages ( n¨uv Yes=1, bv No=0)**   1. R‡b¥i 1/2N›Uvi g‡a¨ kvj `ya LvIqv‡bv Colostrum feeding within 1/2 hour of birth of the baby 2. 6 gvm ch©šÍ ïay gvÎ ey‡Ki `ya LvIqv‡bv Exclusive breastfeeding upto 6 months 3. ey‡Ki `ya LvIqv‡bvi Myi“Z¡ Importance of breastfeeding | | | |  |
|  | 6 gvm ch©šÍ wkï‡K ïaygvÎ ey‡Ki `ya LvIqv‡Z nq /G·K¬zwmf †eª÷ †dwWs-Gi e¨cv‡i wK wK †R‡b‡Qb ?Can you tell me what you know about exclusive breast feeding?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | 1. ey‡Ki `ya Ges cvwb †`qv DwPr Should breastfeed and give water  2. ey‡Ki `ya Ges Ab¨ Lvevi Breastfeed and give other food  3. ïaygvÎ ey‡Ki `ya Qvov Ab¨wKQy bq Breastfeed only without anything else  999. Rvwb bv Don’t know | | | |  |
|  | hw` wkïi eqm 6 gv‡mi Dc‡i nq , ZLb cÖkœ Kiæb wm GBP wc‡\_‡K Avcwb wKwK evZ©v †c‡q‡Qb ? If yes to C102 and child age > 6 months ask, what are the messages you have received from CHP?  GKvwaK DËi Avm‡Z cv‡i, DËi c‡o ïbv‡bv hv‡e bv Multiple answers allowed, DO NOT READ THE RESPONSES. | | evZ©v Messages **( n¨uv Yes=1, bv No=0)**   1. evowZ Lvev‡ii Myi“Z¡ Importance of complementary feeding 2. 6 gv‡mi †ekx eq‡mi wkï‡K evowZ Lvevi Ges mieivnK…Z †mvbvgwbi wel‡q Complementary feeding and supplement of Sonamoni after completion of 6 months age of the child 3. †mvbvgwb e¨env‡ii mydj Communicated benefit of using Sonamoni 4. †cvuKv-gvKo †\_‡K †mvbvgwb wbivc` Kivi Rb¨ cvÎ e¨envi Kiv Using container to preserve Sonamoni from insects 5. evowZ Lvev‡ii mv‡\_ †mvbvgwb †gkv‡bvi welq Mixing of sonamoni with complementary food 6. †mvbvgwb LvIqv‡bvi Av‡M nvZ‡avqvi welq Handwashing before feeding Sonamoni 7. w`‡b 2 m¨v‡kU cwigvb †mvbvgwb LvIqv‡bv Dosing of Sonamoni two sachet per day 8. †mvbvgwb ïaygvÎ 6-24 gv‡mi wkï‡`i Rb¨ Sonamoni is only for 6-24 months child   777.Ab¨vb¨ wbw`©ó Ki“b Others ( Specify) | | | |  |
|  | AvBwmwWwWAvi,weiwmGBPwc †h‡Kvb cÖhyw³ie¨cv‡i KZevi Avcbvi Lvbv cwi`k©‡b G‡m‡Q? hw` bv nq ZLb 888 emv‡Z n‡e How many times has an icddr, b CHP visited your household about any of the technologies?  If not applicable put “**888”** | | MZ mßv‡n In the preceding week |\_\_\_|\_\_\_\_|  MZ gv‡m In the preceding month |\_\_\_|\_\_\_\_|  AvR Aewa until today |\_\_\_|\_\_\_\_| | | | |  |
|  | MZgv‡mAvBwmwWwWAviweiwmGBPwc msMwVZ GB msµvšÍ KZ ¸‡jv wgwUs/DVvb ˆeVK -G Avcwb Ask MÖnY K‡i‡Qb?hw` DVvb ˆeVK bv nq ZLb 888 emv‡Z n‡e| How many courtyard sessions or other meetings lead by an icddrb CHP have you attended in the last 1 month? If not applicable put “**888”** | | **Methods (Yes=1, No=0)**  1.|\_\_\_| GKR‡bi mv‡\_ GKR‡bi Av‡jvPbv One to one discussion  2.|\_\_\_| `jMZ wgwUs Group meeting   1. |\_\_\_|DVvb ˆeVK Courtyard session 2. |\_\_\_|GjvKvq wgwUs 3. |\_\_\_|cwievwiK wgwUsFamily meeting 4. |\_\_\_|‡Ljva~jv Games   777.|\_\_\_|Ab¨vb¨ wbw`©ó Ki“b Others (Specify) | | | |  |
|  | MZgv‡mAvBwmwWwWAviweiwmGBPwc msMwVZ GB msµvšÍ KZ ¸‡jv wkï wgwUs-G Avcbvi wkï Ask MÖnY K‡iwQj?hw` wkï wgwUs bv nq ZLb 888 emv‡Z n‡e How many children's meetings by an icddrb CHP has your children attended in the last 1 month?) If not applicable put “**888”** | | **Methods (Yes=1, No=0)**  1.|\_\_\_| GKR‡bi mv‡\_ GKR‡bi Av‡jvPbv One to one discussion  2. |\_\_\_| `jMZ wgwUs Group meeting  3. |\_\_\_|DVvb ˆeVK Courtyard session   1. |\_\_\_|GjvKvq wgwUs 2. |\_\_\_|cwievwiK wgwUsFamily meeting 3. |\_\_\_|‡Ljv Games 4. |\_\_\_|Ab¨vb¨ wbw`©ó Ki“b Others (Specify) | | | |  |
|  | Avcbvi g‡Z GB msµvšÍ †Kvb mgm¨v \_vK‡j Zv wmGBPwc mv‡\_ Avjvc K‡i‡Qb wK? Did you share any of your concerns related to handwashing/water quality/Sanitation/Nutrition with the CHP? | | | 1. nu¨v Yes  0. bv No  999. Rvwb bv Don’t Know | | | If no/don’t know, skip to CB.669 |
|  | wmGBPwcwKAvcbvi mgm¨v mgvav‡b mnvqZv K‡i‡Q? Did the CHP help you find a solution? | | | 1. nu¨v ,AvswkKfv‡e Yes , partly  2. nu¨v ,m¤ú~b©fv‡e mgvavb Yes,complete solution   1. bvNo | | |  |
|  | GLbI wKAvcbvi mgm¨v i‡q‡Q? Do you still have problem now? | | | 1. n¨vu Yes 2. bv No | | |  |
| GLb Avwg Avcbvi Kv‡Q icddr, b wmGBPwc Qvov Ab¨‡Kvb GbwRI KwgDwbwU ¯^v¯’¨ Kg©x m¤§‡Ü Rvb‡Z PvB Now I would please like to know about any other community health worker from another organization, other than icddrb: | | | | | | | |
|  | MZgv‡m Ab¨†Kvb GbwRI Kgx© nvZ‡avqvi /cvwb weï×KiY/  **cqt e¨e¯’vcbv** / cywó e¨cv‡i KZevi Avcbvi evox cwi`k©b K‡i‡Q ?hw` bv nq ZLb 888 emv‡Z n‡e | How many times has another NGO worker visited your compound about handwashing in the last 1 month. If not applicable put “**888”** | | 1. I\_\_I*nvZ‡avqv* Handwashing 2. I\_\_I cvwb weï×KiY Water treatment 3. I\_\_I **cqt e¨e¯’vcbv (cwU,m¨vwb¯‹zc Ges j¨vwUªb )**Sanitaion(Potty,sani-scoop & latrine) 4. I\_\_I cywó Nutrition | | |  | |
|  | MZgv‡mAb¨†Kvb GbwRI Kgx© msMwVZnvZ‡avqvi/ cvwb weï×KiY/  **cqt e¨e¯’vcbv** / cywó e¨cv‡i KZ¸‡jv wgwUs /DVvb ˆeVK -G Avcwb Ask MÖnY K‡i‡Qb?hw` bv nq ZLb 888 emv‡Z n‡e |How many courtyard or other meetings about handwashing, lead by antoher NGO worker, have you attended in the last 1 month? If not applicable put “**888”** | | 1. I\_\_I *nvZ‡avqv* Handwashing 2. I\_\_I cvwb weï×KiY Water treatment 3. I\_\_I**cqt e¨e¯’vcbv (cwU,m¨vwb¯‹zc Ges j¨vwUªb )**Sanitaion(Potty,sani-scoop & latrine) 4. I\_\_I cywó Nutrition | | |  | |

