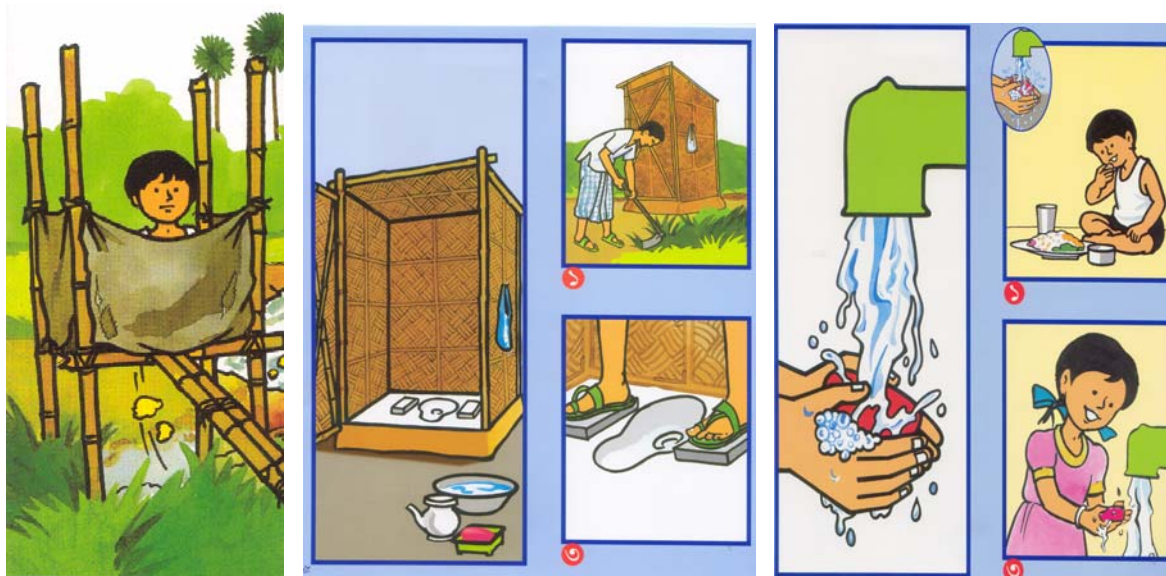


Evaluation of Chittagong Hill Tracts Component of GOB UNICEF Project on Environmental Sanitation, Hygiene and Water Supply in Rural Areas



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Prepared for:
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Tawfique Ahmed
Team Leader

Abbreviations

| | |
|---------|---|
| DPHE | - Department of Public Health Engineering |
| UNICEF | - United Nations International Children's Fund |
| CHT | - Chittagong Hill Tracts |
| DCI | - Data collection instrument |
| PAP | - Para Action Plan |
| BCC | - Behavioral Change Communication |
| PW | - Para Worker |
| ESHWSRA | - Environmental Sanitation, Hygiene and Water Supply in Rural Areas |
| DFID | - Department for International Development |
| SSHE | - School Sanitation and Hygiene Education |
| ICDP | - Integrated community development program |
| FGD | - Focus Group Discussion |
| OVI | - Objectively Verifiable Indicators |
| PCMC | - Para Centre Management Committee |
| PO | - Program organizer |
| MTR | - Mid term review |
| SAE | - Sub Assistant Engineer |
| OPR-2 | - Output to Purpose Review 2 |
| GOB | - Government of Bangladesh |
| CHTDB | - Chittagong Hill Tracts Development Board |
| HHs | - House hold survey |
| SOCMOB | - Social Mobilization |
| QCOs | - Quality control officer |
| PRA | - Participatory Rural Appraisal |
| WatSan | - Water and sanitation |
| NGO | - Non governmental organization |

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Executive Summary

Introduction, Background, Objectives and Methodology

The Government of Bangladesh and UNICEF jointly formulated a five-year plan of operation (2001-2005) for a program of services for children and women in Bangladesh. Under this programme, the Environmental Sanitation, Hygiene, and Water Supply in Rural Areas (ESHWSRA) is one of the major components being implemented with financial assistance from Department for International Development (DFID). The project consisted of 5 components e.g. social mobilization, safe water supply, Chittagong Hill Tracts, Institutional Capacity Building, and School Sanitation and Hygiene Education (SSHE). UNICEF is implementing the project in collaboration with Department of Public Health and Engineering (DPHE). The Chittagong Hills Tracts (CHT) component has been implemented in this region since last two years. In CHT there are several ethnic groups, which have diverse culture with their own cultural beliefs and practices. As they have different cultural values their hygiene practices and behaviors are different that in main land.

The main purpose and outputs of the CHT component was to improve standards of hygiene practices and behaviors, particularly for the poor on a sustainable basis whilst ensuring adequate sanitation and safe water in low water table and saline areas and CHT. These improvements were incorporated there for their betterment and keeping in mind their cultural values and beliefs.

The project took shape in consultation with the CHT Development Board (CHTDB), Department of Public Health Engineering (DPHE) and UNICEF officials. The Para Centres were used as the platform for this project's activities. These Centres are being implemented by UNICEF supported Integrated Community Development Project (ICDP). Three hundred Para Centres were selected for the project. In implementing the project, Para Action Plan (PAP) was prepared by the community people with assistance from the project staff especially Para Worker. Apart from implementers, facilitating agencies were selected to assist the ICDP workers. The Union WatSan Committee and the community leaders also played a vital role in implementation of the Para Action Plan.

The broad objective of the evaluation was to explore the effectiveness of the para centre approach. Besides stated objectives in the TOR, the MTR objectives have also been addressed under the evaluation.

A multi method approach was adopted to evaluate the project e.g. transect walk, survey, observation, in-depth interviewing and focus group discussion. The evaluation covered all three districts of the CHT. Under the evaluation 1206 household interviews, 72 interviews with Para Workers, 75 Para Centre observations, 210 household observations, 65 FGDs, 13 sessions of game and observation with school children, 202 In-depth Interviews with different types of stakeholders and 11 school observations were conducted.

General Features of Population of the evaluation

General features of the study population like age, sex, education, religion, ethnic identity, poor non-poor status of households and population characteristics were considered in this evaluation. Findings show that among the total population 52 percent are male and 48 percent are female. The family size of the study population was found 4.88. The main occupation of the majority population in hill districts is agriculture. Though Islam is the predominant religion of the population in Bangladesh, in the CHT 68 percent people are Buddhist. The average age of the Para Workers is 27 years and education level of the majority of them is SSC and above. Para Workers were recruited from different ethnic groups e.g. Toinchoinga (32%), Chakma (11), Marma (14%), Tripura (10%), etc.

PAP, Map, Community Needs and Participation

At the initiation level each para centre prepared a Para Action Plan (PAP) to conduct the project activities. Drawing para map and subsequently preparation of para PAP are the essential parts of the project. To maintain the participatory development process, all activities of the project were planned and implemented through participatory process through para center. Several types of stakeholders e.g. community people both male and female, headman and Karbari, WatSan committee members, women *samity* members, religious leaders etc. participate in the planning, monitoring and implementation process of the project. But participation of some stakeholders such as poor people, Union parishad members, etc. was not up to the level of expectation.

As per the project instruction, the maps are supposed to display in the para centre or in a common place with an aim to orient the people about the water and sanitation situation of the para, the changes occurred as an impact of the project intervention, people's demand and the achievements. About 64 percent community people have seen the maps displayed in the para center. One of the difficulties in displaying the map and PAP was the para centres are not well protected with wall or fence to preserve the map and PAP.

The quality of para maps was found appreciable except a few ones. In both PAP and Map more than 80 percent of the existing households, poor households, water points, other institutions, markets and place of safe excreta disposal were accurately identified. During transect walk and Para Centre Observation it was found that the average number of household is shown in the map is 36.7, which was found 37 during physical verification. These findings fulfill the expectation that was mentioned in OVI 1.2.

Usefulness of PAP Process and Needs for Its Revision

95 percent respondents of household category found that PAP process as useful. The reasons of mentioning PAP process as useful are increase of awareness of the community people on health and sanitation issues, opportunity creation of getting benefits for poor people through implementation of PAP etc.

Under the PAP process community meetings, transect walk, wealth ranking, participatory mapping etc. activities were carried out. Due to community meeting community people could explore their water and sanitation situation, plan for safe water and sanitary latrine and talk the right decisions. Participatory mapping helped the community people in identifying the water and sanitation situation, identifying their existing water points and to plan for planned water points to be installed in future.

Behavior change, knowledge on PAP process

Para Action Planning (PAP) process helped different groups of stakeholders in changing their behavior. Different stakeholders of the project mentioned that their participation in PAP process and its subsequent activities helped community people to learn about health and hygiene and eventually helped change their behaviour. The major reasons for such improvement were courtyard meeting organized by the PW, presentation of BCC material, installation of hygienic latrine and safe water source. Before two years people used to drink water from canal and Chara and have to defecate in the jungle and on the slope of the hill but now people collect water for drinking from the newly constructed water point and has began to construct sanitary latrine.

Knowledge on PAP process of community people, para workers and other change agents were investigated through both quantitative and qualitative approach. 93 percent community people reported to know about Para Worker's activities. All of the WatSan Committee members are aware of the PAP process where they claimed their active involvement and participation in decision-making process. All PCMC members have reported that they could remember clearly about PAP process such as planning, mapping, transect etc.

Behavior change of the people in project para and neighboring para and role of change agents

Hand washing at critical times using appropriate cleaning agents is a key hygiene issue of the project. Community people have the practice of washing their hands in different ways for different reasons. However, using washing agents vary depending on different types of washing occasions. About 50 percent of the community people reported to wash hands with soap and water before eating food, after defecation and on cleaning children's bottom after defecation. According to the FGD participants of women groups now they drink tube-well water but before two years they used to drink water from charra, canal, river and fountain, as a result now they suffer less from diseases than before. According to a few women participants of FGD session those who go for zoom cultivation defecate in the jungle and do not use water to clean themselves, rather they use *kathi* or stick, because water is not always available there.

47 percent households reported that they have changed their source of drinking water within the last two years, and nearly three fourths of them have switched to safe sources like tube well, ring well and Tara pump. 35 percent households reported that they had switched source of water for washing vegetables/ fruits and nearly three fourths of them have switched to safe sources.

The CHT population demonstrates good water management practices. Many of the households now treat water prior to drinking, use a separate mug to draw drinking water from the water storage pot and cover the water pot right from the source.

Some FGD participants reported that their neighboring community has also become conscious due to the project activities carried out in their para and as a result now they did not find remarkable difference in behavioral practices between the members of project para and neighboring para.

Almost all of the POs have reported that the headman/karbari the religious leader such as imams, vantae also played a vital role to promote hygienic latrine, safe water use and sanitation in the community. The religious leaders reported that imams discuss about WatSan issue at the time of religious sermons and after jumma prayer and the vantae discusses about water and sanitation by microphone from Kiong. They also motivated and made the

community people aware about WatSan project. During FGDs all adolescent girls reported that washing practice happened only because of the efforts of Para Worker (PW)/*Didi*.

According to the school teachers nothing but poverty and illiteracy are the main barriers to changing behaviors in the community. POs reported that the main problem in their community is safe water and without water it is impossible to use hygienic latrine and ensure sanitation. Some of them have mentioned geographical issues as barriers.

Installation of Water Point, Poor's Access to Safe Water Points and Availability of Water

In para action plan community people indicate the place for installation of water points and install it under the project instruction. The respondents of household category reported that about 61 percent water point installed as per PAP. The findings of para workers' survey also reveals that 65 percent water points were installed as per PAP.

Para Workers also reported that in 51 percent paras of CHT new water points had been installed during the project period so far. The average number of water points installed in 51 paras is 1.8. Among the installed water points 74 percent were ring well, 19 percent were tubewell, 1 percent was dug well 1 percent was rainwater harvesting system.

Respondents of household were asked to explore whether they faced any difficulties in collecting water from the source. 73 percent of the respondents reported not to face any problem in collecting water. Findings also show that even in the un-served and under-served areas 83 percent of the people get water from the newly installed source all the year round. These findings support the OVI 2B.1. During the household survey respondents were asked to know about the distance of water points from their households. 73 percent respondents reported to have access to water within 150 feet from their households.

Findings of the household survey also shows that in 80 percent of the model paras 90 percent or more households use safe water for drinking. This is just in line with the OVI 2B.2.

Latrine Installation, Status of Use and Maintenance

Latrine installation and its use is one of the key factors for hygiene practice. Under this project various change agents have been promoting hygiene practices through different activities in the community. During household observation, it was found that 82 percent of the household has latrines. Of them about 45 percent had been installed within 2 years that means after the project intervention.

During household survey, the respondents were asked to investigate the usual places for defecation and urination. About 73 percent of the household category respondents mentioned that they defecated in the latrines at their homes and 8 percent generally use neighbors or community latrine. A considerable portion of the hill people i.e. 13 percent still defecates near the slope of the hills since they could not install latrine at home. It is to be mentioned that some old age population has yet to become habituated to use latrine. Although the rate of latrine use by the children of 1-3 years of age is low but the rate of using latrine by adolescents is around 80 percent.

A considerable portion of the community people reported about some inconveniences regarding use, cleanliness and maintenance. The major reported reasons of inconveniences were unpleasant smell, high cost of construction and replacement, distance etc. The reported inconveniences of maintaining cleanliness were lack of required water in need, cost of maintenance, lack of arrangement to clean it regularly etc.

Survey findings showed that almost all the latrines are cleaned by the females and those are cleaned usually once in two weeks. Gender discrimination in performing the cleaning task must be reduced to promote the situation of cleanliness of latrines. More male persons are needed to encourage so that they share the responsibility of cleaning the latrine with their female household members.

Communication Materials

Different stakeholders mentioned that because of multiple level communication by the agencies, workers, video show, involvement of the religious leaders, use of posters etc. a visible change in behavior is on process.