Iqvkwe g~j M‡elYvi nvW©Iq¨vi weZi‡Yi `ª“Z g~j¨vqb

**D‡Ïk¨:**

1. Lvbv ch©v‡q nvW©Iq¨vi weZi‡Yi h\_v\_©Zv g~j¨vqb
2. weZiYK…Z nvW©Iq¨v‡ii e¨envwiK Ae¯’v g~j¨vqb

**c×wZ**: Lvbv Ges evox cwi`k©b K‡i

e¨enviKvix: gvV M‡elYv Kg©KZ©v dg©: G

nvW©Iq¨vi `ª“Z g~j¨vq‡bi dg©

| B›Uvi‡fbkb Ges nvW©Iq¨vi | Lvbv/evoxi †hvM¨Zv | | †hvM¨ n‡j ¯’vc‡bi Ae¯’v | | ¯’vwcZ n‡j e¨envwiK Ae¯’v | | gš—e¨ |
| --- | --- | --- | --- | --- | --- | --- | --- |
| †hvM¨=1 | A†hvM¨=2 | ¯’vwcZ=3 | ¯’vwcZ nqwb=4 | e¨envi n‡”Q=5 | e¨envi n‡”Q bv=6 |
| **nvZ †avqv** |  |  |  |  |  |  |  |
| nvZ †avqv e¨e¯’v |  |  |  |  |  |  |  |
| mvevb-cvwbi †evZj/mvevb |  |  |  |  |  |  |  |
| **cvwb weï×KiY** |  |  |  |  |  |  |  |
| G¨vKzqv U¨ve |  |  |  |  |  |  |  |
| msi¶‡Yi cvÎ |  |  |  |  |  |  |  |
| **cqwb®‹vkb** |  |  |  |  |  |  |  |
| `yB MZ© wewkó cvqLvbv |  |  |  |  |  |  |  |
| ‡Kv`vj |  |  |  |  |  |  |  |
| cwU |  |  |  |  |  |  |  |
| **cywó** |  |  |  |  |  |  |  |
| GjGbGm |  |  |  |  |  |  |  |
| mgwY^Z Iqvk |  |  |  |  |  |  |  |
| nvZ †avqv |  |  |  |  |  |  |  |
| nvZ †avqv e¨e¯’v |  |  |  |  |  |  |  |
| mvevb-cvwbi †evZj |  |  |  |  |  |  |  |
| cvwb weï×KiY |  |  |  |  |  |  |  |
| G¨vKzqv U¨ve |  |  |  |  |  |  |  |
| msi¶‡Yi cvÎ |  |  |  |  |  |  |  |
| cqwb®‹vkb |  |  |  |  |  |  |  |
| ‰ØZ cxU j¨vwUªb |  |  |  |  |  |  |  |
| ‡Kv`vj |  |  |  |  |  |  |  |
| cwU |  |  |  |  |  |  |  |
| **cywó + Iqvk** |  |  |  |  |  |  |  |
| nvZ †avqv |  |  |  |  |  |  |  |
| nvZ †avqv e¨e¯’v |  |  |  |  |  |  |  |
| mvevb-cvwbi †evZj |  |  |  |  |  |  |  |
| cvwb weï×KiY |  |  |  |  |  |  |  |
| G¨vKzqv U¨ve |  |  |  |  |  |  |  |
| msi¶‡Yi cvÎ |  |  |  |  |  |  |  |
| **cqwb®‹vkb** |  |  |  |  |  |  |  |
| `yB MZ© wewkó cvqLvbv |  |  |  |  |  |  |  |
| ‡Kv`vj |  |  |  |  |  |  |  |
| cwU |  |  |  |  |  |  |  |
| cywó |  |  |  |  |  |  |  |
| GjGbGm |  |  |  |  |  |  |  |

gwbUwis Ges wi‡cvwU©s: IqvkwegvV ch©v‡q ev¯—evqb

**D‡Ïk¨:**

* j‡¶¨i DbœwZ d‡jv-Avc Kiv
* nvW©Iq¨v‡ii ev¯—evq‡bi mgm¨v wPwýZ Kiv
* nvW©Iq¨v‡ii Avc‡UK Ae¯’vb Ges Uv‡M©U KwgDwbwUi AvPiYMZ cwieZ©b wPwýZ Kiv
* BCC c­¨vb ev¯—evq‡b wmGBPwc†`i k~Y¨Zv ¸‡jv wPwýZ Kiv

**e¨envi:**

* GB dig¨vU wU j¶¨e¯‘i Kvh©µ‡gi DbœwZ Ges AR©b m¤ú‡K© nvjbvMv` Ki‡e
* AvPiYMZ cwieZ©b Dbœq‡b M„nxZ c`‡¶c mg~‡n wbw`©ó mgm¨v ¸‡jvi k~Y¨Zv ¸‡jv wPwýZ Kiv n‡e
* wmGBPwc ‡`i Kvh©µ‡gi ¸YMZ gvb Dbœq‡b Z\_¨ mieivn Ki‡e hv fwel¨‡Zi wmGBPwc Dbœqb cwiKíbvq mvnvh¨ Ki‡e
* GB d‡g©i Øviv msM„nxZ Z\_¨ gvwmK †Kvqvw›U‡UwUf Rwiccwigvc Kiv n‡e Ges wbw`©ó Kvh© GjvKvq h\_vh\_ c`‡¶c †bqv n‡e
* gvwmK Ges cvw¶K cÖwZ‡e`‡bi cÖ¯‘wZ

e¨enviKvix:wmGBPwc, GdAviG, GdAviI, RIs, SPM

|  |  |
| --- | --- |
| dig¨U # | c~iY Ki‡e |
| dig¨U #-1 | wmGBPwc |
| dig¨U #-2 | wmGBPwc |
| dig¨U #-3 | GdAviG |

dig¨U-1: wmGBPwc†\_‡K GdAviG †`i Rb¨ gvwmK cÖwZ‡e`‡bi dig¨vU

wmGBPwcGi bvg \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

K¬v÷vi ID \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

GdAviG Gi bvg \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

cÖwZ‡e`‡bi mgqKvj \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| # | Kvh©µg | j¶¨ | | AR©b | | hw` †Kvb mgm¨vq c‡o \_v‡Kb | | mgm¨vwUi mgavb wKfv‡e Kiv n‡qwQj?A\_ev †mwU wK GLbI Av‡Q wKbv G wel‡q ‡bvU wbb | |
| 01 | KwgDwbwU wgwUs cwiPvjbv |  | |  | |  | |  | |
| 02 | `ª“Z g~j¨vq‡bi Z\_¨ msMÖn Ges dig¨vU c~iY |  | |  | |  | |  | |
| 03 | DVvb ˆeVK/nvW©Iq¨vi cwiwPwZ g~jK `jxq Av‡jvPbv Ges Lvbv m`m¨‡`i mv‡\_ Avjvc-Av‡jvPbv | | | | |  | |  | |
| nvZ †avqv |  | |  | |  | |  | |
| wcIBD |  | |  | |  | |  | |
| cqwb®‹vkb |  | |  | |  | |  | |
| cywó |  | |  | |  | |  | |
| mgwY^Z Iqvk |  | |  | |  | |  | |
| cywó+ Iqvk |  | |  | |  | |  | |
| 04 | nvW©Iq¨vi ¯’vcb | | | | | | | | |
|  | #evox | | # wbewÜZ Lvbv | | # nvW©Iq¨vi | |  |  |
| j¶¨ | AR©b | j¶¨ | AR©b | j¶¨ | AR©b |
| nvZ †avqv e¨e¯’v |  |  |  |  |  |  |  |  |
| mvevb-cvwbi †evZj |  |  |  |  |  |  |  |  |
| ‰ØZ cxU j¨vwUªb |  |  |  |  |  |  |  |  |
| ‡Kv`vj |  |  |  |  |  |  |  |  |
| cwU |  |  |  |  |  |  |  |  |
| G¨vKzqv U¨ve |  |  |  |  |  |  |  |  |
| Kjmx(msi¶‡Yi cvÎ) |  |  |  |  |  |  |  |  |
| GjGbGm |  |  |  |  |  |  |  |  |
| 05 | d‡jv-Avc cwi`k©b | j¶¨ | | AR©b | | hw` †Kvb mgm¨vq c‡o \_v‡Kb | |  | mgm¨vwUi mgavb wKfv‡e Kiv n‡qwQj?A\_ev †mwU wK GLbI Av‡Q wKbv G wel‡q ‡bvU wbb |
|  | nvZ †avqv |  | |  | |  | |  | |
| wcIBD |  | |  | |  | |  | |
| cqwb®‹vkb |  | |  | |  | |  | |
| cywó |  | |  | |  | |  | |
| mgwY^Z Iqvk |  | |  | |  | |  | |
| cywó +Iqvk |  | |  | |  | |  | |
| 06 | LvbvÕi mv‡\_ AvBwcwm |  | |  | |  | |  | |
| 07 | ev”Pv‡`i mv‡\_ `jxq Av‡jvPbv Kiv |  | |  | |  | |  | |
| 08 | gv‡q‡`i mv‡\_ `jxq Av‡jvPbv Kiv |  | |  | |  | |  | |
| 09 | cwiPh©vKvix‡`i ‡Uªwbs |  | |  | |  | |  | |
| 10 | Mf©eZx gv‡q‡`i Ly‡Ru †ei Kiv Ges Zv‡`i‡K nvZ †avqv I †K¬vwib Øviv cwi‡kvwaZ cvwb cv‡bi P©Pv‡K AviI DbœZ Kivi Rb¨ Dc‡`k †`qv |  | |  | |  | |  | |

dig¨vU-2: nvW©Iq¨vi Avc‡UK Ges cÖv‡qvwMK Ae¯’v

* 1. Ae¯’v: nvW©Iq¨vi Avc‡UK

nvZ †avqv e¨e¯’v †`qv n‡q‡Q Ggb †gvU evoxi msL¨v:

nvZ †avqv e¨e¯’v GKK fv‡e†`qv n‡q‡Q Ggb†gvU Lvbvi msL¨v:

mvevb-cvwbi †evZj†`qv n‡q‡Q Ggb†gvU Lvbvi msL¨v:

Kjmx †`qv n‡q‡Q Ggb†gvU Lvbvi msL¨v :

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| cwi`wk©Z evoxi msL¨v | nvZ †avqv | | | | | | wcIBD | | | gš—e¨ |
| nvZ †avqv e¨e¯’v e¨enviKvixi msL¨v | | | mvevb-cvwbi †evZj e¨enviKvixi msL¨v †evZj ch©‡e¶Y Ki“b Ges msL¨v wjLyb) | | | G¨vKzqv U¨ve e¨enviKvixi msL¨v | | |
| # evox | # Lvbv | | # evox | # Lvbv | | # evox | # Lvbv | |  |
| ‡hvM¨ | A‡hvM¨ | ‡hvM¨ | A‡hvM¨ | ‡hvM¨ | A‡hvM¨ |  |
|  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| cwi`wk©Z evoxi msL¨v | cqwb®‹vkb | | | | | | cywó | | | gš—e¨ |
| ‰ØZ cxU j¨vwUªb e¨enviKvixi msL¨v | | | ‡Kv`vj Ges cwU e¨enviKvixi msL¨v (ch©‡e¶Y Ki“b Ges msL¨v wjLyb) | | | GjGbGm e¨enviKvixi msL¨v | | |
| # evox | # Lvbv | | # evox | # Lvbv | | # evox | #Lvbv | |  |
| ‡hvM¨ | A‡hvM¨ | ‡hvM¨ | A‡hvM¨ | ‡hvM¨ | A‡hvM¨ |  |
|  |  |  |  |  |  |  |  |  |  |  |

* 1. **cÖv‡qvwMKZv**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Kvh©µg | †gvU nvW©Iq¨vi msL¨v | nvW©Iq¨vi msL¨v †h¸‡jv fvj Ae¯’vq Av‡Q | nvW©Iq¨vi msL¨v †h¸‡jv ‡givgZ Kiv `iKvi | nvwi‡q/Pzwi n‡q hvIqv nvW©Iq¨vi msL¨v | gš—e¨ |
| **nvZ †avqv** |  |  |  |  |  |
| nvZ †avqv e¨e¯’v |  |  |  |  |  |
| mvevb-cvwbi †evZj/ mvevb |  |  |  |  |  |
| **cvwb weï×KiY** |  |  |  |  |  |
| G¨vKzqv U¨ve |  |  |  |  |  |
| msi¶‡Yi cvÎ |  |  |  |  |  |
| **cqwb®‹vkb** |  |  |  |  |  |
| `yB MZ© wewkó cvqLvbv |  |  |  |  |  |
| ‡Kv`vj |  |  |  |  |  |
| cwU |  |  |  |  |  |
| **cywó** |  |  |  |  |  |
| GjGbGm |  |  |  |  |  |

wmGBPwc ‡`i Wv‡qwii †bvU: (wb‡Ri fvlvq eY©bv Ki“b)

1.wb‡Pi cÖkœ ¸‡jvi Dci wfwË K‡i GKwU c¨vivMªvd wjLyb)

2.nvZ †avqvi PPv© Ki‡Z KwgDwbwU †K†Kvb welq wU DrmvwnZ K‡i?

3.†K¬vwib Øviv cwi‡kvwaZ cvwb cv‡bi Ki‡Z KwgDwbwU †K†Kvb welq wU DrmvwnZ K‡i?

4.Zviv wK nvZ †avqv/wcIBD/j¨vwUªb/GjGbGm Gi ¯^v¯’¨ myweav †`q bv Ggb welq Øviv cÖfvweZ?

5.nvZ †avqvi PPv© Ki‡Z †Kvb welq ¸‡jv Zv‡`i Rb¨ evav?

6.†K¬vwib Øviv cwi‡kvwaZ cvwb cv‡bi ‡¶‡Î †Kvb welq ¸‡jv Zv‡`i Rb¨ evav?

7.cwU Ges †Kv`vj e¨env‡ii †¶‡Î †Kvb welq ¸‡jv Zv‡`i Rb¨ evav?

8.j¨vwUªb e¨env‡ii †¶‡Î †Kvb welq ¸‡jv Zv‡`i Rb¨ evav?

9.Wkï‡`I Rb¨ GjGbGm e¨envi Ki‡Z †Kvb welq ¸‡jv Zv‡`i Rb¨ evav?

dig¨U-3: GdAviG †\_‡K GdAviI †`i Rb¨ gvwmK cÖwZ‡e`‡bi dig¨vU

GdAviGGi bvg \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ # wmGBPwc Gi mycvifvBRvi \_\_\_\_\_\_\_\_\_\_\_\_\_

cÖwZ‡e`‡bi mgqKvj \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ # wmGBPwcGi ZË¡veav‡b wbewÜZ evox/Lvbv \_\_\_\_\_\_\_\_/\_\_\_\_\_\_

wmGBPwc Gi cÖwZ‡e`‡bi web¨vm (Kg© cwiKíbv wefvM)

| # | Kvh©µg | j¶¨ | | | AR©b | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 01 | KwgDwbwUi mv‡\_ Av‡jvPbv Kiv |  | | |  | | |
| 02 | `ª“Z g~j¨vq‡bi Z\_¨ msMÖn Ges dig¨vU c~iY |  | | |  | | |
| 03 | DVvb ˆeVK/nvW©Iq¨vi cwiwPwZ g~jK `jxq Av‡jvPbv Ges Lvbv m`m¨‡`i mv‡\_ Avjvc-Av‡jvPbv | | | | | | |
| nvZ †avqv |  | | |  | | |
| wcIBD |  | | |  | | |
| cqwb®‹vkb |  | | |  | | |
| cywó |  | | |  | | |
| 04 | nvW©Iq¨vi ¯’vcb |
|  | |  | |  | |
|  |  |  |  |  |  |
| nvZ †avqv e¨e¯’v |  |  |  |  |  |  |
| mvevb-cvwbi †evZj |  |  |  |  |  |  |
| `yB MZ© wewkó cvqLvbv |  |  |  |  |  |  |
| ‡Kv`vj |  |  |  |  |  |  |
| 05 | d‡jv-Avc cwi`k©b | | | | | | |
| nvZ †avqv |  | | |  | | |
| wcIBD |  | | |  | | |
| cqwb®‹vkb |  | | |  | | |
| cywó |  | | |  | | |
| mgwY^Z Iqvk |  | | |  | | |
| cywó +Iqvk |  | | |  | | |
| 06 | LvbvÕi mv‡\_ AvBwcwm |  | | |  | | |
| 07 | ev”Pv‡`i mv‡\_ `jxq Av‡jvPbv Kiv |  | | |  | | |
| 08 | gv‡q‡`i mv‡\_ `jxq Av‡jvPbv Kiv |  | | |  | | |

**dig¨U-4: nvW©Iq¨vi Avc‡UK Ges cÖv‡qvwMK Ae¯’v**

4.1 nvW©Iq¨vi Avc‡UK

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| cwi`wk©Z evoxi msL¨v | nvZ †avqv | | | | | | wcIBD | | | gš—e¨ |
| nvZ †avqv e¨e¯’v e¨enviKvixi msL¨v | | | mvevb-cvwbi †evZj e¨enviKvixi msL¨v †evZj ch©‡e¶Y Ki“b Ges msL¨v wjLyb) | | | G¨vKzqv U¨ve e¨enviKvixi msL¨v | | |
| # evox | # Lvbv | | # evox | # Lvbv | | # evox | # Lvbv | |  |
| ‡hvM¨ | A‡hvM¨ | ‡hvM¨ | A‡hvM¨ | ‡hvM¨ | A‡hvM¨ |  |
|  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| cwi`wk©Z evoxi msL¨v | **cqwb®‹vkb** | | | | | | cywó | | | gš—e¨ |
| `yB MZ© wewkó cvqLvbv e¨enviKvixi msL¨v | | | ‡Kv`vj Ges cwU e¨enviKvixi msL¨v (ch©‡e¶Y Ki“b Ges msL¨v wjLyb) | | | GjGbGm e¨enviKvixi msL¨v | | |
| # evox | # Lvbv | | # evox | # Lvbv | | # evox | #Lvbv | |  |
| ‡hvM¨ | A‡hvM¨ | ‡hvM¨ | A‡hvM¨ | ‡hvM¨ | A‡hvM¨ |  |
|  |  |  |  |  |  |  |  |  |  |  |

4.1 cÖv‡qvwMKZv

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Kvh©µg | †gvU nvW©Iq¨vi msL¨v | nvW©Iq¨vi msL¨v †h¸‡jv fvj Ae¯’vq Av‡Q | nvW©Iq¨vi msL¨v †h¸‡jv ‡givgZ Kiv `iKvi | nvwi‡q/Pzwi n‡q hvIqv nvW©Iq¨vi msL¨v | gš—e¨ |
| **nvZ †avqv** |  |  |  |  |  |
| nvZ †avqv e¨e¯’v |  |  |  |  |  |
| mvevb-cvwbi †evZj/ mvevb |  |  |  |  |  |
| **cvwb weï×KiY** |  |  |  |  |  |
| G¨vKzqv U¨ve |  |  |  |  |  |
| msi¶‡Yi cvÎ |  |  |  |  |  |
| **cqwb®‹vkb** |  |  |  |  |  |
| `yB MZ© wewkó cvqLvbv |  |  |  |  |  |
| ‡Kv`vj |  |  |  |  |  |
| cwU |  |  |  |  |  |
| **cywó** |  |  |  |  |  |
| GjGbGm |  |  |  |  |  |

**wb‡Ri Kv‡Ri cÖwZ‡e`b:**

# wbewÜZ K¬v÷vi

# evox/Lvbvi cÖwZ‡e`b

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| # | Kvh©µg | j¶¨ | AR©b | hw` †Kvb mgm¨vq c‡o \_v‡Kb | mgm¨vwUi mgavb wKfv‡e Kiv n‡qwQj?A\_ev †mwU wK GLbI Av‡Q wKbv G wel‡q ‡bvU wbb |
| 01 | KwgDwbwU wgwUs G Dcw¯’wZ |  |  |  |  |
| 02 | DVvb ˆeV‡K Dcw¯’wZ |  |  |  |  |
| 03 | nvZ †avqv e¨e¯’v ¯’vcb Kvh©µg Z`viK |  |  |  |  |
| 05 | d‡jv-Avc cwi`k©‡b AskMÖnY |  |  |  |  |
| 06 | ch©‡ew¶Z AvBwcwm c‡e©i msL¨v |  |  |  |  |
| 07 | gv‡q‡`i mv‡\_ `jxq Av‡jvPbvq Dcw¯’wZi msL¨v |  |  |  |  |
| 08 | wkï‡`i mv‡\_ `jxq Av‡jvPbvq Dcw¯’wZi msL¨v |  |  |  |  |
| 09 | cwiPh©vKvix‡`i ‡Uªwbs GDcw¯’wZi msL¨v |  |  |  |  |