During project period various types of BCC materials were used. Community people reported to see posters, flash cards, leaflet, picture on sanitary latrine, picture of safe water use, picture of tube well, video show, maps etc. 76 percent male and female respondents acknowledged that they saw BCC materials. In line with the OVI 1.4, the findings also indicate that 50 percent men in 80 percent para have received the promotional efforts. Almost all the respondent e.g. 99 percent community people liked all kinds of BCC materials but only one percent did not like the BCC materials. They disliked because the content of the BCC materials was not clear to them. According to one SAEs report an ethnic minority group i.e. "Chak" were not able to understand the PW's language since the PW worker was Bengali and they did not understand Bangla.

FGD participants of both male and female group reported that the flashcard, flipchart, video show were most effective materials. Though a significant percentage of respondents commented on the existing BCC materials as effective materials, but a few were suggested for some further revision.

A portion of community people reported that there is a need to improve the quality of communication materials in terms of presentation of picture and size. They suggested various ways to improve the quality of BCC materials e.g. to produce good pictures those are easy to understand and bigger in size, to show movie on WatSan and to improve quality of poster those will be more colorful etc.

Para worker's knowledge and community people's understanding on health messages

Community people reported to receive various health messages from the change agents. They received messages on rubbing hands with soap and wash with adequate water before eating, rubbing of both hands with soap and wash with adequate water after defecation, rubbing of both hands with soap and wash with adequate water after cleaning baby's bottom, rubbing of both hands with soap and wash with adequate water after disposing off child's feces, rubbing of inside and outside of the kolshi/water pot and rinse it with safe water, collection of water from safe water source, covering the kolshi/ water pot from the collection point, risk of putting finger in the water during drawing from kolshi/drinking from glass, use of separate pot for drinking purpose, use of sandal in the latrine, keeping the latrine clean, men's required assistance for women to clean the latrine, washing rags with soap and water and dry in the sun before reuse and disposal of the used sanitary pads/napkins or rag in a fixed place etc. Community people were found well informed about the above mentioned issues and most of these messages they received from para workers.

Knowledge and practices on menstrual hygiene

Promoting knowledge and practice regarding menstrual hygiene of the adolescent girls and women was one of the most crucial issues of the project. The evaluation documented the practices regarding menstrual management. Seventy two percent women reported to use rags during their menstruation, 8 percent of them mentioned to use sanitary napkins and 11 percent women were found to use thami. The general practice of washing the rags is highly encouraging as 82 percent rag users claim to wash them using soap and water. The general practice of washing the rags was also found highly encouraging as 82 percent women rag users claimed to get those washed using soap and water.

More than 75 percent among the respondents who reported that their families having adolescent girl in the households mentioned that the Para Workers gave menstrual hygiene related message to their adolescent girls.

OVI 1.3 says that at least 20 percent of project wards/paras there is evidence that at least 40 percent of adolescent girls receive menstrual hygiene related information by Mid Term review. Finding reveals that that 57 percent in project paras the above 41 percent adolescent girls have received menstrual hygiene messages. It indicates that the project activities have achieved their target in this regard.

There are some general norms on menstrual management in almost all communities in the CHT. Marma women do not cook food during menstruation, the used rags must be kept out of sight because they believe that if the male members see this rags that will be inauspicious for the family. So they kept those rags or used cloths during menstruation out of sight. There was a general tradition that during menstruation women had to sleep on floor instead of bed since they are considered as impure. Buddhist girls reported that their mothers forbid them to participate in social and religious activities during menstruation.

Quality and activities of para worker

The perception of the community people towards the para workers and their activities has investigated as part of this evaluation. Almost all the community people reported that they know about activities of para worker in the para.

The Para Workers are supposed to perform various kinds of activities in implementing the project e.g. door-step visit, meetings with different stakeholders, teaching pre-school students, visiting households, motivating people to use hygienic latrine and washing hands, motivating people to safe water use and management, courtyard meeting, household visit, providing different message regarding water and sanitation, provide information on menstrual management, etc. In addition, para workers could recall all the health messages those were supposed to deliver. The reported number of door-to-door visit within a month by a Para Worker is 4 times and the average number of courtyard meeting organized in a month by the Para Workers was 3.2.

Majority of the respondents of household category could recall the useful health messages those were given by the para workers during the door-step visit and community meetings. Only a few showed disapproval of the para worker's role. According to them para workers do not do their work properly and that they are not available at para centres where children go for study.

Coordination, Convergence and Sustainability

The level of Coordination among ICDP including Para Worker and project organizer, facilitating agencies, DPHE/UNICEF and other stakeholders was one of the objectives of the evaluation. Though there is a diverse opinion among different stakeholders but the overall coordination among the stakeholders were found positive. Although 97 percent para worker reported that they coordinate among themselves but one SAE reported about lack of coordination among different stakeholders of WatSan in the hill tracts.

In Chittagong Hill Tracts various development activities have been conducted under the integrated community development project (ICDP) and ESHWARA project. Among activities conducted by ICDP, child education, health, extended program of immunization, family planning, adolescent girls education on menstrual hygiene, school sanitation and hygiene education, water quality check, nutrition project implementation, material development of education are notable.

Alongside the development activities from the assistance of the UNICEF, ICDP also conducting the development activities with government fund program. Most of these activities are being conducted centering the Para centre. There is scope of convergence among movement program like health, nutrition, protection, and water and sanitation with education. If these development activities could be integrated that might help to create more effective outcome by providing less cost and effort.

The issue of sustainability is an important one, which is considered from various points of view in different level. Different community level stakeholders reported that people liked the facilities, which were being promoted by the project. But the community people are so poor and they have little ability to install sanitary latrine or contribute to install a water point. According to the Karbaris now the union parishad also realize that the development of para means the development of the whole union so the union WatSan committee is also active in implementing the activities through para centre. Ownership of these activities by the local government institutions will help sustain this type of activities.

The Local elite, Karbari, Vantae has contributed a good amount of money, some land, some valuable suggestions. The community people who could not afford to contribute invested time and labor in installing it.

Recommendations

The evaluation findings indicate some issues that need to be considered for the future improvement and smooth operation of the project. Throughout the evaluation process, some of the recommendation evolved from the various suggestions made by the stakeholders, while some of them are made based on the analysis of primary data. Recommendations have been elaborately discussed in chapter fourteen.

Chapter One

Introduction, Background, Objectives and Methodology

1.1 Introduction and Background of the Project

Safe water and sanitation for all within 2010 is the commitment of the government of Bangladesh. With this commitment, the government has initiated several projects and programs to increase coverage of safe water and sanitation program to ensure sound health and hygienic behavioral practices of the people in communities around the country.

In Bangladesh every year 250,000 children under the age of five die of diarrhoeal diseases (1/3 of all child deaths). The faeco-oral route of diarrhoeal disease transmission is well established. The pathogens in human excreta constitute the disease source, and the transmission routes from the source to the human host are largely through food, fingers, and water. The transmission routes also highlight the close interrelationship of cultural practice and community practices with regard to water, sanitation and hygiene.

The government of Bangladesh and UNICEF jointly formulated a five-year plan of operation (2001-2005) for a program of services for children and women in Bangladesh. Water and Environmental sanitation is one of the five major areas of intervention of the program. Under this program, the GOB-UNICEF Environmental Sanitation, Hygiene and Water Supply in Rural Areas (ESHWSRA) is being implemented with financial assistance from Department for International Development (DFID). The project aims to improve standards of hygiene practices on a sustainable basis; thereby reducing diseases related to poor hygiene and to alleviate the effects this has on national economy of Bangladesh. In order to do this, the project provides people in rural areas with the knowledge and means with which to make informed choices regarding their preferred hygiene practices. It also makes wide ranges of safe excreta disposal options and safe, adequate, and affordable year round water supply options available to people living in the rural areas. Safe water systems are subsidies for people fulfilling certain community ownership and poverty criteria of the project. The other main output of the project is to establish functioning of supportive institutional framework at all level.

The implementation ESHWSRA started in 28 Upazilas of seven plain land districts and 9 Upazilas of three hill districts in a 2 year developmental phase' from January 2002 and is now extended up to June 2005 after the Output to Purpose Review 2 (OPR-2) meeting held in February 2004. Actual work in the communities with NGOs commenced in January 2003. The mid-term review of the project will be held in February 2005 during the development phase. The selected districts for the development phases are Brahmanbaria, Chuadanga, Gaibandha, Jamalpur, Madaripur, Rangpur, Sirajgonj, Bandarban, Khagrachari and Rangamati. There are 5 components under the project as follows:

1. Social mobilization
2. Safe water supply
3. Chittagong Hill Tracts
4. Institutional Capacity Building, and
5. School Sanitation and Hygiene Education (SSHE)

As part of those activities, UNICEF and Department of Public Health and Engineering are jointly implementing the Environmental Sanitation, Hygiene and Water Supply in Rural Areas of the country. The program has been implemented in ten districts including three Chittagong Hill Tracts (CHT) districts.

The Chittagong Hills Tracts (CHT) component incorporates all of the above and applies them to the unique environment of the three CHT districts. There are several ethnic groups living in the hill tract districts, which have diverse kinds of hygiene behavior, belief and practices. The behavioral changes, as an impact of intervention might not be similar to the plain land districts due to the cultural, social and ethnic characteristics. As a result, this evaluation is initiated to get an understanding about the changes, barriers for change, and effective ways to overcome the barriers to reach the ultimate goal of the project. The project has been implemented in this region since last two years. Since the behavioral change is long term process, two years was not enough for complete behavioral change. However, level of change can be assessed against some set targets.

1.1.1 General Feature of the Hill Tracts

The Chittagong Hill Tracts comprises the districts of Bandarban, Khagrachari, and Rangamati representing 10 percent of the total surface area of Bangladesh with a population of around 1.1 million. There are several development interventions going on in the hill tracts regions, of which Environmental Sanitation, Hygiene and Water Supply in Rural Areas is being implemented by ICDP since 2003. The ultimate goal of this project is to ensure safe water, sanitary latrine and hygiene behavior of different ethnic groups. Now the program is implemented in 300 paras in nine upazilas under three hill tract districts.

The institutional framework for implementing government projects in the Chittagong Hill Tract Districts is more complex than elsewhere in the country. A great deal of attention was dedicated during the inception phase of the strategy to the institutional arrangements that are required to implement the project in the new decentralized framework introduced as part of the peace process.

The development program implementation in CHT was considered as a crucial issue because of administrative structure, socio-cultural and ethnic factors and existing political situation in different time. As a result, it needs special attention and separate strategy for initiating any development program in this region. The GOB-UNICEF Environmental Sanitation, Hygiene and Water Supply in Rural Areas project has been designed considering all these factors and made a special institutional arrangement under the existing structure.

1.1.2 Purpose and Outputs of CHT Component

The purpose and outputs of the Chittagong Hill (CHT) components relates directly to the project purpose: To improve standards of hygiene practices and behaviors, particularly for the poor on a sustainable basis whilst ensuring adequate sanitation and safe water in low water table and saline areas and CHT.

The distinct topography, cultural and linguistic context, the specific contrast opportunities and institutional situation, as well as the qualitatively different water and sanitation problems require different implementation approach in Chittagong hill tract districts and plain lands. These ideas have to be rooted in their own experiences and must be meaningful in terms of cultural, religion and beliefs they can relate to.

The four expected outputs of the project are:

1. Whole communities in project areas adopt and practice improved key hygiene behaviors
2. Whole communities in the project area have access to, use and maintain affordable safe excreta disposal
3. Whole communities have year round access to and use adequate water for key hygiene and sanitation practices
4. Supportive institutional framework in functioning specially at union level

1.1.3. Implementation Process of CHT Component

The project has been started with the developmental phase (January 2002-June 2005) in nine Upazilas selected by the Hill District Council in close consultation with the Chittagong Hill Tracts Development Board (CHTDB), Department of Public Health Engineering (DPHE) and UNICEF officials in the districts following a set of guidelines.

Considering the above factors and given the failure of the past "top-down" approaches to development in Chittagong Hill Tracts, the project recognizes that the people of the Hill Tracts need to generate and articulate their own ideas as to what kind of hygiene improvement, sanitation and water supply facilities, if any, they want. The Para Centres (2020 centres) of the UNICEF supported Integrated Community Development Project (ICDP) are used as the platform for this project's activities in CHT. Using the ICDP platform and para workers this project has been implemented in CHT districts.

Three hundred effective Para Centres in nine Upazilas have been selected for the development phase of the project. In implementing the ESHWSRA project, Para Action Plan is prepared by the Project community people with assistance from the project staff specially Para Worker. Initially the Para Action Plan (PAP) is developed following the eight steps. These steps are Community Meetings, Para Mapping, Transect Walk, Wealth Ranking, Focus Group Discussions, Drawing of "ideal bari", Consensus Building Meeting, Preparation of ward level community action plan. The assumption is that to complete these steps one para may need about three weeks.

Since the Integrated Community Development Program (ICDP) has it's own community development activities in the CHT, which is implemented by the Para Worker under the supervision of their higher authorities of the program. The Para workers are the community level staff of the ICDP who also performs activities of water and sanitation in the same working area. They had been oriented about the overall situation of the Para and participated in several training program under the ESHWSRA. In Hilly area the Para Centres are the focal point of community development as well as implementation of water and sanitation project.

The project has been implemented through a series of activities in a participatory manner where community people prepares Para Action Plan through involving varies stakeholders of the community. Under the process of development and preparation of Community of Para Action Plan (PAP) and intervention of different activities, the initial change occurs in terms of establishment of latrine and installation of water sources. These changes are updated in the para maps. It is to be mentioned that at the initial stage of the project the PAP process had to follow several stages that was determined by the project. However, to make the program more people oriented and demand driven the project has emphasized on the people's choice and decision. So, following all the eight steps in PAP process is not the hard and fast rule now. Through this process, the indigenous communities of CHT are given the opportunity to make informed decisions and be collectively responsible for their decision.