**g~j mgm¨v Ges mgvav‡bi Dcvq mg~‡ni mgwY^Z ZvwjKv**

| nvW©Iq¨vi Gi bvg | K¬v÷vi AvBwW | evox AvBwW | wRAvBGm AvBwW | mgm¨vi aiY | Ae¯’v | | mgvavb bv nIqvi KviY | M„nxZ c`‡¶c |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| mgvavb Kiv n‡q‡Q | mgvavb Kiv nq wb |
| nvZ †avqv |  |  |  |  |  |  |  |  |
| nvZ †avqv e¨e¯’v |  |  |  |  |  |  |  |  |
| mvevb-cvwbi †evZj/mvevb |  |  |  |  |  |  |  |  |
| cvwb weï×KiY |  |  |  |  |  |  |  |  |
| G¨vKzqv U¨ve |  |  |  |  |  |  |  |  |
| msi¶‡Yi cvÎ |  |  |  |  |  |  |  |  |
| cqwb®‹vkb |  |  |  |  |  |  |  |  |
| `yB MZ© wewkó cvqLvbv |  |  |  |  |  |  |  |  |
| ‡Kv`vj |  |  |  |  |  |  |  |  |
| cwU |  |  |  |  |  |  |  |  |
| cywó |  |  |  |  |  |  |  |  |
| GjGbGm |  |  |  |  |  |  |  |  |
| mgwY^Z Iqvk |  |  |  |  |  |  |  |  |
| nvZ †avqv |  |  |  |  |  |  |  |  |
| nvZ †avqv e¨e¯’v |  |  |  |  |  |  |  |  |
| mvevb-cvwbi †evZj |  |  |  |  |  |  |  |  |
| cvwb weï×KiY |  |  |  |  |  |  |  |  |
| G¨vKzqv U¨ve |  |  |  |  |  |  |  |  |
| msi¶‡Yi cvÎ |  |  |  |  |  |  |  |  |
| cqwb®‹vkb |  |  |  |  |  |  |  |  |
| `yB MZ© wewkó cvqLvbv |  |  |  |  |  |  |  |  |
| ‡Kv`vj |  |  |  |  |  |  |  |  |
| cwU |  |  |  |  |  |  |  |  |
| cywó+ Iqvk |  |  |  |  |  |  |  |  |
| nvZ †avqv |  |  |  |  |  |  |  |  |
| nvZ †avqv e¨e¯’v |  |  |  |  |  |  |  |  |
| mvevb-cvwbi †evZj |  |  |  |  |  |  |  |  |
| cvwb weï×KiY |  |  |  |  |  |  |  |  |
| G¨vKzqv U¨ve |  |  |  |  |  |  |  |  |
| msi¶‡Yi cvÎ |  |  |  |  |  |  |  |  |
| cqwb®‹vkb |  |  |  |  |  |  |  |  |
| `yB MZ© wewkó cvqLvbv |  |  |  |  |  |  |  |  |
| ‡Kv`vj |  |  |  |  |  |  |  |  |
| cwU |  |  |  |  |  |  |  |  |
| cywó |  |  |  |  |  |  |  |  |
| GjGbGm |  |  |  |  |  |  |  |  |

*(*GdAviG *GB AskwU mgY^q Ki‡e Ges nvW©Iq¨vi msµvš— mgm¨v mgvav‡bi `vwq‡Z¡ \_vKv* wmGBPwc*Gi mv‡\_Av‡jvPbv Ki‡e| Zvici* wmGBPwc*GB me mgm¨v msKzj cÖwZwU evox/Lvbv cwi`k©b Ki‡e| GB GjvKv mg~‡ni `vwq‡Z¡ \_vKv †Kqvi‡UKvi Ges wmGBPwc †`i g‡a¨ GKwU nUjvBb ¯’vwcZ n‡e| Zviv nvW©Iq¨vi msµvš— mgm¨v mgvav‡bi Rb¨ `vwq‡Z¡ \_vKv Kg©x`‡ji mv‡\_ †hvMv‡hvM Ki‡Z cvi‡e|*

**wmGBPwc ‡`i Kvh©vejx gwbUi Kivi Rb¨ GdAviG†`i ch©‡e¶Y †PKwj÷**

wmGBPwc Gi bvg :

wbewÜZ evox/Lvbv:

K¬v÷vi #

c×wZ :

evox wgwUs G Dcw¯’Z n‡q wmGBPwc‡`i KvR ch©‡e¶Y Ki“b

evox/Lvbv cwi`k©b Ki“b, m`m¨‡`i mv‡\_ Av‡jvPbv Ki“b Ges cwieZ©b mg~n ch©‡e¶Y Ki“b

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Kv‡Ri ZvwjKv | n¨vu=1 | bv=2 | cÖ‡hvR¨ bq=3 | gš—e¨ |
|  | | | |  |
| Kv‡Ri ZvwjKv AbymiY Kiv n‡q‡Q |  |  |  |  |
| wmGBPwc K¤úvD‡Ûi m`m¨‡`i †K wgwUs Gi c~‡e© D‡Ïk¨ mg~n fvjfv‡e eywS‡q ej‡Z †c‡i‡Q |  |  |  |  |
| nvZ †avqvi ¸i“Z¡c~Y© 3 wU mgq m¤ú‡K© evZv© ¸‡jv fvjfv‡e †cŠ‡Q w`‡Z †c‡i‡Q |  |  |  |  |
| wcIBD m¤úwK©Z evZv© ¸‡jv fvjfv‡e †cŠ‡Q w`‡Z †c‡i‡Q |  |  |  |  |
| nvZ †avqv e¨e¯’v e¨envi Kivi c×wZ mwVK fv‡e †`Lv‡Z †c‡i‡Q |  |  |  |  |
| mvevb-cvwbi ‰Zix Kivi c×wZ mwVK fv‡e †`Lv‡Z †c‡i‡Q |  |  |  |  |
| wd¬c PvU© mwVK fv‡e †`Lv‡Z †c‡i‡Q |  |  |  |  |
| Lvbv m`m¨‡`i KvQ †\_‡K gZvgZ wb‡q‡Q |  |  |  |  |
| nvW©Iq¨vi wVK RvqMvq ivLv n‡q‡Q| KwgDwbwUi wm×vš— AbymiY Kiv n‡q‡Q |  |  |  |  |
| cwiPh©Kvix/KwgDwbwU †m”Qv‡meK AskMÖnYKvix‡`i ga¨ †\_‡K wbev©wPZ n‡q‡Q (e¨enviKvix‡`i G wel‡q wR‡Ám Ki“b) |  |  |  |  |
| cwiPh©Kvix/KwgDwbwU †m”Qv‡meK nvZ †avqvi ¸i“Z¡c~Y© mgq ¸‡jv e¨vL¨v Ki‡Z cv‡i ( cwiPh©Kvix‡K wR‡Ám Ki“b) |  |  |  |  |
| K¤úvD‡Ûi m`m¨iv nvZ †avqvi ¸i“Z¡c~Y© mgq ¸‡jv e¨vL¨v Ki‡Z cv‡i ( K¤úvD‡Ûi m`m¨‡`i †K wR‡Ám Ki“b) |  |  |  |  |
| K¤úvD‡Ûi m`m¨iv cvwb weï× Ki‡bi c×wZ wVK fv‡e e¨vL¨v Ki‡Z cv‡i |  |  |  |  |
| Wkïiv (6 eQ‡ii D‡aŸ©) nvZ †avqvi ¸i“Z¡c~Y© 3 wU mgq m¤ú‡K© e¨vL¨v Ki‡Z cv‡i |  |  |  |  |
| Mf©eZx gv‡qiv †K¬vwib Øviv cwi‡kvwaZ cvwb cv‡bi wel‡q AeMZ Av‡Qb Ges cvb Ki‡Z ivRx Av‡Qb |  |  |  |  |
| Mf©eZx gv‡qiv †K¬vwib Øviv cwi‡kvwaZ cvwb cv‡bi wel‡q AeMZ Av‡Qb Ges cvb Ki‡Z ivRx Av‡Qb |  |  |  |  |

BCCgwbUi Ges cÖwZ‡e`b `vwLj: WashB gvV ch©v‡q cÖ‡qvM

D‡Ïk¨ :

* j‡¶¨i DbœwZ d‡jv-Avc Kiv
* nvW©Iq¨v‡ii ev¯—evq‡bi mgm¨v wPwýZ Kiv
* nvW©Iq¨v‡ii Avc‡UK Ae¯’vb Ges Uv‡M©U KwgDwbwUi AvPiYMZ cwieZ©b wPwýZ Kiv
* BCC c­¨vb ev¯—evq‡b wmGBPwc†`i k~Y¨Zv ¸‡jv wPwýZ Kiv

e¨envi:

* GB dig¨vU wU j¶¨e¯‘i Kvh©µ‡gi DbœwZ Ges AR©b m¤ú‡K© nvjbvMv` Ki‡e
* AvPiYMZ cwieZ©b Dbœq‡b M„nxZ c`‡¶c mg~‡n wbw`©ó mgm¨v ¸‡jvi k~Y¨Zv ¸‡jv wPwýZ Kiv n‡e
* wmGBPwc ‡`i Kvh©µ‡gi ¸YMZ gvb Dbœq‡b Z\_¨ mieivn Ki‡e hv fwel¨‡Zi wmGBPwc Dbœqb cwiKíbvq mvnvh¨ Ki‡e
* GB d‡g©i Øviv msM„nxZ Z\_¨ gvwmK †Kvqvw›U‡UwUf Rwiccwigvc Kiv n‡e Ges wbw`©ó Kvh© GjvKvq h\_vh\_ c`‡¶c †bqv n‡e
* gvwmK Ges cvw¶K cÖwZ‡e`‡bi cÖ¯‘wZ

e¨enviKvix: wmGBPwc, GdAviG, GdAviI,

|  |  |
| --- | --- |
| dig¨vU # | c~iY Ki‡e |
| dig¨vU-1 |  |
| dig¨vU-2 |  |

gwbUwis cwiKíbvi iƒc‡iLv: gvV M‡elYv mnKvix (GdAviG)

.

GdAviG BCC cwiKíbvi mv‡\_ Kv‡Ri ¸YMZ gvb Ges h\_v\_©Zvi wel‡q ¸i“Z¡ w`‡e

D‡Ïk¨ :

1. AvPiYMZ cwieZ©b msµvš— B›Uvi‡fbkb ev¯—evq‡bi ZË¡veavqK Ges wmGBPwc †`i KvR d‡jv-Avc Kivi Rb¨
2. wbw©`ó Lvbvi AvPi‡Yi gyj cwieZ©b mg~n cwigvc Kiv Ges AvPiYMZ cwieZ©b msµvš— B›Uvi‡fbkb mieiv‡n wmGBPwc †`i Kg©`¶Zvi (ÁvbGes Kg©`¶Zv) mvgÄm¨Zv weav‡bi Rb¨

`vwq‡Z¡ \_vKv M‡elYv cÖwZwbwa cÖwZ gv‡m 8-10 Rb wmGBPwc Gi KvR d‡jv-Avc Ki‡e

c×wZ

1. ch©‡e¶Y
2. `jxq Av‡jvPbv
3. Lvbv m`m¨‡`i mv‡\_ mv¶vrKvi
4. wmGBPwc‡`i g~j Kv‡Ri K…wZZ¡

| gvb wba©viK | Kvh©vejx | K¬v÷vi | bs | ¸YMZ gvb welqK gš—e¨ | mycvwik |
| --- | --- | --- | --- | --- | --- |
| 1. nvZ †avqvi evZ©v mg~n mwVK fv‡e †cŠQuv‡Z †c‡i‡Q? 2. wcIBD/cywó/cqwb®‹vk†bi evZ©v mg~n mwVK fv‡e †cŠQuv‡Z †c‡i‡Q? 3. KwgDwbwU wK fvjfv‡e evZ©v mg~n eyS‡Z †c‡i‡Q? | ch©‡ew¶Z DVvb ˆeVK mg~n |  |  |  |  |
| 1. nvW©Iq¨vi wbev©Pb/e¨env‡ii †¶‡Î wmGBPwc wK Lvbv m`m¨‡`i mv‡\_ wVK gZ Av‡jvPbv K‡i‡Q? 2. wmGBPwc‡`i Kv‡Ri e¨vcv‡i Lvbv m`m¨‡`i cÖwZwµqv †Kgb? | ch©‡ew¶Z Lvbv cwi`k©b |  |  |  |  |
| 1. wmGBPwc wK evZ©v mg~n mwVK fv‡e †cŠQuv‡Z †c‡i‡Q? 2. ‡jvK mgvMg KZ †ekx/Kg wQj? 3. AskMÖnYKvixiv wK wmGBPwcÕi K\_v ïb‡Z AvMÖnx wQj? | wkï‡`i mv‡\_ ˆeVK ch©‡e¶Y |  |  |  |  |
| 1. KvR ¸‡jv wK Avb‡›`i mv‡\_ m¤úw`Z n‡qwQj? 2. ‡jvK mgvMg KZ †ekx/Kg wQj? 3. gv‡qiv wK fvjfv‡e Gi evZ©v mg~n eyS‡Z †c‡i‡Q? | ˆeVK ch©‡e¶Y |  |  |  |  |

* wbewÜZ Lvbvi AvPiYMZ cwieZ©b wbav©iY

|  |  |
| --- | --- |
| AvPiY mg~n | gš—e¨ |
| nvZ †avqv | |
| nvZ †avqvi 3 wU ¸i“Z¡c~Y© mg‡q Lvbvi eq¯‹ e¨w³iv mvevb-cvwb w`‡q nvZ †avq |  |
| nvZ †avqvi 3 wU ¸i“Z¡c~Y© mg‡q Lvbvi eo ev”Pviv mvevb-cvwb w`‡q nvZ †avq |  |
| Lvbvi m`m¨iv wd¬c Pv‡U© cÖ`wk©Z wbqgvbyhvqx (Aš—Z 20 †m‡KÛ) mwVK fv‡e nvZ †avq |  |
| gv‡qiv Ges cwiPh© Kvixiv Zv‡`i mš—vb‡`i mvevb-cvwb w`‡q nvZ †avqvi †Uªwbs w`‡q‡Q |  |
| wcIBD | |
| cwiPh© Kvixiv/wb‡qvMK…Z e¨w³iv †K¬vwib Øviv wbqwgZ cvwb cwi‡kvab K‡i |  |
| †K¬vwib Øviv cwi‡kvwaZ cvwb Lvbvi m`m¨iv cvb K‡i |  |
| cqwb®‹vkb | |
| Lvbvi m`m¨iv wbqwgZ cvqLvbv cwi®‹vi Ki‡Q |  |
| Lvbvi m`m¨iv Zv‡`i ev”Pv‡`i Rb¨ cwU e¨envi Ki‡Q |  |
| Lvbvi m`m¨iv gvbyl Ges Rxe-Rš‘i cvqLvbv cwi®‹vi Kivi Rb¨ †Kv`vj e¨envi Ki‡Q |  |
| cyywó |  |
| gv‡qiv Zv‡`i <6 gvm eqmx ev”Pv‡`i Rb¨ BweGd PPv© Ki‡Q |  |
| gv‡qiv Zv‡`i weGd MYbv Ki‡Q Ges ev”Pv‡`i 6 gvm eq‡mi ci †\_‡K bvowZ Lvevi †`qvi PP©v Ki‡Q |  |
| Lvbvi m`m¨iv Zv‡`i ev”Pv‡`i Rb¨ GjGbGm e¨envi Ki‡Q |  |
| Lvbvi m`m¨iv GjGbGm e¨env‡ii ci c¨v‡KU msi¶Y Ki‡Q |  |

WashB g~j M‡elYvi Lvbv wfwËK cvwb, cqwb®‹vkb Ges ¯^v¯’¨ welqK DcKiY Ges AvPi‡Yi cÖPv‡ii c×wZ

D‡Ïk¨ :

* B›Uvi‡fbkb Kvh©µ‡gi ev¯—evqb mg~n µgvbymv‡i wjwce× Ki‡e
* DVvb ˆeVK Ges Lvbv cwi`k‡©b wmGBPwciv GZ`welqK wbqgbxwZ mg~‡ni mv‡\_ Kvh©Ki fv‡e Lvc LvIqv‡Z cvi‡Q wKbv †mUv wbav©ib Ki‡e
* Lvbvi m`m¨iv wmGBPwc KZ…K d‡jv-Avc cwi`k©b Ges Avjvc-Av‡jvPbvi gva¨‡g ev¯—evwqZ Kvh©µg mg~‡n wKfv‡e cÖwZwµqv Ki‡Q †mUv eY©bv Ki‡e
* wmGBPwciv wK mwVK fv‡e wewfbœ nvW©Iq¨vi Ges AvPiYwewa e¨vL¨v Ki‡Z Ges †`Lv‡Z cvi‡Q †mUv cix¶v Ki‡e
* wmGBPwciv Zv‡`i evox/cwiev‡i Gme AvPiYwewa( nvZ †avqv, †K¬vwib Øviv cwi‡kvwaZ cvwbi e¨envi ) PP©v Ki‡Q wKbv †mUv cix¶v Ki‡e
* AvPiYMZ cwieZ©‡bi †KŠk‡j BCC DcKiY Ges hš¿cvwZi h\_v\_©Zv cix¶v Ki‡e
* BCC DcKiY Ges hš¿cvwZ †hgb, wd¬c PvU© wK wmGBPw c‡`i AvBwcwm Kivi D‡Ïk¨ c~i‡Y mnvqZv Ki‡Q wKbv ‡mUv †`L‡e
* wmGBPw c‡`i KvR cwiPvjbvi c‡\_i evav-weNœ mg~n wPwýZ Ki‡e
* B›Uvi‡fbk‡bi cÖ`k©b cwigvc Kiv: evox cwi`k©‡bi cÖwZ‡e`b cÖPvi, DVvb-‰eV‡Ki cÖ`k©b, nvW©Iq¨vi weZi‡Yi cÖwZ‡e`b cÖPvi,
* nvW©Iq¨vi g~j¨vqb Ges cÖ‡qvRb Abymv‡i mgm¨v mgvavb
* nvW©Iq¨v‡ii Kg©¶gZv g~j¨vqb
* AvPiYMZ cÖfve g~j¨vqb