Instead of implementers, facilitating agencies, who conducts training and coordinate the program, had been selected to assist the ICDP workers and other stakeholders, who are playing very effective role in this project. The staff of the Facilitating Agency (FA) recruited under the project work in close co-operation with the government counterparts, Department of Public Health and Engineering (DPHE), Department of Primary Education (DPE), Hill Districts Council (HDC) and Chittagong Hill Tracts Development Board at District, Upazilla, Union and Para level. The Facilitating Agency identifies the training needs of the stakeholders through need assessment process and provides training for the capacity building that enhances the capacity.

The Union Watsan Committee is responsible for the Union level planning and for checking and approving sites for new latrine production centres, sanitary marts and water points.

The community leaders (*Vante*⁵, Imam⁶, Headman, Karbari, Union Parishad Chairpersons and Members) at Union and Para level play a vital role in motivating community members to participate in the implementation of the Para Action Plan.

Rationale for the Evaluation

As the institutional frame work for implementing government project in CHT Districts in more complex than elsewhere in the country and the implementation strategy also is different because of institutional arrangement and local geographical situation, at this stage it is very important to asses the effectiveness of the approach, identify the problems, & constraints in order to modify and improve the approach if necessary.

The para centers of the ICDP are being used as at platform for service delivery at the grass root level. Based on the action plan developed at the para level, the services are provided. The para workers are providing hygiene and sanitation messages to the community through courtyard sessions and household visit. For the mid-term review in February 2005, it is essential to get further details whether or not people have changed their hygiene and sanitation behaviours and to which extent they have safe water all year round, as sated earlier. It is also important to assess the institutional arrangement.

The communication materials (Flash cards & posters) for the para workers were developed in 2003 considering local context. It is important to know whether the materials were useful and liked by the para workers and the community. Above all, it is important to know whether the materials are effective in disseminating hygiene messages resulting change of behaviour at the para level.

Through the para centered approach only a limited number of households are reached. So it is also essential to know at this stage whether HHs located near the project Para (HHs outside project para area) are benefiting from the project. In reality, there is better community interaction in CHT through para workers and changes should be more visible and the para model should be more effective. The study aims to assess this and above all, evaluate the sustainability and explicability of the model.

OPR-2 recommended to carry out evaluation of ESHWRA project in CHT. This should focus on inclusiveness and quality of PAP, impact of hygiene promoting efforts beyond the para centres, issues around access to sanitation and water for hygiene issue.

For the mid-term review in February 2005, it is essential to get further details whether or not people have changed their hygiene and sanitation behavior and to which extent they have

⁵ The religious leaders of indigenous community of hill tracts is know as Vante, who conducts religious activities at the regularly. He is socially respectable and dignified person and have influence on the community people.

⁶ Imam is religious leader of Muslim community, who is responsible for conducting religious activities at the mosque.

safe water all year round, as stated earlier. It is also important to assess the institutional arrangement.

Through the para center approach only limited number e.g. 30-35 households were reached, because on an average each para consisted with 30-35 households. So it is also essential to know at this stage whether households located near the project Para (HHs outside project para area) are benefiting from the project. The evaluation aims to assess this and above all, evaluate the sustainability of the model. The evaluation will help to improve the strategy in the implementation phase. Whether the approach followed by the program implementers is perfectly meet the demand or not.

The DFID output to purpose review (OPR-2) recommended an evaluation of the ESHWSRA project in CHT be carried on out. This should focus on inclusiveness and quality of PAP, impact of hygiene promotion efforts beyond the para centres, issues around access to sanitation and water for hygiene issue.

1.1.4 Objectives of the Evaluation

There are several objectives that have been considered to get a comprehensive assessment of the Environmental Sanitation, Hygiene and Water Supply in Rural Areas project (ESHWSRA) that is implemented by Integrated Community Development Program (ICDP) with assistance from the facilitating agencies and Department of Public Health and Engineering. Wide range of objectives was set to address by this evaluation.

The broad objective of the evaluation is to explore the effectiveness of the para centre approach. The specific objective related to Para action plan, SOCMOB activities, safe water supply and sanitation promotions are:

1. To review the quality of Para Action Plan, Para map, whether the need of the Community have been reflected in the plan, and the extent to which the community has participated.
2. To identify whether households in the Para find PAP process useful or not and suggest revisions/ addition for future implementation.
3. To identify whether the PAP process helped or not helped different groups of primary stakeholders in changing their behavior with reasons, assess the knowledge, understanding of messages.
4. Identify the extent to which behavior of community people, in the para and neighboring families outside the para, have changed.
5. Identify the extent to which hygiene and sanitation behavior change can be attributed to see the hygiene and sanitation promotional efforts of para workers, Chief of para, religious leaders and others.
6. Whether the water points installed as per PAP and the beneficiaries specifically the poor people have access to safe water point and sufficient water all year round.
7. To assess, the number of families in the para installed new latrines after the introduction of the ESHWSRA project and are using these.
8. Review the communication materials developed for the para workers is being used and easily understood by the community and the para worker and identify if changes are needed. Also effectiveness of the materials.
9. To assess, the new sanitation facilities promoted by the PWs, Health workers and other change agents are convenient for use by the community and also assess cleanliness, use and maintenance of latrines.
10. Percentage of the poor population in the para served with newly installed water points (if any).
11. To review the knowledge of para workers about 11 key health messages
12. To assess the knowledge and practice regarding menstrual hygiene of adolescent girls and women.

13. To identify whether there is good co-ordination among ICDP field staffs (para worker and Project organizers), SAE DPHE, and facilitating agency.
14. Assess quality of para worker, which includes knowledge on health messages, and other activities
15. Assess community perception about quality of para worker and activities of para worker.
16. List down the activities carried out under Health, Education, Protection and identify the scope of convergence in ICDP

Objectively verifiable Indicators (OVI) for Mid Term Review (MTR)

In addition, the mid terms review (MTR) have specific expectation from the independent evaluation which have been addressed by the evaluation. Alongside, the stated objectives of the TOR the MTR objectives also been addressed under the evaluation.

Output 1: Whole communities in project areas adopt and practice improved key hygiene behavior

- 1.1. By MTR independent observation indicated that at least 90 percent households in 30 model wards/paras have improved hygiene behavior in respect of:
 - No open defecation (including management of child feces)
 - Hand washing with agent at critical times
 - Use of water that meets national standards for drinking and appropriate food preparation
- 1.2. By MTR, independent assessment indicates that at least 80 percent CAPs/PAPs accurately record water sources,(including surface water sources), households, religious, educational & other institutions, markets, access to water and all excreta disposal facilities (including open sites) and poorer households.
- 1.3. In at least 20 percent of project wards/paras there is evidence that at least 40 percent of adolescent girls receive menstrual hygiene related information by MTR.
- 1.4. Independent research evaluation indicates that at least 50percent men in 80 percent project wards/paras are reached by hygiene promotion efforts.

Output 2A: Whole communities in project area have access to, use and maintain affordable safe excreta disposal options.

- 2A.1. In at least 70 percent of project wards/paras there is evidence of a range of technical options for safe excreta disposal by MTR.
- 2A.2. In at least 60 percent government and non-government registered primary schools under SSHE (at least 50 percent in case of CHT), independent research agency reports that latrines are reasonably well maintained, accessible and used by students and girls in particular by MTR.

Output 2B: Whole communities have year round access to and use adequate water for key hygiene and sanitation practices

- 2B.1.Independent assessment indicates that 70 percent of new project water points benefit the poor in un-served and under-served areas by MTR.
- 2B.2.Independent assessment indicates that 90 percent households in 80 percent of communities in project areas use safe water for drinking and 70 percent of households in

80 percent of communities in project areas use safe water for appropriate food preparation by MTR.

2B.3. Independent assessment indicates that 70 percent of people (including students in SSHE primary schools) in 80 percent project wards (60 percent of people in 80 percent of project areas in the case of CHT) have access to adequate water for key sanitation and hygiene practices by MTR.

However, the data has been presented in model and non-model approach. The Model areas are those areas where additional efforts were provided to ensure effectiveness of the intervention as well as for the comparison of achievements as per the objectives. On the other hand, the non-model areas got the less effort in comparison to the model areas.

1.2 Methodology

Effecting change in hygiene and sanitation behavior is a long process and it is now recognized that to be effective a bottom up approach needs to be taken which takes into account the needs, existing practices and knowledge of the target population⁷. Behavioral change is a long process; education needs to reach the target group and they need to understand and feel the education is relevant to them. Even if this occurs, there may still be a gap between knowledge, attitudes and changes in practices. To capture the impact of the project implemented in the Hill Tracts a multi method approach was followed, including quantitative survey in households, among para workers, household observation, focus group discussions with male and female groups of project areas and non-project areas, adolescent girls, in-depth interview with different stakeholders of both implementers and beneficiaries end. The qualitative and quantitative approaches have attempted the whole issues for consideration from the evaluation perspective. The evaluation covers to assess the changes of water, sanitation, and hygiene practices of the people in the Chittagong Hill Tracts as result of the efforts made under the project. This evaluation also tried to understand the implementation process, its outcomes, strengths of the project, and areas for further improvement.

1.2.1 Geographical Challenges

Various geographical features influenced the evaluation. Due to hilly nature of the area the areas and even individual houses are often isolated from each other. The evaluation has taken into account the time taken to travel between locations and the evaluation has looked at challenges to implementing the activities, to understand whether geographical barriers are hindering the project implementation. The sample of respondents comes from a variety of geographical areas to help understand influence of geographical factors on the project output. This is particularly important in the context of water sources where the water level vary according to the height of the area from the sea level. Alongside, the water sources are also dependent on various factors that are also influential factors. During sample selection areas both close to and distant from upazila headquarters have been selected.

1.2.2 Coverage, Sampling and Sample Size

The evaluation covered all three districts of the Chittagong Hill Tracts. There are 9 upazilas and all 991 para centers in all under ICDP. In development phase 100 para centers in each district have been taken up for implementation of the project. In this

⁷ UNICEF/LSHTM (1999) *Towards better Programmi* Technical Guidelines Series

Table 1: Sample districts and Upazilas of the evaluation

| District | Upazilla |
|-------------|-------------------|
| Rangamati | Rangamati sadar |
| | Baghaichari |
| | Rajajasthai |
| Khagrachari | Khagrachari sadar |
| | Matiranga |
| | Lakshmichari |
| Bandarban | Roangchari |
| | Lama |
| | Naikhongchari |

process three hundred para centres have been selected for the development phase of project implementation.

The evaluation covered sample of para centres covered in the development phase for project implementation. From each para other target stakeholders were selected as the participants of qualitative evaluation and interview for quantitative survey. The para centres were selected from three different land heights: low, middle and high as these areas might differ in technology use, water table, culture, hygiene practices etc.

| Rangamati | Khagrachari | Bandarban | Total |
|-----------|-------------|-----------|-------|
| 407 | 399 | 400 | 1206 |
| 34 | 33 | 33 | 100 |

Households

Since a para consists of 35-50 households, the evaluation covers 16 households from each para. Field researchers selected the paras randomly by following predetermined serpentine methods. However, different methodologies were deployed to cover the issues related to hygiene practice, water use, and various relevant information. Survey was conducted in each selected household and as part of the survey hygiene practices were observed. The selected number of households for interview is presented at the table beside.

| Upazila | Sample |
|-------------------|--------|
| Rajastali | 152 |
| Matiranga | 133 |
| Khagrachari sadar | 143 |
| Ragamati Sadar | 128 |
| Lama | 131 |
| Baghaichari | 127 |
| Naikhangchari | 131 |
| Roanchari | 138 |
| Laximichari | 123 |
| Total sample | 1206 |

Para Centers

This evaluation has covered 25 percent of total 300 para centres, in total 75 para centres. The selected para centres were equally distributed in three districts, which consists of 25 paras in each district. Then the 25 paras were distributed in three upazilas. In case of para centre selection from each upazilla some factors like remoteness of para centres, Para situated near head quarter, Paras with different tribal groups such as Chakma, Marma etc. and Para with *Bangali* settlers were considered to ensure representativeness of the sample. Another important criteria were model and non-model para. Among the selected 75 paras 25 were model para and the rest 50 non-model paras.

1.3 Research Tools and issues covered

The evaluation followed a multi-method approach that requires various data collection tools. Documentary analysis, household and community level observations, survey, focus group discussion, individual to individual interview using structured questionnaire, unstructured in-depth interview, school observation were used as data collection tools. Within each of these methods a number of tools PRA techniques, like focus group discussion, in-depth interview, games, etc. were used to ensure both accuracy of the data and to make of the evaluation process more participatory.

1.3.1 Observation

Observation helped us to understand the actual hygiene and sanitation behaviors that are currently taking place. There are three different types of observation that took place in the evaluation.

Transact walk and para centre observation

An important component of the observation part of the evaluation was to perform a transact walk through the para where fieldwork is being conducted. This is a PRA tool and helps the evaluation team to get a picture of the local area, meet local people and introduce themselves. A systematic walk through the para also provides an initial observation of their physical signs of hygiene and sanitation practices (such as water sources, visible signs of faecal contamination). A checklist was developed to help the evaluation team in their observations.

Household Observation

The evaluation attempts to assess sanitation and hygiene practices of the community through a day in households observing practices. 210 households were observed to capture the scenario hygiene behavior of household members including children and women regarding defecation, hand washing before and after defecation, hand washing before and after taking meals, use of sandal during defecation, human and animal excreta disposal, management of child and animal feces and garbage management related issues were also observed. The researchers reached at the household early in the morning in the para and observed the above issues at household level. Alongside, they also observed the location, type and condition of latrine, presence of hand washing facilities (soap, ash, water) in or nearby latrine, type of water sources at household level and their condition, collecting water from the water sources to house, person collects water, storage of water at house etc.

1.3.2 Survey

There are two categories of respondents were attended for interview with structured questionnaires. Those are household and para workers that are stated in the following.