WASH-B g~j M‡elYvi Dc¯’vcb c×wZi iƒc‡iLv

| D‡Ïk¨ | c×wZ | DcKiY | `vwqZ¡ |
| --- | --- | --- | --- |
| 1.B›Uvi‡fbk‡bi Kvh©µg µgvbymv‡i Dc¯’vcb | gvwmK Kvh©µ‡gi msw¶ß iƒ‡ci mgš^q KiY  mgqmxgv msµvš— MÖvd ‰Zix  e¨eüZ dg© Ges me KvMR-cÎ ‡idv‡iÝ MvB‡W mgš^q KiY |  | FRA wmGBPwc‡`i gvwmK Kg© cwiKíbv mieivn Ki‡e  FRO gvwmK Kvh©µ‡gi msw¶ß iƒ‡ci mgš^q Ki‡e  SPM:P~ovš— mgš^q Ges Dc¯’vcb |
| 2.DVvb ˆeVK Ges Lvbv cwi`k‡©b wmGBPwciv GZ`welqK wbqgbxwZ mg~‡ni mv‡\_ Kvh©Ki fv‡e Lvc LvIqv‡Z cvi‡Q wKbv †mUv wbav©ib Ki‡e | wmGBPwc‡`i †Uªwbs †mk‡b AskMÖnY Kiv | PKwj÷: | †Uªwbs Awdmvi †Uªwbs †mk‡b AskMÖnY Ki‡e Ges cÖvß Z\_¨ mg~n wjwce× Kiv  †Uªwbs Uxg mgš^q Ges Dc¯’vcb |
| Lvbv cwi`k©‡bi mgq wmGBPwc †`i mv‡\_ \_vKv | gvwmK gwbUwis DcKiY | FRO: gvwmK gwbUwis cÖwZ‡e`b mieivn  SPM: nVvr gvV GjvKv cwi`k©‡bi gva¨‡g cÖwZ‡e`‡bi mZ¨Zv hvPvB, mgš^q Ges Dc¯’vcb Kiv |
| wmGBPwcØviv c~iYK…Z gwbUwis dg©/†PKwj÷ cyb©wbix¶Y Ki‡e | gwbUwis cÖwZ‡e`b | FRO: gvwmK gwbUwis cÖwZ‡e`b mieivn  SPM: nVvr gvV GjvKv cwi`k©‡bi gva¨‡g cÖwZ‡e`‡bi mZ¨Zv hvPvB, mgš^q Ges Dc¯’vcb Kiv |
| wmGBPwc‡`i mv‡\_ `jxq Av‡jvPbv | `jxq Av‡jvPbvi cwiPvjbv Kiv |  |
| ‡h me wmGBPwc wewfbœ nvW©Iq¨vi cÖPvi K‡i‡Q Zv‡`i mv‡\_ GKK mv¶vrKvi | cÖkœcÎ |  |
| 3.Lvbvi m`m¨iv wmGBPwc KZ…K d‡jv-Avc cwi`k©b Ges Avjvc-Av‡jvPbvi gva¨‡g ev¯—evwqZ Kvh©µg mg~‡n wKfv‡e cÖwZwµqv Ki‡Q †mUv eY©bv Ki‡e | **ÓAvjvc-Av‡jvPbvÓ Gi cwigvc**  **-** wmGBPwc **K ch©‡e¶b K‡i gvV cÖwZwbwai Øviv c~iYK„Z GKwU †PKwj÷** | :  †PKwj÷:   * Lvbvi mv‡\_ mym¤úK© ˆZix * nvW©Iq¨vi m¤ú‡K© Lvbv‡K fv‡jv fv‡e AewnZ Kiv * Lvbv, nvW©Iq¨vi m¤ú‡K© wmGBPwc ‡`i †`qv Z\_¨ Øviv mš‘ó * Lvbv,bZzb nvW©Iq¨vi Mªnb K‡i‡Q Ges mwVK ¯’v‡b †i‡L‡Q * gwbUwis cÖwZ‡e`b | FRA: gvwmK gwbUwis cÖwZ‡e`b mieivn  FRO: gwbUwis DcKiY Gi Ask AvqZ¡ Kiv Ges mgš^q Kiv  SPM:cÖwZ‡e`b Abyhvqx P~ovš— mgš^q Ges Dc¯’vcb |
| 4.wmGBPwciv Zv‡`i evox/cwiev‡i Gme AvPiYwewa( nvZ †avqv, †K¬vwib Øviv cwi‡kvwaZ cvwbi e¨envi ) PP©v Ki‡Q wKbv †mUv cix¶v Ki‡e | **nvW©Iq¨vi MÖnbKvix** wmGBPwc  wmGBPwc‡`i Lvbv/K¤úvDÛ cwi`k©b K‡i †`Lv GLv‡b nvZ †avqv, †K¬vwib Øviv cwi‡kvwaZ cvwbi e¨envi Gi Ae¯’v †Kgb  GB me wba©vwiZ wmGBPwc‡`i cwiev‡ii m`m¨ Ges cÖwZ‡ekx‡`i mv‡\_ mv¶vrKvi  nvW©Iq¨vi cvqwb Ggb wmGBPwc:  wmGBPwc‡`i mv‡\_ mv¶vrKvi K‡I †R‡b †bqv †h Zviv Avm‡j ¸i“Z¡c~Y© mg‡q nvZ †avqvi PPv© Ki‡Q wKbv  ÕnvZ †avqvi e¨e¯’v QvovÕ Zviv GUv wKfv‡e Ki‡Q?  AvPiYMZ cwieZ©‡b †Kvb welq ¸‡jv DrmvwnZ Ki‡Q | †PKwj÷:  cÖkœcÎ | FRO & SPM: †PKwj÷ ˆZix Kiv, wmGBPwc ‡`i evox cwi`k©b, Zv‡`i Ges Zv‡`i cwiev‡ii mv‡\_ mv¶vrKvi †bqv  KvMR-cÎ ˆZix Kiv |
| 5.wmGBPwciv wK mwVK fv‡e wewfbœ nvW©Iq¨vi Ges AvPiYwewa e¨vL¨v Ki‡Z Ges †`Lv‡Z cvi‡Q †mUv cix¶v Ki‡e | DVvb-‰eVK ch©‡¶b Kiv  Lvbv cwi`k©b ch©‡¶b Kiv  Awd‡m G‡m K‡i †`Lv‡bv | †PKwj÷:  gvwmK gwbUwis DcKiY | FRA: gvwmK gwbUwis cÖwZ‡e`b mieivn  FRO: bgybv Lvbv cwi`k©b Ges FRA†`i ch©‡e¶b hvPvB Kiv  SPM:P~ovš— mgš^q Ges Dc¯’vcb |
| .  6.BCC DcKiY Ges hš¿cvwZ †hgb, wd¬c PvU© wK wmGBPw c‡`i AvBwcwm Kivi D‡Ïk¨ c~i‡Y mnvqZv Ki‡Q wKbv ‡mUv †`L‡e | BCC ‡KŠkj AbyhvqxLvbv m`m¨‡`i mv‡\_¸YMZ gvb wbi  mv¶vrKvi PjvKvjxb mg‡q ch©‡e¶Y, GQvov I Lvbvi mv‡\_ FGD i mgqwdWe¨vK †bqv | †PKwj÷  gvwmK gwbUwis DcKiY | FRA: gvwmK gwbUwis cÖwZ‡e`b mieivn  FRO: bgybv Lvbv cwi`k©b Ges FRA†`i ch©‡e¶b hvPvB Kiv  SPM:P~ovš— mgš^q Ges Dc¯’vcb |
| 7.wmGBPw c‡`i KvR cwiPvjbvi c‡\_i evav-weNœ mg~n wPwýZ Ki‡e | Iqvk cÖ‡UvK‡ji eY©Yv AbyhvqxwmGBPwc‡`i mv‡L ¸bMZ assessment, | gvwmK gwbUwis DcKiY | FRO: gvwmK gwbUwis cÖwZ‡e`b mieivn  SPM:P~ovš— mgš^q Ges Dc¯’vcb |
| 8.B›Uvi‡fbk‡bi cÖ`k©b cwigvc Kiv: evox cwi`k©‡bi cÖwZ‡e`b cÖPvi, DVvb-‰eV‡Ki cÖ`k©b, nvW©Iq¨vi weZi‡Yi cÖwZ‡e`b cÖPvi, | Kg© cwiKíbv Abyhvqx wmGBPwc‡`i gvwmK cwi`k©Y  wmGBPwc‡`i cwi`k‡©Yi mgq gvV ch©‡e¶Y  AwZwi³ cÖkœ cÖKvwkZ Ki‡Yi GKwU gvb`Û wn‡m‡e Rwi‡c \_vK‡e | gvwmK gwbUwis DcKiY | FRA: gvwmK gwbUwis cÖwZ‡e`b mieivn  CHP†`i mv‡\_ nVvr cwi`k©‡bi gva¨‡g cÖwZ‡e`‡bi mycvifvBR‡`i cybwbix¶b  SPM:P~ovš— mgš^q Ges Dc¯’vcb |
| 9.nvW©Iq¨vi g~j¨vqb Ges cÖ‡qvRb Abymv‡i mgm¨v mgvavb | ¸bMZ Ges cwigvYMZ cwieZ©b wbav©iY | nvW©Iq¨vi Gi Kg©¶gZvi gvwmK gwbUwis Gi DcKiY | M‡elYv `j: wbiƒcY  FRO: gvwmK nvW©Iq¨vi mieivn Ges Kv‡Ri gvwmK cÖwZ‡e`b  SPM:P~ovš— mgš^q Ges Dc¯’vcb |
| 10.nvW©Iq¨v‡ii Kg©¶gZv g~j¨vqb | ¸bMZ Ges cwigvYMZ cwieZ©b wbav©iY | nvW©Iq¨vi Gi Kg©¶gZvi gvwmK gwbUwis Gi DcKiY | M‡elYv `j: wbiƒcY  FRO: gvwmK nvW©Iq¨vi mieivn Ges Kv‡Ri gvwmK cÖwZ‡e`b  SPM:P~ovš— mgš^q Ges Dc¯’vcb |
| 11.AvPiYMZ cÖfve g~j¨vqb | Iqvk cÖ‡UvK‡ji Abyhvqx cwigvYMZ  µgvMZ weKí bgybvi mv‡\_ KvVv‡gv MZ ch©‡e¶Y | nvW©Iq¨vi Gi Kg©¶gZvi gvwmK gwbUwis Gi DcKiY | Research team: assessment  M‡elYv `j: wbiƒcY  FRO: gvwmK nvW©Iq¨vi mieivn Ges Kv‡Ri gvwmK cÖwZ‡e`b  SPM:P~ovš— mgš^q Ges Dc¯’vcb |

Appendix 8: Nutrient content of Nutributter vs. WASH-Benefits Nutrient Supplement

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Nutrient | Unit | WHO/FAO RNIs1 for children 1-3 y | Nutributter | | WASH-B LNS | |  |
| Content | % RNI | Content | %RNI | Chemical form of nutrients |
| Dose | g |  | 20 |  | 20 |  |  |
| Energy | kcal |  | 108 |  | 118 |  |  |
| Fat | g |  | 7 |  | 9.6 |  |  |
| Linoleic acid | g |  | 1.29 |  | 4.46 |  |  |
| Alpha-linolenic acid | g |  | 0.29 |  | 0.58 |  |  |
| Ratio of LA to ALA |  |  | 4.4 |  | 7.7 |  |  |
| Protein | g |  | 2.6 |  | 2.6 |  |  |
| Vitamins |  |  |  |  |  |  |  |
| Vitamin A | μg | 400 | 400 | 100% | 400 | 100% | Retyinyl acetate |
| Vitamin D | μg | 5 | NA | 0 | 5 | 100% | Cholecalciferol (D3) |
| Vitamin E | mg | 5 | NA |  | 6 | 120% | DL-alpha-tocopherol acetate |
| Vitamin K | μg | 15 | NA |  | 30 | 200% | Phylloquinone 5% |
| Vitamin C | mg | 30 | 30 | 100% | 30 | 100% | L-ascorbic acid |
| Biotin | μg | 8 | NA |  | NA |  |  |
| Folic acid | μg | 150 | 80 | 53% | 150 | 100% | Pteroyl monoglutamic acid |
| Thiamine (B1) | mg | 0.5 | 0.3 | 60% | 0.5 | 100% | Thiamin hydrochloride |
| Riboflavin (B2) | mg | 0.5 | 0.4 | 80% | 0.5 | 100% | Riboflavin |
| Niacin | mg | 6 | 4 | 67% | 6 | 100% | Niacinamide |
| Pantothenic acid (B5) | mg | 2 | 1.8 | 90% | 2 | 100% | Calcium pantothenate |
| Vitamin B6 | mg | 0.5 | 0.3 | 60% | 0.5 | 100% | Pyridoxine hydrochloride |
| Vitamin B12 | μg | 0.9 | 0.5 | 56% | 0.9 | 100% | Cyanocobalamin (0.1%) |
| Minerals |  |  |  |  |  |  |  |
| Calcium | mg | 500 | 100 | 20% | 280 | 56% | Tri-calcium phosphate |
| Copper | mg | 0.56 | 0.2 | 36% | 0.34 | 61% | Encapsulated copper sulfate |
| Iodine | μg | 90 | 90 | 100% | 90 | 100% | Potassium iodate |
| Iron | mg | 11.6 | 9 | 78% | 6 | 52% | Encapsulated ferrous sulfate |
| Magnesium | mg | 60 | 16 | 27% | 40 | 67% | Magnesium citrate |
| Manganese | mg | 1.2 | 0.08 | 7% | 1.2 | 100% | Manganeze sulfate |
| Phosphorous | mg | 460 | 82 | 18% | 190 | 41% | Tri-calcium phosphate & Di-potassium phosphate |
| Potassium | mg |  | 152 |  | 200 |  | Di-potassium phosphate & potassium chloride |
| Selenium | μg | 17 | 10 | 59% | 20 | 118% | Sodium selenite 1.5% |
| Zinc | mg | 8.3 | 4 | 48% | 8 | 96% | Zinc sulfate |