Households: A household survey was also conducted to provide more information about household behaviors, which can be triangulated with the observation data. Information and views on the program itself were also collected. Through interviews, people were also asked what changes they think has taken place as an impact of the project.

Table 4: Distribution of respondents by districts and model and non-model

| Para Status | Rangamti | Khagrachari | Bandarban | Grand Total |
|-------------|----------|-------------|-----------|-------------|
| Model | 157 | 147 | 143 | 447 |
| Non-Model | 250 | 252 | 257 | 759 |
| Grand Total | 407 | 399 | 400 | 1206 |

Para Workers: The para workers were selected automatically while selecting the para centers. 75 paras were selected for the evaluation and all 72 para workers of the selected 75 paras were covered for semi- structured interview. It is to be mentioned that all the para workers were interviewed in the para center regarding their activities, program performance of the program, ways of implementation. Three para workers could not be interviewed as they have left their job then.

1.3.3 Focus Group Discussions

Different groups of stakeholders were brought together at a location and time convenient to them to discuss the project. The groups were formed of people who have similar interests and who feel comfortable with each. Focus group guides were developed to promote discussion on the key information areas in line with the objectives.

Male and female groups: The focus group discussions were conducted with both male and female groups from surveyed paras. To get a clear picture on the knowledge and practices of the community people on water, sanitation and hygiene, 40 FGDs were conducted.

Children & Adolescent Boys and Girls: The evaluation covered the children and adolescent boys and girls at the para centre level to capture the hygienic practices of school going and non-school going children and adolescent girls to get the practices related menstrual management, water and sanitation.

1.3.4 In-depth Interviews

The different stakeholders in the project were interviewed to get their assessment of the project, and changes that have taken place within the community.

Interviews helped to explore more in-depth about practices that may be difficult to observe (as the observer cannot be with the individual 24 hours a day for a number of weeks) and also allowed people to give their views and suggestions on the CHT component of the program itself. This is essential in understanding not just what has happened, and what changes have occurred, but how these changes have happened and what the strengths and weakness of the program are. Semi-structured interviews can give a directed approach to the interview so that the required data can be collected, but they also allow enough freedom for the participant to direct the conversation into areas that are important and relevant to them. Interviews with the different stakeholders in the project helped us to understand the processes behind the project to assess levels of co-ordination and effectiveness in the implementation.

Change Agents: Community change agents such as women samity members and neighboring para members were randomly selected from catchment area of para centres. For each type of target respondent of change agents were interviewed from all upazillas. Influential leaders (Imam, purohit/Vantee, union member, para centre management committee, primary school teachers, WatSan committee members) were selected randomly from the catchments area of para centres, wherever available.

Physically Challenged People: To get the convenience and inconvenience of the promoted options of latrine for use by the physically challenged people an unstructured interview checklist was used for in-depth interview. Only 4 physically challenged people were found and interviewed.

Hygiene Behavioral Practices Observation: To observe the hygiene practices of the children below 12 years of age several sessions were organized with them. The sessions were initiated with games and finally they were provided food to observe hand-washing practices. They were also asked what activities they performed after getting up from the bed to go to bed at nights. Through this process, the hygiene practices of children were assessed.

Table - 5 Sample size, method and instruments used

| | Sampling Units | Sample Sizes | Data collection method | Data collection instruments |
|-------------------------------|--|--------------|---------------------------|-----------------------------|
| Survey | | | | |
| 1 | Para | 75 | Transact walk | Checklist observation |
| 2 | Para Workers | 72 | Semi structured interview | Questionnaire |
| 3 | Household Survey | 1206 | Structured interview | Questionnaire |
| 4 | Household Observation | 210 | Observation | Questionnaire |
| Focus Group Discussion | | | | |
| 5 | Male | 23 | | FGD Guide |
| 6 | Female | 17 | | FGD Guide |
| 7 | Adolescent Boys and Girls | 16 | | FGD Guide |
| 8 | Neighboring para members | 9 | Focus group discussion | FGD Guide |
| 9 | School children | 13 | Games and observation | Guideline |
| In-depth Interview | | | | |
| 10 | Project Organizer | 9 | In-depth Interview | In-depth Guide |
| 11 | Sub Assistant Engineer | 5 | | |
| 12 | Para center Management committee members | 37 | In-depth Interview | In-depth Guide |
| 13 | Upazilla facilitators | 8 | | In-depth Guide |
| 14 | Headman / Karbari | 32 | In-depth Interview | In-depth Guide |
| 15 | Religious Leader (Imam/ Purohit/Vantee) | 20 | In-depth Interview | In-depth Guide |
| 16 | Primary School Teachers | 20 | In-depth Interview | In-depth Guide |
| 17 | Physically Challenged Persons | 4 | In-depth Interview | In-depth Guide |
| 18 | Woman Sanity members | 22 | In-depth Interview | In-depth Guide |
| 19 | WatSan committee members | 36 | In-depth Interview | In-depth Guide |
| 20 | Member of Neighboring para | 9 | In-depth Interview | In-depth Guide |
| 21 | School Observation | 11 | | |

1.4 Implementation of the evaluation

1.4.1 Literature Review

A review of literature/documents relating to the environmental sanitation, hygiene education, and water supply in rural areas especially the CHT component was conducted to get a comprehensive understanding about the evaluation questions, covering issues and variables, prepare and finalize of the data collection instruments, etc. Literature for review was included ESHEWSRA project manuals, guidelines, and monitoring reports that were mostly provided by UNICEF. The research team also reviewed UNICEF Bangladesh's policies on water and sanitation, the M&E plan and other evaluation related materials etc. The research team also reviewed literature on similar studies on water and sanitation conducted in and around the world.

1.4.2 Preparation of Data Collection Instruments

The research team prepared the data collection instruments with assistance from the UNICEF and DPHE personnel. In line with the objectives of the evaluation the variables and indicators were considered during data collection instruments development. The UNICEF and DPHE staffs were actively involved in the process of data collection instruments preparation. They have given various comments and suggestions in line with the objectives and from their practical experiences that made the task easier. There were several stakeholders involved in the planning to implementation of the project, who were covered as the respondents/participants. The instruments included the interview schedules; survey questionnaire for households, observation checklists and the relevant participatory guidelines for community mapping, focus groups and three pile sorting. Along with the data collection instruments (DCIs), data collection manuals were developed. These consist of detailed instructions on completing the questionnaires and observation checklists and clarifications regarding the questions for the more qualitative parts of the evaluation.

1.4.3 Pre-test and Finalization of DCIs

All data collection instruments used for investigation were pre-tested to assess how relevant the questions/items are, how well the respondents understand the questions, and whether there are problems in administering the instruments. Pre-testing of the instruments took place in a site other than the sample spots but from the program areas. On the basis of the pre-test results, the draft data collection instruments were modified and revised instruments were sent to UNICEF for their review and approval. After receiving comments on the data collection instruments those were finalized and data collection was started. The pre-testing interview team was from the field research team members. That ensured the quality of interviews, understanding of the field situation, and thereby quality of the final data collection.

1.4.4 Recruitment and Training of field Staff

These activities consisted of recruitment and training of enumerators, supervisors, quality control officers (QCOs), PRA Lead Facilitators, PRA Co-Facilitator, Coders/Code Verifiers, and Editors/Edit- Verifiers and also the skilled participatory observers. All these staffs were recruited by inviting and interviewing eligible candidates; and in selecting these personnel 'quality' was strictly adhered to. All those selected preliminarily were recruited as trainees. Trainees were finally appointed to the specific post, depending on his/her performance in the training. The recruited persons for the evaluation were trained for 7 days based on questionnaires and qualitative checklists.

Training was conducted through classroom lectures, demonstration interviews, role playing, review of lessons learned and suggested solutions. UNICEF's relevant experts were invited in the training and they participated. The Team Leader along with active participation of the core team member's supervision the training was imparted.

1.4.5 Field Data Collection

The data collection activity for the evaluation was involved generating relevant information using the different types of instruments. According to total sample coverage a total of 1563 (1206 household, 210 households observation, 72 Para worker, and 75 transect walk) structured interviews at the household, individual and para level were conducted.

To facilitate fieldwork in the hilly regions there were nine teams; one for each upazilla. Each team consisted of one-supervisor, two female enumerators and the male enumerators. The teams were formed considering their experiences in conducting survey, indepth interview and focus group discussion, etc.

1.4.6 Limitation of the evaluation

In conducting the evaluation the research, team faced several constraints. Some of them are related to methodology of the evaluation and the rest are regarding implementation of the evaluation. The evaluation followed recall method to get pre-intervention scenario on the water and sanitation situations in the hill tracts areas, along with the hygiene practices. During data collection at the field level the field researchers faced various kinds of challenges at the community level. The languages of the indigenous community and the field data collectors were a major challenge, which has been solved by using interpreter from the community. Communications in the hill tracts was another barrier for the field research teams, sometimes that hampered the speed of data collection for the evaluation.

1.4.7 Constraints and Triangulation

Researching people's hygiene and sanitation behaviour can be seen as quite intrusive as it is often related to very private behaviours. Therefore collecting data through observation of behaviours was done sensitively but there are still constraints with how 'real' the data will be since many people will change their behaviour due to the presence of a third party observing them. Similarly, people may be more inclined to portray a more positive picture of their behaviour when an interviewer asks them about behaviours such as hand washing and use of latrines. They may wish to give the 'correct' answer to questions such as this. Although this can tell us about their knowledge of 'correct' behaviour, it may not portray actual behaviour as much. As the stakeholders are aware that this is an evaluation, some stakeholders felt obligated to present a positive view of the project in question since the project is important to them.

With all these constraints in mind it was important to triangulate the data collected to build up as comprehensive a view of the project as possible. This means collecting data from a number of sources (different stakeholders and documents involved with the project). It also involved using different methods to try to reduce the bias inherent in individual methods. Through data triangulation it should be possible to understand the different viewpoints involved while building up a more accurate evaluation of the CHT component and thus give greater confidence in the findings.

1.4.8. Structure of the Report

The whole report consists of fourteen chapters. Those are Introduction, Background, Objectives and Methodology, General feature of the population where the evaluation is taking place, Process and behavioral change communication, Water point installation, Latrine installation, Water sanitation and hygiene behavior, Sustainability and Conclusion and Recommendation. Each of the chapters dealt with certain objectives. Each of the chapters dealt with certain objectives and OVI for MTR. It is to be mentioned that the TOR objectives of the evaluation and OVI indicators have been presented in the specific section of this report for each reference.

The first chapter consist of introduction, background, objectives and methodology of the chapter. This chapter covered introduction and background, general feature of the Chittagong Hill Tract, methodology and different tools and techniques used for data collection, sampling procedure and sample selection process, and overall description of different techniques and stakeholders/respondent categories. Alongside, evaluation implementation process, limitations, triangulation process, and composition of the report have been presented in this chapter.

The second chapter covers general feature and characteristics of the population of the evaluation, like demographic characteristics of both households and para worker, ethnic characteristics of the respondents, occupational status, household poor and non-poor status, religion, etc.

Chapter three dealt with the objective one of the evaluation and OVI indicator 1.2 and 2.A.1. This chapter covers the review of para action plan, para map, the reflection of the need of the community in the plan and the extent of participation the community steps of Para Action Plan (PAP) and Mapping, quality of PAP and Para map, activities followed by Para Action Plan, reflection of community need in the plan, extent of participation of the community people, para worker and other stakeholders, PAP, Maps and relevant activities.

Chapter four covers the objective two of the evaluation. The households reflection on usefulness of PAP process is described here. The household as part of the project also had the opportunity to suggest for further revision of the PAP process if they needed.

Chapter five covers the objective three of the evaluation. Impact of PAP process on behaviour change and Knowledge on PAP process are covered in this chapter. The behavioural change of the community people and the reasons for changing their behaviour is being discussed in this chapter

Chapter six of this report covers the fourth and fifth objectives of the evaluation. This chapter covers hand washing practice at critical times using appropriate agents, hand washing practices of children, defecation practices of children, practice regarding latrine use, behavior change in neighboring para, contribution of change agents in changing behavior of the community people in relation to water use, hygiene and sanitation, other safe water related behavior, safe water related behavior change, source of information and influence for safe water related behavior change, barriers to changing behavior of the community people and garbage management for environmental sanitation. The OVI objective 1.1 of the MTR have been addressed in this chapter.

Chapter seven of this report covers six and ten objective of the scope of work for the evaluation. Installation of water point as per PAP, type of water points, maintenance of the water point by the community, access to water points and availability of water all year round, quality of water, suggested type of water points, collections, storage, and use of water for key purposes, perception of safe water, practices with regard to safe water, current source of drinking water, use of safe water for other key purposes are being addressed here in this chapter. The OVI objectives 2B.1, 2B.2, and 2B.3 have been also addressed in this chapter.

Chapter eight covers the objectives seven and nine of the scope of work of the evaluation. Installation of new latrine after the project intervention, notion of a sanitary latrine, use status of latrine, new sanitation facilities promoted by changes agents, convenience for use by the community, cleanliness status and maintenance of latrine are addressed in this chapter. The OVI objective number 2A.2 have also been covered in this chapter

Chapter nine of this reports covers objective eight of the scope of work of the evaluation. The use of communication materials by para worker, understanding of communication materials by community and para worker, changes required of communication materials and changes required of communication materials are addressed in this chapter. The OVI objective number 1.4 have also been covered in this chapter.

Chapter ten of this report covers the objective eleven and thirteen of the scope of work of the evaluation. This includes the knowledge of the para worker on 11 health messages, knowledge on health messages of para workers and community people, knowledge of the key

messages on safe water and sanitation, community perception about the para worker are addressed in this chapter.

Chapter eleven of this report covers the objective twelve of the scope of work of the evaluation.

Menstruation management and knowledge and practices of adolescent girls on menstrual hygiene are addressed in this chapter. The OVI objective number 1.3 have also been covered in this chapter.