1. RNI, Recommended Nutrient Intake

Check-List

CHECK-LIST FOR SUBMISSION OF RESEARCH PROTOCOL

FOR CONSIDERATION OF RESEARCH REVIEW COMMITTEE (RRC)

[Please check (X) appropriate box]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. Has the proposal been reviewed, discussed and cleared at the Division level? | | | | |
| Yes |  | No | |  |
| If No, please clarify the reasons: | | | | |
| 1. Has the proposal been peer-reviewed externally? | | | | |
| Yes |  | No | |  |
| If the answer is ‘No’, please explain the reasons: | | | | |
| If yes, have the external reviews’ comments and their responses been attached | | | | |
| Yes |  | | No |  |
| 1. Has the budget been cleared by Finance Department? | | | | |
| Yes |  | No | |  |
| If the answer is ‘No’, reasons thereof be indicated: | | | | |
| 1. Does the study involve any procedure employing hazardous materials, or equipments? | | | | |
| Yes |  | No | |  |
| If ‘Yes’, fill the necessary form. | | | | |
| 5. Has the Ethics Certificate(s) been attached with the Protocol?  Yes No  If the answer is ‘No’, please explain the reasons: | | | | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ Signature of the Principal Investigator Date | | | | |

ERC Abstract Summary

The goal of the WASH Benefits study is to generate rigorous evidence about the impacts of sanitation, water quality and handwashing interventions on child health and development in the first years of life.

The core scientific objective of WASH Benefits is to evaluate the spectrum of benefits obtained through improved sanitation, water quality, hygiene promotion, and nutrition interventions. More specifically, there are three scientific goals that the study addresses:

* Rigorously measure health benefits arising from low-cost approaches including local promoters and simple technologies (e.g. latrine improvements or potties for children, chlorine based tablets, and handwashing stations).
* Evaluate the degree to which, in resource-constrained settings, there is added health benefit to delivering multiple interventions concurrently (sanitation facilities, drinking water, and handwashing promotion).
* Measure the impact of lipid-based nutrient supplementation alone and in combination with sanitation, water and hygiene interventions on child growth and development.

The current study is designed as two, highly comparable randomized trials in Bangladesh and Kenya. The study has two main phases. The first phase was a 2-year pilot that will continue through 2011. The pilot has allowed the study teams to refine the sanitation, handwashing and water quality interventions and identify hardware and behavior change packages that result in high levels of uptake. The planned intervention elements in Bangladesh include:

|  |  |
| --- | --- |
| Intervention class | Bangladesh interventions |
| Sanitation | Sanitation mobilization and promotion, child potties, sani-scoop hoes to remove feces from household environments, dual water sealed pit latrine upgrades |
| Handwashing | Promotion of handwashing with soap or waterless hand sanitizer at critical times, handwashing stations, soapy water at handwashing locations |
| Water quality  Nutrition | Chlorine tablets (Aquatabs) + safe storage vessels, water treatment promotion  Lipid based nutritional supplementation for child 6 – 24 months of age |

The second phase (main study, described in this protocol) will begin in early 2012. We will implement and then measure outcomes in children two years after implementation. The main study will include the four treatments (sanitation, handwashing, water quality and nutrition) in a seven-arm, cluster-randomized design that includes a comparison (current practices) arm, each treatment alone, a combined water / sanitation / handwashing arm and the full combination of interventions. We will randomize different interventions at the village level. In Bangladesh we plan to enroll 90 clusters per arm, a double-sized control arm, and 7 children per cluster (5,040 children).

The primary outcomes include length-for-age, child development milestones measured by caregiver-report and observation, and caregiver-reported diarrhea. We will also assess parasitic infections, and in a subset of study subjects environmental enteropathy biomarkers which will allow us to explore whether these interventions affects these pathways, and whether changes in these measures are associated with differences in child development. We will measure outcomes at baseline and again at 1 year and 2 years post-intervention (3 total visits).The interventions will require 3 months from the baseline survey to deliver. The follow-up visits are planned for 12 and 24 months after intervention delivery.

The WASH Benefits study will be one of the largest randomized trials to study water, sanitation and hand hygiene interventions to date, and evidence from the study will be a touchstone for the sector. It is the first WASH study to be designed around child growth and development outcomes. The WASH Benefits study presents a unique opportunity to collect randomized evidence about whether growth and development impacts from nutritional supplementation in the first years of life can be enhanced if deployed concurrently with WASH interventions.

The Ethical Review Committee requests that we address eight specific issues:

1. Describe the requirements for a study population and explain the rationale for using in this special population groups such as children, or groups whose ability to give voluntary informed consents might be compromised.The proposed subjects include very young children (<24 months of age), pregnant women, and educationally and economically disadvantaged subjects. The goal of the WASH Benefits study is to generate rigorous evidence about the impacts of sanitation, water quality, handwashing, and nutrition interventions on child growth and development in the first years of life. There is abundant evidence aggregated over more than 325,000 children from around the world that the window for interventions to improve growth is in the first 1,000 days of life, including the 9 months before birth (Victora 2010). Meeting the study goals requires intervention in the middle of this development window. Enrolling pregnant women will ensure our ability to meet our sample size goals. The rural population that we are targeting in this study are very poor, and lack the water, sanitation, and hygiene infrastructure which we are assessing.
2. Describe and assess any potential risks – physical, psychological, social, legal or other, and assess their likelihood and seriousness. If research methods are anticipated to create potential risks, describe alternate methods, if any, which were considered and why they will not be used.There is minimal risk of physical, psychological, social, or legal injury from participation in this study. The intervention hardware, improved latrines, child potties, handwashing stations, and water storage vessels are interventions that are widely promoted and used in a variety of contexts. The interventions involve a behavior change component that involves developing communication messages and training local health promoters to deliver these messages. This is a standard approach to public health promotion used throughout Bangladesh and other contexts.No severe allergic or other reactions to Nutributter (a product with similar ingredients to the LNS used in this pilot study) were observed in similar studies in Ghana or Bangladesh (conducted by our UC Davis team members), and none are expected in this study. In the LNS arms, when the children are age 6 months we will ask about peanut allergies and will test children with a small sample of the LNS supplement. If a child is allergic, we will not give them LNS but we will retain them in the intention to treat analysis. Community health workers will be trained to tell mothers that they should be aware of any allergic reactions in their children after using the LNS supplement, and in the event of an allergic reaction, not to give the supplement. Some aspects of the interventions and data collection activities might be uncomfortable for subjects to discuss, given cultural sensitivities surrounding the topic of defecation. Currently many young children defecate in the open and parents sometimes do not clean this up and sometimes clean it up with a hoe. When using a potty or sani-scoop, parents may be exposed to their children’s feces in somewhat different ways than they previously were.

The measurements for environmental enteropathy involve administration naturally occurring sugars, and small children seem to enjoy the flavor. There is the risk that some children will not like the flavor and will be upset when it is administered. Collection of urine, stool saliva and hair may be uncomfortable to the mother or child. There is also the risk of short-term discomfort and pain during the collection of venous blood and blood spot samplesfor both mother and their children.

There is a slight risk of breach of confidentiality. Community members may see study staff entering other compounds and homes of their neighbors (usually all family members within a compound), and may overhear interviews.

1. Describe procedures for protecting against or minimizing potential risks and an assessment of their likely effectiveness.Potential harms of the study include that people will give time to the study that would be better given to address other issues. We will address this risk by securing informed consent, and clarifying that study participants can drop out at any time, even in the middle of an interview or group discussion. Discomfort during venous blood draw will be minimized by using trained phlebotomists to collect the specimens. Needles used to collect blood will be disposed of in a safe manner and will not be re-used. Field staff will be carefully trained to collect blood spot samples. We will explain the procedures to the parents and will be available to answer any questions they may have.We will streamline the data collection procedures as much as possible in order to take as little of the subjects’ time as possible. We will make every effort to put subjects at ease during discussions of sensitive topics such as defecation, by using culturally appropriate terminology or euphemisms as possible, and by reminding subjects at the outset that they are free to withdraw from the study activities at any point. It will be made clear during promotion activities that individuals are free to continue their current sanitation practices, and that no one should be coerced to adopt latrine usage. When parents are trained in use of the child’s potty, they will be taught the importance of handwashing with soap afterwards.

If hypertension is identified for mothers and childen of the EE subsample, we will refer them to the governmental hospitals for treatment. Similarly, if we identify anaemia among the children, we will also refer them to the nearby governmental hospitals.

Treatment of injuriesThis study does not involve more than minimal risk. In the LNS arms, health promoters will recommend that caregivers stop using the LNS and notify one of the ICDDRB staff immediately should their child have any adverse reactions shortly after ingesting the supplement (such as vomiting, stomach pain, rash, breathing problems with wheezing). In the event of an adverse reaction, ICDDRB staff will assess the child’s condition and, if necessary, provide transport to the closest medical facility for treatment.