Chapter twelve of this report covers objective fourteen and fifteen of the scope of work of the evaluation. Community perception about activities of para worker, frequency of household visits and recall of messages, activities of para worker, useful activities of par worker are addressed in this chapter.

Chapter thirteen of this report covers objective thirteen and sixteen of the scope of work of the evaluation. Coordination among stakeholders, scope of convergence in icdp, sustainability of project activities and achievement are addressed in this chapter.

Chapter fourteen of this report addresses the recommendations those came out after the evaluation. This recommendations are an articulation of various suggestions made by the stakeholders, the observations from the analysis from the primary data and also from the FGDs what the evaluation team things regards to further improvement of the project.

Chapter Two

General Features of Population of the evaluation

The evaluation covered several stakeholders as respondents of quantitative survey and or participants of qualitative investigations under the evaluation. The stakeholders have been categorized for this evaluation purpose as beneficiaries and implementers/facilitators to implement the project. The household, demographic and socio-cultural factors might have impact or influences on the community people's behavioral change and hygiene practices, who have been implementing the project in their respective communities. The general feature like age, sex, education, religion, ethnic identity, poor non-poor status of households and population characteristics have been presented in this chapter. The poor and non-poor has been defined based on some criteria like household income

2.1 Profile, age, education, ethnic identity

Several stakeholders have contribution in implementation of the project. The stakeholders, who are directly involved in the project have been included in sample for evaluation. The social and demographic profiles of the respondents and or participants are important.

Among the surveyed households there are several issues like age, sex, education, occupation, etc have been considered for this evaluation. It is assumed that there are linkages between age, sex, education and hygiene behavior of the people. It is general assumption that those who have higher education their hygiene practices are comparatively higher than that of uneducated people of the community. It reveals from the findings of focus group discussions with male and female groups about one third of participants mentioned educated people have higher access to information, they interact with various people while they are getting education and they become aware and practice health and hygiene in their daily life. Among the household respondents 47 percent are female and 53 percent are male. The evaluation reveals that among the total population of the households, 52 percent are male and 48 percent are female. It is to be mention that all the para workers are female.

Table 6: Distribution of population by sex

| Sex | Frequency | Percent |
|--------|-----------|---------|
| Male | 3049 | 52 |
| Female | 2847 | 48 |
| Total | 5896 | 100 |

The findings of the evaluation reveal that the 45 percent are married, while 49 percent are unmarried. The rate of divorced and widows are about 1 percent and 2 percent respectively, which is similar to the national average. The average age of para worker is 28 years.

Table 7: Distribution of population by marital status

| Marital Status | Frequency | Percent |
|----------------|-----------|---------|
| Never Married | 47 | 1 |
| Married | 2637 | 47 |
| Divorced | 42 | 1 |
| Widowed | 128 | 2 |
| Unmarried | 2899 | 49 |
| Total | 5755 | 100.0 |

Total 1206 households were surveyed, where total population is 5896 that means the average family is 4.9. Among the total population 52 percent are male, while 48 percent are female. In case of qualitative component there are several stakeholders were covered in the sample, who are identified themselves by their name, and responsibilities.

The main occupation of the to the people of hill tracts geophysical condition of hill tracts districts are different from the occupation of the plain districts. The occupational status of the

survey household members reveals that 16 percent are involved in agriculture especially in Jum⁸ cultivation. About 5 percent and 4 percent are involved in labor and business various forms of business respectively. It is evident from the survey that people are involved in diversified occupation, which is uncommon in the plain land districts.

Among the respondents, only mainly four religions have been found, but by religions category it is quite different from the other part of the country. Though the Islam is the predominant in Bangladesh but in hill tract districts Buddhist is the major religion among the sampled households. Among the respondents about 69 percent Buddhist, 20 percent Muslim, about 9 percent Sonatan and rest only three percent are Christian.

Table - 8: Distribution of respondent by districts, model and non-model and by religions (in percentage)

| Religion | Districts | | | | | | | | | |
|-----------|-----------|-----------|-------|-------------|-----------|-------|-----------|-----------|-------|-------------|
| | Rangmati | | | Khagarachri | | | Banderban | | | Grand Total |
| | Model | Non-model | Total | Model | Non-model | Total | Model | Non-model | Total | |
| Islam | 3 | 8 | 6 | 35 | 18 | 24 | 28 | 32 | 31 | 20 |
| Sonatan | 3 | 1 | 1 | 19 | 27 | 24 | 2 | 1 | 1 | 9 |
| Buddhist | 94 | 91 | 92 | 41 | 54 | 49 | 66 | 59 | 62 | 68 |
| Christian | 1 | 1 | 1 | 35 | 1 | 2 | 4 | 7 | 6 | 3 |
| Total N | 157 | 250 | 407 | 147 | 252 | 399 | 143 | 257 | 400 | 1206 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

The profile of the Para worker: 72 para workers out of 75 were interviewed. Average age range of Para Worker is 27 years. The educational status of Para Workers is from the range of class eight to graduate. Among them 7 percent are class eight, 33 percent class nine, 47 percent SSC, 11 percent HSC and only 1 percent are graduate level educated.

The tribal identify of para workers are 32 percent Toinchoinga, Chakma 21 percent, Marma 14 percent and Tripura 10 percent. The definition of poor used in this evaluation is similar to project implementer's definition. To implement this study the implementers conducted wealth ranking of those paras. They have also identified poor and rich households of the paras and depicted those on the maps. The poor and rich were identified based on social and economic criteria, like income, housing condition, land ownership, etc. The households having small piece of land for construction of house with homestead, poor housing condition and income level below Tk. 2000 per month is considered as poor households.

⁸ Terrace farming consists of building a series of step like benches. Either sod or stonewalls support these benches. Each level slows the flow of water runoff, slowing the erosion process. They also bring into tillage areas that formerly could not be farmed. The seeds of various crops are sown at the same time and harvested in different time. That is why this farming system is also treated as shifting crop.

Chapter Three

PAP, Map, Community Needs and Participation

This section dealt with objective one of the scope of work that include the review of para action plan, para map, the reflection of the need of the community in the plan and the extent of participation the community. The participation process of different stakeholders in the overall activities of the program was the key area of the evaluation. At the beginning of this chapter the steps of PAP and Map have been narrated. Afterwards, all findings related to PAP, Map, community needs and participation has been presented. In addition to that, MTR objective 1.2 and 2A.1 have been addressed. The issues of those MTR objective are at least 80 percent CAPs/PAPs accurately record water sources,(including surface water sources), households, religious, educational & other institutions, markets, access to water and all excreta disposal facilities (including open sites) and poorer households and at least 70 percent of project wards/paras there is evidence of a range of technical options for safe excreta disposal.

3.1 Steps of Para Action Plan (PAP) and Mapping

The para action planning is the main aspect of the process of the project. Following a series of activities the Para Action Plan is developed. As per the guideline of the project, para action plan is prepared following 8 steps of activities. Those steps are community meeting, ward mapping, transect walk, wealth ranking, focus group discussions, drawing of ideal bari, consensus building meeting, and preparation of para action plan. The steps of PAP and Map are important to understand in assessing the quality of PAP and Map, needs of the community reflected in the PAP and usefulness of PAP. This section covers only the steps of Para Action Planning Process as per the guideline. The findings of the expected achievements are presented in the respective sections under this chapter. The para action planning processes are as follows.

Step 1: Community meeting is the starting point of the activities in that ward. This briefing discusses the needs and objectives of each step of the project to the interested people. It also identify the team and ensure participation of women and poor. Para workers and union hygiene promoters conducted these activities.

Step 2: The transect walk is a process by which involved personnel walk across the para through rich and poor areas, observe quality and location of homes, latrines and water points, latrine production centre, roads and transport situation and hygiene practices. They discuss health and hygiene status and they also visit the poorer part of the para and poor households.

Step 3: Community people with assistance from the para worker and other change agents draw their para map depicting roads, water points, river, mosque, community places and other facilities.

Step 4: In wealth ranking para people identify characteristics of rich and poor with three standard indicators such as land ownership, access to water supply, access to hygienic latrine facilities. Para worker and union hygiene promoters facilitate the process.

Step 5: Focus group discussions covered the issues of hygiene, sanitation and water supply. The participants were heads of women headed households and men and women from the poorest households. In this discussions, they discussed about the their problems, ways of solution and improvement of their livelihood. They also discussed various issues such as business development of sanitation production and sanimart, etc.

Steps 6: “Ideal Bari”, in this stage household members draw a picture of their present bari and surrounding environment and draw beside it a realistic change they would like to improve their bari. The households share their drawn picture with other households to make action plans.

Step 7: Meetings for building consensus of men and women of the para from all socioeconomic groups including rich and poor people on findings of previous steps are conducted in this stage. Improvement of hygiene practices, most acute water and sanitation needs, preferred technical options, priority of location of watsan related constructions are also the issues of consensus.

Step 8: Preparation of Para Action Plan (PAP): Preparation of PAP that means the action plan format completed to reflect decision of consensus building meetings. Specifically what needs to be addressed to improve hygiene sanitation, acute water needs, local resource requirement and gaps, request for external helps, establishment of sanimart and latrine production centre, etc.

As per project operation guideline ICDP is the platform for this project activities in the CHT. The institutional framework for implementing government projects in CHT districts is very complex than that of other part of the country. During inception of the project the institutional arrangement was made for proactive and bottom-up development approaches. In line of that process, paras were considered as the lowest unit and the project was planned to implement in a para centre approach. To maintain the participatory development process, all activities of the project were planned and implemented through participatory and pro-active process through Para center. At the initiation level each para centre prepared a Para Action Plan to conduct the project activities. The implementation plan follows eight steps, of which para action plan is the most important one. Among the activities of the plan transect walk, community meeting and wealth ranking, consensus building meeting, participatory mapping by depicting households, and other facilities to promote health and hygiene took place. The para maps are updated periodically incorporating the changes occurred in the para in regards to water and sanitation.

3.2 Quality of PAP and Para Map

Drawing para map and subsequently preparation of para action plan are the essential part of the program. To make people aware about the program related issues and to ensure the participation of community people several steps were followed. Drawing the map of the concerned para is a way for visualization of existing situation that helps the community people to get a comprehensive understanding about water, sanitation and hygiene issues and its challenges. This identification process and analysis of existing situation have shaken the mind of the people to realize the necessity of water and sanitation project activities. When the participatory maps were drawn and para action plan were developed then the community people became clear about many issues related to health and hygiene that they did not know earlier. As per the project document, a set of guidelines was developed to ensure the quality of PAP and Map. The quality of para Maps and PAPs could only be measured by checking whether those are consistent to each other or not. Alongside, whether the required places and objects have been identified are also the important issues of measuring the quality. If the PAP and Map are consistent as well as the places and objects are reflected in the Maps and the whole issues are covered in the plan then it can be considered as good quality.

In preparing PAPs and drawing maps participation of the different segment of society including women and poor were ensured. They conducted transect walk across the para and identified rich and poor, quality and location of homes, latrines and water points, latrine production centres, roads and transport situation etc. They also and drawn maps depicting roads, water points, river, mosque, and other facilities and community places. They also conducted wealth

ranking of the para people and set indicators such as land ownership, access to water supply, access to hygienic latrine facilities for identifying rich and poor. All these issues have been identified in the PAP and Maps. It indicates that the process of PAP and Maps were followed and documented properly. The physical verification findings also reveal that all issues have been covered in the MAPs very efficiently and in a well-articulated manner. It can be concluded that the quality of PAP and Maps is satisfactory.

Table-9: Proper identification in Para Action Plan and Map

| Items | Households | Poor Households | Water Points | Religions institutions | Other Institutions | Market | Access to Water | Excreta Disposal |
|-------------------------------------|------------|-----------------|--------------|------------------------|--------------------|--------|-----------------|------------------|
| Properly identified (In percentage) | 90 | 80 | 100 | 100 | 100 | 100 | 80 | 78 |

As per Objectively Verifiable Indicators, it is expected that at least 80 percent of PAPs accurately record water sources (including surface water sources), households, religious, religious and other institutions, markets, access to water and all excreta disposal facilities (including open sites) and poorer households. Transect walk, interview with the Para Worker and physical verification findings reveals that in both PAP and Map households (90%), poor households (80%), water points (100%), other institutions (100%), market (100%) and place excreta disposal (78%) were identified. During transect walk and Para Centre Observation it was found that the average number of household is shown in the map is 36.7, which was found 37 during physical verification. The findings reveal that the expected target of Objectively Verifiable Indicators regarding quality of PAP have reached to its goal.

The respondent category of community people was asked whether they have seen the PAPs and Maps in para cente. 64 percent of respondents have reported that they have seen the PAP and Map in the para centre, on the other hand, 36 percent informed that they did not have seen the PAP and Map at the para centre. It is to be mentioned that as project rules the PAP and Map should be kept in a common place or in the households of any person where everyone have access to those documents. As a result, the people did not see in the para centre but might have seen in a place like household or any other common place. Updating PAP and Maps are the responsibility of Para Workers, which is performed as per project implementation guideline. The Para Centre were found clean and well managed and the surroundings were also found clean. Para workers teach the pre-school children.

3.3 Activities Followed by Para Action Plan

Almost all the PCMC members have reported that Para Action Plan includes the activities of safe water for hygiene promotion, hygienic latrine use, and sanitation. 33 percent PCMC members have reported that PAP includes the activities of hygiene education, behavior change of the community people such as hand washing after defecation, use of safe water and hygienic latrine etc. About 25 percent PCMC members have mentioned that it includes, arranging courtyard meeting, presenting flipcharts, para map development and updating, making aware the people about cleanliness and vaccination.

28 out of 37 of the PCMC members have reported that actually in WatSan projects they provide support to the community for hygiene,

| | | % |
|---|---|----|
| 1 | Hygienic Latrine | 34 |
| 2 | Safe water use | 53 |
| 3 | Child education | 4 |
| 4 | Work properly for environment | 8 |
| 5 | Household who do not have latrine can be identified | 21 |
| 6 | Problem can be solved united | 4 |
| 7 | Status of latrine can been understand | 14 |
| 8 | can know Safe water use status | 21 |
| 9 | Who use latrine can be identified | 4 |

safe water and sanitation. These activities are conducted through a para center that operates a Para Worker. Para workers motivate the community people to use soap, to pour adequate water after defecation, and to use soap after and before meals. Five of the PCMC members told that by this project they provide education for children with the help of UNICEF, arrange meeting in the courtyard and create awareness among the community people about cleanliness and to use sandal at the time of defecation. One of the PCMC members told that they also provided vaccination for the community people.

28 out of 37 of the PCMC members told that they visited the para center recently. About 50 percent of them reported that they have visited 1-3 days ago. Only one PO reported that he had visited the para centre one month ago.

They have discussed with the PW about their problems those were faced and the current situation of WatSan program. Others have reported that they visited the community and checked latrine and water source, followed the behavior and practice of them regarding soap and safe water usage, child education etc.

One SAE out of 5 reported that he facilitated the guideline of preparing the para map to the members of PCMC, local people and project officials. He also described about the scope of para map.

According to one SAE out of 5, apart from imparting training, monitoring support and hardware supply DPHE also work on software. When he goes to a para centre he always teaches the community people about the usefulness of using safe water and sanitary latrines. The other issues under software support include giving information about environmental sanitation, benefits of not defecating in the open areas, benefits of washing both hands etc.

Almost all the PCMC members have reported that Para Action Plan includes the activities of safe water for hygiene promotion, hygienic latrine use and sanitation. 33 percent PCMC members have reported that PAP includes the activities of child education, behavior change of the community people such as hand washing after defecation, use of safe water and hygienic latrine etc. 25 percent PCMC members have mentioned that it includes arranging courtyard meeting, presenting flipcharts, para map development and updating, making aware the people about cleanliness and vaccination.

3.4 Reflection of community need in the Plan

The water and sanitation project have been implemented through the para centre approach, where community people including all other stakeholders assessed and analyzed the overall water and sanitation situation through participatory approach. They prepare maps depicting water and sanitation situation and also identify the needs of community people in the para action plan.

Among the household category respondent 74 percent reported that the installed water points were ring well while only 19 percent were tube well (Annex-A, Table-166). But 45 percent and 26 percent preferred tube well and ring well respectively. Though the preferred water technology is tube well but the installed option were ring well in most of the cases. Though during planning the water technology option was reflected in the plan but in implementation of the plan the community demand have not been met. Point to be noted that the tube well is not feasible for geophysical condition of the selected site. As a result, instead of tube well, ring were installed. The PCMC members and other stakeholders suggested that the misunderstanding between the DPHE and the community people could be resolved through participation and sharing of information with the community people.

After feasibility study, DPHE should share the information with the community people through a meeting at the community level in participation with PCMC members, Para workers, WatSan committee members and other concerned personnel. It was found that the findings of feasibility report are not shared properly with the PCMC members and community people. The information of feasibility study report regarding water point installation should be shared properly with all the PCMC members as well as local people so that they can share their opinion regarding installation of the water points. Sometimes local influential people exert their power in installing the water point at their desired place i.e. near their household. When majority of the community people do not find reflection of their expectation in installation of the water point then they become less interested to use it as well as to maintain it.

3.5 Extent of Participation of the Community People, Para Worker and other Stakeholders

Since the project is being implemented in participatory approach it is expected that all the community people would participate in all the phases including planning, monitoring, implementation of the project. Several types of stakeholders e.g. community people both male and female, headman and Karbari, WatSan committee members, women *samity* members, religious leaders etc. were supposed to participate in the process of planning, monitoring and implementation. During evaluation it was revealed that all the mentioned category of stakeholders participated in the process actively and influenced the process of planning, monitoring and implementation to reach the goal of the project. It is to be mentioned that the participation of some stakeholders such as poor people, Union parishad members, etc. was not up to the level of expectation. The participants of the FGDs and In-depth interviews i.e. the community people, Karbari and WatSan committee members reported about moderate level of monitoring activities by the DPHE, ICDP and facilitating agencies. They think there are scopes for further strengthening of monitoring the project activities.

Para workers mentioned activities, which they participated was a part of the para action planning process. Para worker conducted and or participated in various activities, in which difference was found between model and non-model para. The para workers participated/conducted in community meeting (96%), transect walk (99%), wealth ranking (90%), participatory mapping (97%), identification of needs regarding water points and construction of hygienic latrine (92%), follow up and updating of Maps (61%), etc. (Annex-B, Table-10). The lowest percentages are reported in follow up and updating and preparation of action plan are 61 percent and 65 percent respectively. The respondents have mentioned actively and spontaneously that activities performed by the Para workers are significant for the promotion of hygiene practice.

The participation in para action planning process was evaluated as per the objectives. Several key stakeholders participated in the process of planning. The para workers were asked about the community people's participation in the PAP process. Para workers reported that PCMC members (100%), Karbari (76%), Purohit (31%) Others community man (97%), community women (100%) and schoolteachers (53%) participated in the planning process (Annex-B, Table 31). The average number of participant in para action planning process was 31 in model para and 23 in non-model para (Annex-B, Table 32).

On the other hand, the community people have reported about their participation in para center activities. Among the respondents of household category, they have reported that they participated in different activities such as community meetings (37%), courtyard meeting (29%), households visit by para worker (25%), transect work (14%), identification of needs of water points and hygienic latrine (13%), participatory mapping (14%), wealth ranking (7%), consensus building meeting (6%) (Annex A: 132).

Findings show that there is a gap between the reported levels of participation by the para workers and community people in para centre activities. The para workers claimed a very high level of community participation while the community people themselves reported comparatively a lower level of participation by the community people. These findings indicate that the participation of the community people, para worker and other stakeholders were ensured, which was one of the positive aspects of the project.

Women FGD participants of all areas mentioned that they had participated in various activities including courtyard meeting conducted by Para Worker. During In-depth interviews with the influencers like Para centre management committee (PCMC) members, headman/Karbari, etc. it was evident that those who got training from the project are more enthusiastic towards the program activities, while who did not receive any training seems comparatively reluctant to participate in the process.

According to the women participants 90 percent in FGDs the people of *paras* have played an active role in preparing Para Action Plan and Para Map. But there are a few people who still do not know anything about PAP and Map. They mentioned about the process and result of transect walk. During transect walk the PWs and PCMC members recorded information on the types of house the community people live, existence of latrine in those households, number and type of latrines and water points. The field data collection team also collected data on the number and conditions of houses, latrines, factories, schools, madrasas, temples, ponds, canals and streets. To prepare the map they called meetings at the *para* centres and having prepared it they shared the information with the project co-coordinators, female members of the *para*, traders, *imams*, priests and others who control village life. Thus they collected their opinions and prepared a big map of the *para*.

All POs have reported that for implementing the activities they have Para Centre Management Committee (PCMC) and Union WatSan committee. These committees assist the PW in carrying out the activities. Besides these committees this project has ensured participation of as PCMC member, cooperative members, project organizers, local elite, schoolteacher, karbari and priests, local leaders for promoting hygiene and sanitation. These stakeholders altogether develop a Para Map and formulate the Para Action Plan. However, one of the POs reported that every project organizer has the responsibility to observe at least 20 Para Center per month, although it is not possible for them.

More than 50 percent of the PCMC members have reported that they have participated all the activities of PAP process such as meeting and discussion, motivation of the community people about hygienic latrine use, safe water use and sanitation. About 25 percent of the PCMC members have reported that sometimes they have participated in the activities of PAP process and those were helpful to para mapping and rating of households. A few PCMC members have mentioned that they have participated in group meetings. One of the PCMC members told that he also participated and motivated people to cover cooking pots and water pot, to use soap before meal and after defecations.

The community people reported that they had been involved in the PAP process. They were engaged in creating awareness on advantages of using sanitary latrine, negative consequences of open defecation, necessity of installation of latrine at the households, use of sanitary latrine, drinking safe water, washing hands properly and teaching children etc.

All the PCMC members have reported that they have played a significant role in developing Para Maps and implementing Para Action Plan. About 50 percent of them have told that they had provided guidance, marked the household during mapping, motivated people to use hygienic latrine and counseled guardians to send their children to Para center. 25 percent of them have mentioned that they have cooperated the PW and provided effort to install safe

water source and hygienic latrine and arrange community and courtyard meeting. About 10 percent of them told that they had visited each household for awareness building and they had done their duty according to committee's plan.

The project is implemented in para centre approach, where para workers are the key actors of this project. Under this evaluation 75 Para centres and neighboring paras were visited to get the understanding about the situation and location of para centre and overall water, sanitation and hygiene condition of the para. To collect information about the para, the researchers used para centre observation and transect walk methods.

One of the SAEs reported that he had to visit the Para Centres everyday. According to him because of his consistent effort it has been possible to ensure supply of safe water for the people of 3 unions of his upazila and within the year of 2010 he must finish his job to ensure water supply to 6 union of his upazila.

Angathai Marma, a Karbari reported that they have developed the map sitting in house (*Kiyong*). He himself participated in the mapping process. Many issues like hygienic latrine, safe water were included in that Para Action Plan (PAP) process. They arranged a meeting and in that meeting all the community people participated to decide about the place of installation of the water point. He mentioned that he visit the para centre 2-3 times in a week. He inquires the PW about her work and to see the children who study in the para centre. During the last six months 5 meetings were held where WatSan committee members, PCMC members and the local elite participated.

One Karbari of Rangamati reported that he not only participated in the Para Action Plan (PAP) but also ensured participation of all people of the para. As a Karbari people respect him and due to his invitation all people attended in the PAP. He also ordered his community people to abide by the norms and teaching given by this project. As a Karbari he urged his people to use safe water and to install sanitary latrine and because of his appeal to his community people responded significantly.

The above findings reveal that the respondents and participants including other stakeholders participated in maximum activities of the implementation process of the project. It is mentionable that the level of participation among stakeholders was different according to the benefit they received from the project. The PCMC members who had received training participated more than that of non-trained PCMC members. It is also noteworthy that there is a gap between the reported participation in between the para worker and community people. During physical verification average 37 households were found in each para, while average number of participant in para action planning process was 31 in model para and 23 in non-model para These findings show that still there are some household who did not participate in the PAP process. So, necessary initiatives need to be taken to ensure participation of rest of the households.

3.6 PAP, Maps and Relevant Activities

Household level respondents were asked whether they had seen the para map at the para center. About 64 percent of the respondents have reported that they have seen the para maps, while other 36 percent have mentioned that they did not see map in para centre. In few paras no maps were found during the visit of the evaluation team. There is a variation of displaying of para maps in para centre by districts. Among the respondents, 69 percent of Rangamati, 65 percent of Khagrachari and 44 percent of Bandarban respectively reported that they have seen maps displayed in para centres. 50 percent of the PCMC members have mentioned that the Para Workers were supposed to keep the Maps and PAPs in the para centre or in a common place. As some para centres do not have walls and or roof so there is a possibility that the maps may get damaged for lack of protection from natural calamity. So it is kept in the house of Para Worker or PCMC member where it remains safe. As a result, some of the community people who did not participate in the meeting may not have seen the maps.

| | Activities | % |
|---|---|----|
| 1 | Teaching pre-school students | 97 |
| 2 | Visiting households | 58 |
| 3 | Motivating people to use hygienic latrine | 97 |
| 4 | Motivating people to wash hands | 92 |
| 5 | Motivating people on safe water use and management | 85 |
| 6 | Motivating women and girls on menstrual hygiene management | 84 |
| 7 | Motivate people on safe disposal of feces | 64 |
| 8 | Activities related to other health and developmental issues | 49 |
| 9 | Other (specify)..... | 25 |

Para workers have mentioned several positive issues those were promoted by Para Action Planning process such as hygienic latrine use, safe water use, and overall situation of the village regarding health and hygiene. Safe water use was found the highest i.e. 53 percent positive aspect of PAP where as 34 percent people responded about hygienic latrine use as positive aspect of PAP. Some positive element has come out from the response of para worker such as unity of people, overall environment and hygienic status of the village etc. These elements are considered as positive aspects for the future hygiene practices of community people.

At the same time, the para workers were asked about what activities they performed as a para worker in their day-to-day activities. The highest 97 percent responded that they were teaching pre-school children, 57 percent reported to provide hygiene related messages, 97 percent reported to motivate people to use hygienic latrine, 92 percent reported to motivate people to wash hands, 85 percent reported to motivate people on safe water use and management, 84 percent reported to motivating women and girls on menstrual hygiene management, 64 percent reported to motivate people on safe disposal of feces and 49 percent reported to perform activities related to other health and developmental issues.

Out of 5, one Sub Assistant Engineer reported that in his upazila 33 para centres were being operated by the PW. ICDP's officers are assisting to implement this project. NGO Forum, a NGO is imparting training to local religious leaders, schoolteachers, WatSan *samity* members, PCMC members.

According to one SAE out of 5, Para Action Plan includes development of map, transact walk, identification of water points, safe latrines in the map. At first of the PAP process, all the WatSan facilities and hygienic behavior of 20-25 families have been observed through transact walk. Another SAE informed that PW conducted courtyard meetings regularly along with the PCMC members, WatSan committee members, local community members and religious leaders.

The above findings of the study reveal that para action plan were prepared and maps were drawn following the project guidelines. Activities performed by different stakeholders to reach the overall objectives of the project accordingly. Since the infrastructure of para centre is not good because there is no adequate access road to para centre, para centres do not have well protected house etc, some of the para centre do not have water points. Though various activities have been operating in the para followed by the PAP and maps but some of those still have scope of improvement. However, the participation of different stakeholders seems significant and encouraging in such inaccessible areas like CHT.