1. Include a description of the methods for safeguarding confidentiality and protecting anonymity.To minimize the risk of breach of confidentiality, every effort will be made to conduct interviews in the privacy of the participant’s home. Data collected during interviews and observations will be kept secure by study staff.We will make every effort to ensure that household surveys and structured interviews are conducted in privacy, and data stored securely.We will take a number of precautions to ensure the confidentiality of all information collected from subjects in the studies it conducts. The majority of data will be collected by PDA (personal digital assistant), which minimizes the risk of loss of confidentiality. GPS coordinates will be recorded digitally as well. The cognitive development and environmental enteropathy teams may use paper-based questionnaires. Interviewers will be trained to keep data confidential. All personal identifiers other than the household and child identification codes will be removed from paper-based questionnaires prior to digitization. Researchers working with the data have only numerical identification codes for each entry in the database, while the paper forms with respondent names and corresponding study identification codes are stored in a locked room at the research office in Bangladesh. These names are used only to guide survey enumerators to the respondents in follow-up survey rounds (no addresses or phone numbers are collected from household survey respondents). Records of phone numbers collected from health promoters and households selected for structured interviews will be stored in a locked room at the research office in Bangladesh, to which only the project manager at ICDDRB will have access. Blood, stool and urine samples will be labeled with the same numerical ID code used on the household surveys.The code will be stored separately from the personal identifiers and will be accessible only to study personnel that require such access to complete the study. The records containing identifiers will be stored in field offices in a locked cabinet. The blood, stoolurine, salivaand hair samples will be transported to ICDDR,B and stored in a freezer. Access to the freezer room is restricted by a padlock. Samples will be analyzed within 24 months of collection. Any unused samples will be stored for 20 years.Subject names and household location will be collected so that survey enumerators can locate the same households for follow-up. Such data will be collected for the mothers and the target children, as well as their older siblings and neighboring children included in the baseline assessment. As described above, the codes that link this identifying information to data from the study will only be available to the project managers at ICDDRB.Identifiers will be removed from the data at the time that the data is sent out for cleaning and analysis. Identifiers will not be destroyed, but will be stored indefinitely at ICDDRB, as we may return at some future date to evaluate long term intervention effectiveness.The key to identifiers will be stored in field offices in a locked cabinet and/or password protected server. Only study personnel that require the key to complete the study will have access to the locked cabinet. Once the study is completed, the key to identifiers will be stored at ICDDRB in a locked cabinet and/or secure server.Digital copies of the data will be stored indefinitely after the conclusion of the study, for the purposes of additional analysis and informing future research project design. Digital copies of the data will not contain any identifying information. Hard copies of the survey forms (if any), including those with subject identifiers, will be stored in locked cabinets at ICDDRB. Forms (if any) and digital files containing identifying information will be retained indefinitely for use in a possible follow-up study to assess the long-term health and economic impacts of the interventions. Hard copies of forms which have been digitized will be destroyed at the conclusion of the project.Data resulting from research involving children will be stored for at least 7 years after the child reaches the age of 18 years.Collected data and videos will be stored at ICDDRB after study completion. They will be stored securely under lock and key. The study PI and Project Manager will have access. After study completion, these materials will be digitized, and the hardcopy will be destroyed. Digitized materials will be securely stored for an indefinite period of time
2. When there are potential risks to the subject, or the privacy of the individual may be affected, the investigators are required to obtain a signed informed consent from the prospective participant. For minors and individuals with compromised ability to provide a valid consent, informed consent must be obtained from their parents or legal guardians. Describe consent procedures to be followed including how and where informed consent will be obtained.There are 4 situations where consent will be sought from study participants: i) Compound and household enrollment in the studyTrained fieldworkers will travel to the eligible communities and will ask community leaders for permission to conduct research within their community. If the community leaders agree, then the team will proceed with recruitment. Fieldworkers will approach randomly selected, eligible compounds (a group of 3-20 households that share a common courtyard and are usually blood relatives) within a community. The prospect for participation in the study will be discussed with adults in the compound, including the mother/caregiver of the target infants. After providing time for discussion among the compound residents, a member of the field team will return and seek formal informed consent from the head of the compound(Appendix 1a) and from the mother/guardian of target infants (Appendix 1b).ii) Household enrollment in receiving the specific interventionThere will be a period of approximately 3 months between the baseline assessment and the intervention implementation. Field staff will return to the intervention compounds after the baseline assessment and randomization into intervention arms. They will approach the participating households and seek consent from the mother of the target child and or household head for the specific intervention the household/compound was randomized to (Appendix 1c-1h).iii) Consent for the subgroup participating in parasite and environmental enteropathy and assessmentEnvironmental enteropathy biomarkers and parasite assessment will be collected from a subset of 2000 infants in approximately 320 village clusters. Field staff will approach the randomly selected households and request consent from the mother or guardian of the target child (Appendix 1i). iv) Consent for sentinel object assessmentIn a random subset of 90 households within each intervention group we will assess environmental contamination using a sentinel non-porous toy ball. The toy ball will be initially sterilized and stored in a sterile bag until it is given to the selected distributed. After 3- 4 days a field assistant will return and ask the mother to locate the toy ball without touching it to avoid hand contamination. The field team will seek separate informed consent from the mother’s randomly selected for this component (Appendix 1j).
3. If signed consent will not be obtained, explain why this requirement should be waived and provide an alternative procedure that would be used.Not applicable
4. If information is to be withheld from a subject, provide justification for this course of action.Not applicable
5. If there is a potential risk to the participant or privacy of the individual might be affected while applying any particular procedure include a statement in the consent form to clarify whether or not compensation and/or treatment will be available.Not applicable
6. If study involves an interview, describe the place and processes, and state the approximate length of the interview.

All of the interviews will be conducted by trained research assistants interviewing the child caregiver in the study participant’s homes.For the main endline survey team, the following time will be required for interviewing the participants on the following modules.

|  |  |  |
| --- | --- | --- |
| Instrument Module | Subject | Estimated Duration (min) |
| 1 | Birth date age and sex | 10 |
| 2 | Diarrhea and symptoms of illness | 8 |
| 3 | Deworming | 5 |
| 5 | Vaccination History | 15 |
| 6 | Food Frequency | 20 |
| 7 | Handwashing practice | 15 |
| 8 | Sanitation | 15 |
| 9 | Child Defecation and Feces Disposal | 15 |
| 10 | Water Treatment, Storage, and Quality | 15 |
| 12 | Home Care Environment | 20 |

For the endline cognitive assessment of the children, the cognitive assessment will require an additional survey of approximately one hour to apply different test on children.

For the environmental enteropathy subset the proposed activity in the addendum may take 1hour time for collection of the biological samples from themother and child.

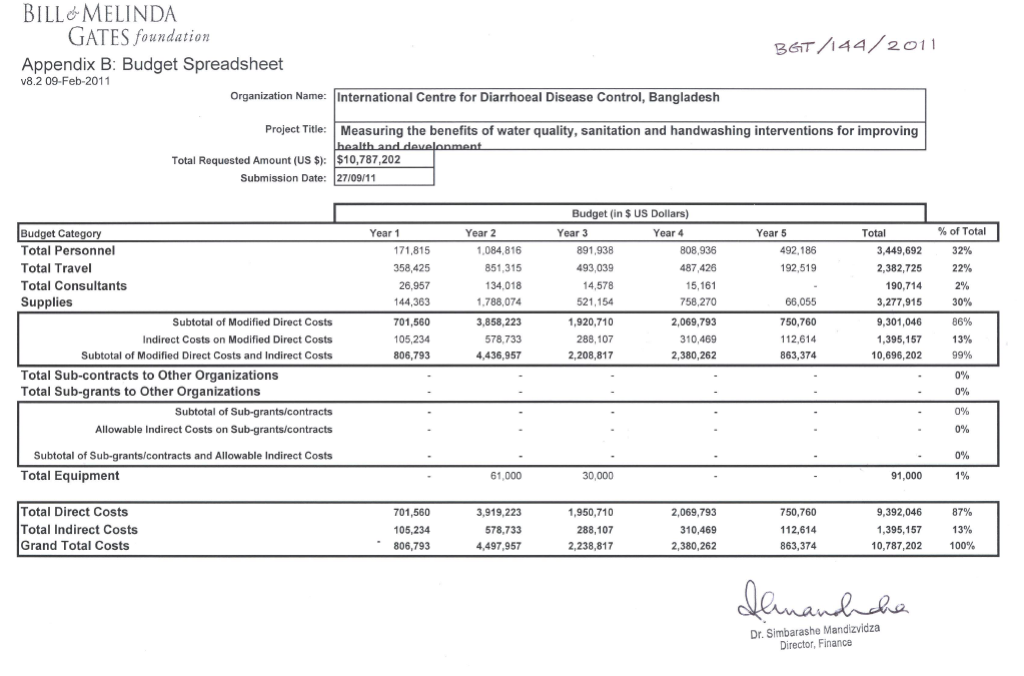
1. Assess the potential benefits to be gained or risk the individual participants might be subjected to, and also the benefits that might accrue to the society in general as a result of the planned work. Clarify if and how the benefits outweigh the risks.Participants will receive the results of all assessments and referrals to appropriate treatment will be made as necessary. Households in the intervention arms will additionally benefit from free sanitation, handwashing and water quality improvements, and nutrient supplements provided by the study. In the long term, the results of this study could benefit other children in Bangladesh and elsewhere by helping us understand the effects of providing nutrition supplements in combination with WASH interventions.The results of anaemia testing will help us to gain a better understanding of the impact of WASH intervention and nutritional interventions.
2. In the anthropometry and enteropathy assessment survey, children who are found to be severely wasted (WHZ < -3 and/or bipedal edema) will be referred to the appropriate existing treatment programs. Children who are found to be infected with intestinal protozoan or helminth parasites will be referred to treatment at the closest health facility.If the mothers or children are found to be hypertensive or anaemic, we will refer them to the nearest government hospitals for further treatment.
3. State if the activity requires the use of records (hospital, medical, birth, death or other), organs, tissues, body fluids, the foetus or the abortus.

Yes, the proposed activity would require the use of body fluids and other biological samples. We plan to collect blood, stool, urine, saliva and hair samples from the children and their mothres.

The statement to the potential participants should include information specified in item 2,3,4,5(c)

and 7, and also indicate the approximate time they would be required to remain in the activity.

Budget



1. Clasen, T. and P. Edmondson, Sodium dichloroisocyanurate (NaDCC) tablets as an alternative to sodium hypochlorite for the routine treatment of drinking water at the household level. Int J Hyg Environ Health, 2006. 209(2): p. 173-81.

1. Of course, if we observe no overall effect on our primary outcomes, the intermediate outcomes, such as indicators of intervention uptake and EE biomarkers will play a key role in determining where the impacts end in the causal chain. [↑](#footnote-ref-1)