The Key findings of this chapter are as follows;

The evaluation findings reveal that the quality of Para Maps is so far sufficiently depicted the items of which about 90 percent of households, 80 percent of poor households, 100 percent water points and 100 percent other institutions and market and even 78 percent of the places of excreta disposal. On an average 36.7 household were depicted in the maps while it was found on an average 37 households per para during physical verification. Observably, the quality of para maps is so far drawn properly and continuous updating were going on in right ways. As per the project instruction, the maps will be displayed in the para centre or in a common place with an aim to orient the people about the water and sanitation situation of the para, the changes occurred as an impact of the project intervention, people's demand and the achievements. About 64 percent community people have seen the maps displayed in the para center while 36 percent did not seen it. No map was found in few paras while the evaluation team visited. One of the difficulties in displaying the map and PAP was the para centres are not safe to preserve maps and PAPs due to lack of fence/wall and openness. Some para maps were kept in houses of PCMC members or Para Worker considering the safety of those maps and PAPs. The MTR objective was at least 70 percent of the project paras there is evident of a range of technical option of safe excreta disposal, which was found 78 percent that also meet the MTR objectives.

The para action plans were also found that it was prepared by following the instructions of the project's guideline. The Para action Plan was found consistent with the maps, which been followed to implement the project activities. It is also found that in some case the Para Action Plan could not be followed to implement the project due to geo-physical constraints such as water point could be installed as per PAP due to soil texture and ground water table. The allocation of budget on time and non-feasible of demanded water technology was also constraints in PAP implementation. The needs of community have also been so far reflected in the PAP. In spite of challenges in implementation, the PAP process was so far followed consistently that helped to achieve the objectives.

Since the project has been implemented through participatory and community contributory process, so it was expected that the participation of entire stakeholder would be ensured though out the implementation process. The participation in para action planning process was evaluated by considering the participation in the overall project cycle. The evaluation findings demonstrated that several key stakeholders participated in the process. According to para workers, 100 percent PCMC members, 76 percent Karbari, 31 percent Purohit 97 percent others community man and 53 percent community women and 72 percent school teachers participated in the planning process. However, participation of stakeholders in implementation could be strengthening further. Observably the women participation in the para action planning seems comparatively less than that of male. The extent of participation was found an important issue for consideration, because some stakeholders stated that participation from all segment of society in all phases of the project would made the project much more effective. The transparency and access to proper information seemed influential factors in enhancing participation in the project.

Most of the stakeholders participated in maximum activities of the implementation process of the project. The level of participation among stakeholders was different according to the support they received. The participation of trained PCMC members were found more than that of non-trained one. So to enhanced participation training should be imparted to PCMC members as early as possible. During physical verification average 37 households were found in each para, while average number of participant in para action planning process was 31 in model para and 23 in non-model para, that means there are still some household who did not participate in the PAP process. So, necessary initiatives need to be taken to ensure participation of rest of the households.

In addition to the evaluation objectives and OVI indicators there are some issues were came out from the evaluation those are somehow linked with the success of the project. Since the para centre is considered as the key points for all development activities, but the infrastructure and other facilities like water points, approach roads etc are still insufficient. There is a demand of the community people as well as the change agents of the respective paras.

Chapter Four

Usefulness of PAP Process and Needs for Its Revision

In this chapter the issues related to evaluation **objective two** of scope of work has been addressed. Whether the households found the Para Action Planning Process useful or not has been discussed in the following sections. Whether there is a need of revision and addition to para action planning process for future implementation is also one of the key issues of this evaluation, which has been covered under this chapter.

The planning process has played an effective role in implementation of activities under the project. It has helped understand the challenges in different ways, which the community people did not realize as problems earlier. Several stakeholders were addressed under the evaluation to get information on usefulness of para action planning process. Almost all categories of respondents have mentioned it as useful.

95 percent respondents of household category found that PAP process as useful (Annex B: Table 174). Respondents of the household category mentioned various reasons for the usefulness of PAP process and its implementation for improving safe water use, sanitation and hygiene situation. 36 percent of the respondents claimed that through PAP process awareness on health had increased in their area. 21 percent of the respondent mentioned that the poor people are getting benefits through implementation of PAP (Annex B: Table 175).

Among the Para workers 98 percent found the community meetings as one of the most useful activities. Among them 54 percent think that they can take right decision through discussion, 19 percent think that through community meetings they know where what is needed, 8 percent of them think that due to community meetings they know about problems on safe water in their areas and 6 percent of the para workers think that through community meetings they know about problems on hygienic latrine situation in the concerned area (Annex B: Table 11).

Para workers mentioned the usefulness of transect walk. According to 28 percent para workers transect walk helps in preparation of action plan. 22 percent of para workers think that through transect walk they can know about the overall condition of para and 17 percent para workers informed that transect walk helped get location and overall condition about para (Annex B: Table 13).

Para workers reported various usefulness of wealth ranking. 32 percent of the para workers reported that wealth ranking created unity and cohesiveness among the community people. According to 26 percent para workers identification of rich and poor through wealth ranking helped them in their future planning (Annex B: Table 15).

31 percent respondents reported that participatory mapping helped the community to identify the problems easily. According to 24 percent para workers through participatory mapping process overall water and sanitation condition of the para were understood by the community people. 14 percent para workers informed that participatory mapping made them to identify water sources and its location (Annex B: Table 19).

Para workers mentioned that PAP process is useful in identifying the needs regarding water and sanitation. Through mapping 24 percent para workers were able to identify the water points which was a vital issue regards to water points. Through identification of needs regarding water 19 percent para workers reported to identify the water source (Table B: Table 21).

Para workers mentioned the reasons of usefulness for follow up and updating of PAP. 25 percent of the para workers said that through follow up and updating activity they could measure the achievement/progress. 28 percent of them found that this activity helped them identify changes (Annex B: Table 23).

One SAE out of 5, reported that through para map they had become able to assess the actual needs of para regarding WatSan. Although he mentioned that the progress of implementation of Para Action Plan was very slow but people were getting aware on health and hygiene. He informed that DPHE had constructed the water points and helped construct sanitation facilities for the indigenous people of the hill. According to him formerly people used to drink water from the canal but now they drink safe water from newly constructed water point. He also reported that NGO Forum helped the Para Centres to prepare and to update the para maps.

According to one SAE among 5 who were interviewed, PWs show the pictures to their para member so that they understand the importance of changing their behavior related to water, sanitation and personal hygiene. He mentioned that those households were indicated in the map where sanitary latrines had already been constructed. So observing the map they can plan for the rest of the tasks.

All the PCMC members have reported that exercises during PAP process were very useful for them because now the community people have changed their behavior and practice. About 25 percent of them told that at present the practice of defecation, the practice of hand washing after defecation and sandal use has changed. About 10 percent of the PCMC members have mentioned that about 50-90 percent people have changed their behavior and practice and people follow the hygienic practice more than before. Another PCMC member told that this project was very effective especially for children and now everybody receives vaccine.

According to the participants in women's FGD groups, people use Para Action Plan and Map and it helps them in many ways. Earlier they did not know about many common hygienic behaviors, about which they are quite conscious now. Now they know that one should not defecate here and there and one should dump the garbage at a certain place. Evaluating Para Map now one can have a clear idea about the status of sanitary latrine use by the households in that para and where the water sources are situated.

Women's opinion regarding Para Action Plan is quite positive. They like it. However, a few women in some FGD groups said that they had not even heard of it, but they hoped that it should benefit them. All others are happy with the benefits Para Action Plan has provided to them. They said that Para Action Plan helped them to be in good health. They pointed out that Para Action Plan has led the people of the hill tracts in using sanitary latrines, keeping houses clean, imparted knowledge to the young girls about health rules during menstruation, arranged pre-school system for their kids and advised them on various health issues. According to them Para Action Plan helps them to become conscious and improve their lives.

Many of the respondents reported that the activities of the para worker and the PAP had created an impact on them such as they don't defecate here and there now and they wash their both hands before eating. Some of the respondents said that their neighboring para members keep their home clean; keep their latrines clean, boil water before drinking. The FGD participants of neighboring para reported that they have learned many issue of water and sanitation including the advantages of hygiene practices. It also reveals that there is a demonstration effect of the project in the neighboring para.

Respondents of household category gave various suggestions for PAP process in future. 13 percent respondents suggested to install more tube wells, 9 percent respondents suggested that people should be made more aware through PAP and 5 percent respondents suggested

to impart more training for PCMC members. 6 percent of the respondents suggested that activities of para workers should be enhanced and 5 percent of them argued that PAP must be implemented especially in the poor area (Annex B: Table 151).

Many of the participants of women FGD groups said that the members of the project para are aware now and it has made much changes of their behavior. Para Action Plan had many roles behind this change. One respondent said that it has made some changes especially in the field of cleanness and drinking water. These changes had been possible only by the para worker. One of the respondents said that the members of the project para are using sanitary latrine, using safe drinking water now. Beside these they use sandal to go to latrine and wash their hand with soap or ash after defecation. As the members of the project para use safe water, they get keep themselves away from many diseases.

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The key findings of this chapter are as follows;

Regarding the usefulness of PAP, the evaluation findings demonstrated that 90 percent para workers have reported PAP as a useful process. The reasons for usefulness were it helps to take decisions through discussion, it helps to learn new aspects, the need of the community could be identified properly, etc. The qualitative findings revealed that the opinion of male and female were also positive, because it helped them to understand the issues related to health, hygiene and sanitation. These findings meet the objectives of usefulness of PAP that has been stated in the objective 2 of the evaluation. However, it is also suggested by the stakeholders that there was further need to revise/improve the PAP through incorporating the issue of sharing information related to implementation of the program, increasing participation of households who yet not participated in the process. It is evident from the findings that PAP process has shaken the mind of the community people, it helped to realise the need of themselves, it build capacity to analyze their own challenges, and also instigated to finding a ways for moving forward. This process is the central point of the any development initiatives.

Chapter Five

Behaviour Change and Knowledge on PAP Process

This chapter consisted of the findings of the objective 3 of the scope of works that includes whether Para Action Planning (PAP) process helped different groups of stakeholders in changing their behavior with reasons. The knowledge about PAP and its subsequent activities were investigated under this study. The specific findings of the both qualitative and quantitative study have been presented in this chapter.

5.1. Impact of PAP process on behavior change

Respondents of household category were asked to know about the impact of PAP process on behavior change. The respondents of households category stated that they have learnt many new issues related to safe water use, hygienic latrine use, washing hands before eating and washing hand with soap or ash after defecation through participation in the PAP process and subsequent activities. The highest 18 percent have mentioned that they have learnt about the construction of latrine; 17 percent learnt about cleanliness and washing, 15 percent learnt about use of hygienic latrine, 13 percent learnt about use of safe water and 5 percent learnt about use of sandal while going to latrine (Annex A: Table 144). These findings revealed that the Para Action Planning process helped the community people to learn new issues regarding safe water and sanitation use and practices of hygienic behavior. The findings of survey revealed that respondents have learned about safe water use, proper knowledge about safe water, construction of hygienic latrine, advantage of hygienic latrine use. Though they got information regarding water, sanitation and hygiene practices from different sources of the projects, but the behavioral changes have not been taken place as per expectation.

Whether the PAP process and its subsequent activities helped the community people to learn new issues that they did not know earlier were investigated in both survey and qualitative approaches. The participation in PAP process and its subsequent activities were found positive, because 80 percent all the participants specially male members of different focus group discussions mentioned that they participated in the meeting for drawing maps depicting various items including households with and without latrine, location of water points, etc.

The participants of FGD and In-depth interviews mentioned that the participation in PAP process and its subsequent activities helped community people to learn about safe water use. Community people in FGD sessions reported that PAP process is a very good initiative for the community people and they liked it. About 50 percent of them told that by PAP process the community people have become enabled to maintain hygiene and sound environment. About 30 percent of the FGD participants have mentioned that in PAP process a para map have been developed which one was used to conducts all activities. 20 percent PCMC members told that people had changed their hygiene practice only for this project. About 20 percent of the PCMC members told that they are hopeful about the future of the project. Only 10 percent FGD participants told that this was a good initiative but it would have been a successful project if proper hardware such as hygienic latrine, safe water source had been provided.

More than 80 percent PCMC members have reported that PAP and its subsequent activities helped improve water, sanitation, and hygiene situation of the community. The major reasons for such improvement were courtyard meeting organized by the PW, presentation of BCC material, installation of hygienic latrine and safe water source. Now people are more conscious about hygiene than before. The rest of them have mentioned that no hygienic latrine and water source has yet to set in their area so people changed a little in their behavioral pattern.

26 out of 37 PCMC members have reported that the subsequent activities of PAP helped change behavior of community in the project Paras in relation to health, hygiene and sanitation. According to them this project has brought a significant change in their life and now people are more conscious than before. Seven of them have told that before commencing the project the people used to defecate at open places and they used to wash hands without soap. But now they defecate in hygienic latrine and wash their hands by soap or ash after defecation. PCMC members reported that in a para there are 7-30 sanitary latrines and 1-36 pit latrines. It means some of the paras having minimum 7 and maximum 30 sanitary latrine, at the same time they have minimum one and maximum 37 pit latrines.

6 out of 9 POs reported that the project activities had brought a massive change in the practice and behavior of the community people. They also told that development of para maps and implementation of para action plan had helped the development of the area. It has also revealed from the discussions that now the community people are getting more conscious than before. At the beginning of the project i.e. before two years fewer number of children and women used to receive vaccine but now the community people are willing to come for vaccination. It is also observed that although there are few areas where all the people have constructed hygienic latrines but the tendency of pit latrine construction have increased. According to them now at least 95 percent people use tube well for safe drinking water.

25 Karbaris out of 32, reported that PAP and its subsequent activities helped improve water and sanitation situation of the area. Before two years people used to drink water from canal and Chara and have to defecate in the jungle and on the slope of the hill but now people collect water for drinking from the newly constructed water point and has began to construct sanitary latrine. About 33 percent of them demanded that para should be the centre of all activities in hill areas and in future. According to them not only water and sanitation activities but also other development activities should be implemented through para centre approach.

5.2. Knowledge on PAP process

Knowledge on PAP process of community people, para workers and other change agents were investigated through both quantitative and qualitative approach. The evaluation findings reveal that the respondents and participants of almost all categories were found positive regarding PAP process. The participation of community people in para action planning process and its subsequent activities were also found positive. Among respondents 93 percent reported to know about Para Worker's activities, while 7 percent of them do not know about the Para Workers Activities (Annex A: Table 142). It indicates, most of the community people are well oriented about the Para Worker's activities, but those who do not know about the activities were found reluctant to participate in the mentioned activities.

Table – 13: Distribution of respondent's knowledge about para worker's activities

| | Rangamati | | | Khagrachari | | | Bandarban | | | Total | | |
|-----------------------------------|-----------|-----------|-----|-------------|-----------|-----|-----------|-----------|-----|-------|-----------|-------|
| | Model | Non-Model | All | Model | Non Model | All | Model | Non Model | All | Model | Non Model | Total |
| Know about PW's activities | 97 | 91 | 93 | 93 | 90 | 91 | 94 | 91 | 92 | 94 | 91 | 93 |
| Do not know about PW's activities | 3 | 8 | 6 | 7 | 8 | 8 | 5 | 8 | 7 | 5 | 8 | 7 |
| Total | 157 | 250 | 407 | 147 | 252 | 399 | 143 | 257 | 400 | 447 | 759 | 1206 |

The respondents of household category were asked to know whether they know about the PAP and what were the issues and activities included in the PAP. 40 percent respondents have mentioned that motivation for using hygienic latrine, installation of water points, installation of latrine, keeping surrounding environment clean etc. 40 percent of the participants in focus group discussion sessions and in-depth interviews reported that identification of places for water point installation was included as one of the major agendas in the PAP. They also reported that identification of households having no hygienic latrine was also addressed and initiatives were taken for the installation of hygienic latrine in all households.

All of the WatSan Committee members are aware of the PAP process where they claimed their active involvement and participation in decision-making process. They mentioned activities included development of para action plan through door-to-door consultation, mapping etc. It is also added that the activities included in the plan were useful to the communities. Most of them reported to be involved actively in implementing major activities under the plan.

All PCMC members have reported that they could remember clearly about PAP process such as planning, mapping, transect etc. Ten PCMC members out of 37 have reported that by mapping they marked and rated the household in the community. Seven of the PCMC members have mentioned that by planning they operated their activities such as observe how many people use hygienic latrines and tube well/ring well water, and how many people follow the rules of cleanliness. Another PCMC member told that by this project they motivated the people to use soap or ash after defecation and to use safe water. PCMC members also added that para workers implement all the grassroots activities.

The above findings reveal that there is substantial impact of PAP process on behavioral changes such as hygienic latrine use, safe drinking water use for drinking and household purposes, and maintaining hygiene practice in day-to-day activities of the community people. Almost all stakeholders including the community people were found to have acquired adequate knowledge on PAP process and subsequent activities that indicate the project activities have been performed as per plan of the project.

The Key findings of this chapter are as follows;

One of the objectives of the evaluation to investigate the whether the PAP process helped in behavioral change of the community people and the reasons for changing the behavior. The evaluation findings reveal that para action planning process has brought a significant change of the behavior. The defecation, hand washing after defecation, sandal use during defecation practices has been changed. The people have changed their hygiene practice more than earlier behavior. It is especially effective for children, because people became aware about the importance of changing their behavior and as consequences they bring their children to vaccinate against deadly diseases. The evaluation findings reveal that PAP helped the people of the hill tracts in using sanitary latrines, keeping houses clean, imparting knowledge to the young girls about hygienic practices during menstruation, sending their children to pre-schools, vaccinating children, and advised them on various health issues. The people have learned various issues through discussions regarding para action plan, which helps them to become conscious and improve their lives.

The community people spontaneously recall the message that had been delivered to them by para worker. The recalled messages include rubbing both hands with soap or ash with adequate water before eating (65%), rubbing both hands with soap or ash with adequate water after defecation (61%), rubbing both hands with soap or ash with adequate water after cleaning baby's bottom (35%), collection of water from safe water source (39%) and use of sandal in the latrine (42%), etc. These findings represent the knowledge level of the key health messages of the community people. Para worker as the key agent, have been providing health and hygiene message to the community people but the percentage of recall of those messages by community people seems to be moderate. There seems to be a scope for further improvement in recalling the health messages that could happen through regular practices.

Chapter Six

Behavior Change of People in Project Para and Neighboring Families and Role of Change Agents in this Regard

This chapter deals with the **fourth and fifth objectives** of the scope of evaluation. To address the fourth objective findings on the extent of behavior change of the community people both in para and in neighboring para have been described. To investigate the fifth objective of the evaluation the extent of hygiene and sanitation behavior change which was attributed to the hygiene and sanitation promotional efforts of para workers, Chief of para, religious leaders and others has been discussed in this chapter. Beside the objective four and five of the scope of work The OVI objective 1.1 of the MTR have been addressed in this chapter.

6.1 Hand Washing Practice at Critical Times Using Appropriate Agents

Hand washing at critical times using appropriate cleaning agents is a key hygiene issue of the project. Hands are considered as one of the major transmission routes of germs if not cleaned hygienically. The evaluation attempted to investigate hand-washing practices through observation at household level and also through interview.

Table 14: Hand washing practice with or without any washing agent by response

| | (%) | | | | | | | | | |
|--|-----------|--------------|-----------|------------|----------------|------|----------|------|--------|-----|
| | Rangamati | Khagrachairi | Bandarban | Model Para | Non-Model Para | Poor | Non-Poor | Male | Female | All |
| Before eating food | 94 | 98 | 96 | 96 | 96 | 96 | 96 | 96 | 97 | 96 |
| Before serving food | 81 | 89 | 66 | 77 | 76 | 78 | 75 | 72 | 81 | 77 |
| After defecation | 91 | 94 | 94 | 92 | 93 | 92 | 93 | 93 | 93 | 93 |
| On cleaning young children's bottom after its defecation | 51 | 41 | 52 | 47 | 48 | 45 | 53 | 46 | 50 | 48 |
| After disposing off the feces of young children | 40 | 36 | 40 | 38 | 39 | 36 | 43 | 35 | 43 | 39 |

Hand washing with or without any agent by men and women is near universal on two critical times - before eating food and after defecation. However, it is evident that the 48 percent and 39 percent of the respondents have the habit of washing hands on cleaning young children's bottom after his/her defecation and after disposing of their feces respectively.

Table 15: Way of washing hands at critical times

(Figures in %)

| | Before eating food | Before serving food | After defecation | On cleaning children's bottom after its defecation | After disposing off the feces of children |
|--|--------------------|---------------------|------------------|--|---|
| Both hands with water only | 30 | 26 | 8 | 14 | 33 |
| One hand with water & soap | 40 | 51 | 25 | 23 | 54 |
| Both hand with soap & water | 29 | 17 | 49 | 46 | 10 |
| One hand with water & ash | 0 | 4 | 6 | 10 | 1 |
| Both hands with ash and water | 1 | 1 | 9 | 7 | 2 |
| One hand with soap /ash the other with order | 0 | 1 | 2 | 0 | 1 |
| Base (those do the respective behavior) | 1160 | 925 | 1120 | 577 | 466 |

Community people have the practice of washing their hands in different ways for different reasons. However, using washing agents vary depending on different types of washing occasions. 40 percent respondents claimed to use soap for washing one hand before eating food while 51 percent reported to wash one hand with soap before serving food. After defecation 49 percent respondents at the household level reported to wash both hand with soap and water while 25 percent reported to wash one hand with soap and water. On cleaning children's bottom after its defecation 46 percent respondents reported to wash both hands with soap and water while only 10 percent of the respondents reported to wash both hands with soap and water after disposing off the feces of children.

Before eating food 39 percent non-poor wash both hands with soap and water while 25 percent poor do the same. 36 percent females wash both hands with soap and water before eating food while 25 percent males do the same. In various occasions of hand washings it was found that the non-poor exhibited more positive behavior than the poor. Similarly females showed more positive behavior than males (Annex A: Table 40, 41, 42 and 43).

The household level observation also provides important information about the hand washing practices. 31 percent men and 58 percent women were found to use soap while washing hands before eating. However, in case of children the practice of using soap is much lower – only 17 percent. So it can be said from household survey and observation data that around 61 percent people use soap before eating. But the rate of using soap by females is higher which is a good sign.

Incidence of washing hands with washing agents after defecation indicates much more positive behavior as nearly 70 percent use soap and another 15 percent use ash for hand washing. Again, major difference is seen between poor and non-poor. While 65 percent poor use soap and 18 percent of them use ash, the figures are 77 percent and 10 percent respectively for the non-poor. From the observation, also it is evident that 60 percent men, 55 percent women, but only 23 percent children use soap to wash hands.

The evaluation queried whether people have changed behavior within the last 2 years i.e. after the project initiation. The following table shows data in relation to behavior change over the last 2 years.

Table 16: Behavior change related to hand washing by response

| Habit – Behaviour | Rangamati | Khagrachari | Bandarban | Model Para | Non-Model Para | Poor | Non-Poor | All |
|--|-----------|-------------|-----------|------------|----------------|------|----------|-----|
| Before eating food | 58 | 50 | 39 | 46 | 59 | 48 | 52 | 49 |
| Before serving food | 44 | 30 | 16 | 30 | 30 | 31 | 29 | 30 |
| After defecation | 67 | 56 | 57 | 58 | 61 | 61 | 58 | 60 |
| On cleaning young children's bottom after its defecation | 29 | 17 | 22 | 23 | 23 | 22 | 25 | 23 |
| After disposing off the feces of young children | 14 | 8 | 6 | 10 | 9 | 10 | 9 | 9 |

Major changes occurred in hand washing before eating and after defecation. Other changes are also substantial in the area of before serving food, and after cleaning children's bottom. However, improvement in hand washing after disposing off children's feces is not much. Again, the key informant on these aspects is the PW and she is also the main influencer in case of majority of those who had reported improvement in behaviors. The participants of FGD sessions of female and male groups they have been reported that the changes in hand washing is occurred in comparison to the pre-intervention period. In the earlier, about 95 percent people were used to wash one hand while now that have reached to about more than two third of the population. The participants have also confirmed that it has only been possible as a result of the intervention of the project.

Adolescent girls wash their hands especially after some incidences and occasions e.g. after defecation, after washing utensils, before and after cooking, after sweeping the floor, before and after eating, after cleaning feces of children, after cleaning the bottom of children. Participants of maximum FGDs mentioned that they used soap and water for cleaning hands but one FGD group reported that sometimes they used water and soap and sometimes they used ash or sand or mud and water to wash their hands. According to this group sometimes they also wash their hands only with water. The reported reasons of cleaning hands with soap or ash and water was to be free from germs and unpleasant smell. These findings also indicate the changes in hand washing as an impact of the project.

Adolescent girls in FGD sessions were asked about their practice of hand washing before two years. Participants of almost all the groups reported that they used to wash their hands after defecation only with water but now they use soap or ash and water to wash their hands. According to all of them this changes happened only because of the efforts of Para Worker (PW)/*Didi*. The PW frequently advised them to use soap or ash with water to wash hands. Only one FGD group of adolescent girls reported that no change happened in hand washing during last two years because they used to wash hands with soap or ash with water for long time.

Women FGD Participants say that they wash their hands before cooking and after serving meals. They wash their hands with soap or ash with enough water. Earlier they used to wash one hand. Now having watched TV and been told by the para worker they now wash both hands before having food and after defecation. According to them their mothers also teach their children to wash hands. They also added that if mothers saw anyone taking or serving meals without washing hands they remind them of the hand washing practice.

According to the participants in women FGD sessions that a great deal of change has taken place in the community regarding these two aspects due to PAP and WatSan program. According to the women groups now they drink tube-well water but before two years they used to drink water from charra, canal, river and fountain, as a result now they suffer less from diseases than before. Now they wash their hands before meals, after defecation and cleaning their children's feces. They also have heard that someone shouldn't drink the red marked tube-well water.

However, about 10 percent of the participants reported the program intervention didn't create any impact on behavioral change.

6.2 Hand washing practices of children

In response to the question regarding hand washing, more than 90 percent children reported that they washed their hands with soap before and after eating. Less than 10 percent children told that they washed their hands only by the water. They wash their hands with soap after defecation. They wash their hands if it becomes dirty. Every one of them reported that they wash their hands after returning home from playing. It is to be mentioned that several sessions of games were organized with the children and they were provided food after the games to observe their hand washing practice. It was found that though they had reported that they wash hands with soap before eating but about 50 percent of them did not wash hands before eating. They washed their hands with water only. However, it indicates that they have gained knowledge but they have not changed their behavior that much.

6.3 Defecation practices of children

The participants of children group said that none of them defecate in the open place and they reported to use latrine for defecation. They wear sandal in the time of going to the latrine and going to school. According to them the little babies also defecate in the latrine. As part of the game the children were asked to perform their daily activities from the time they wake up in the morning till the time they go to bed at night. According to their report about 50 percent of them did not perform the practice of washing hands after defecation. It indicated that the behavioral changes of the children remain the same regarding hand washing after defecation. However, some of the participants also reported that some of the children who study in nursery and class one defecate and urinate outside the house and next to the yard but their elder members of households make it clean. They also said that every of them have sanitary latrine, which is surrounded by fence. They kept soap/ash inside the latrine and some of them put soap in the house and bring it to latrine when required. They wash their hands using soap returning from the latrine. It has also been reported that they used ash and soil in absence of soap. Some of them wash their hands using sand. The participants reported that it is good to defecate in the latrine, because sanitary latrine use is good for health and hygiene. According to them flies cannot sit on it and consequently it prevents diarrhoea. Some of them reported that if they want to urinate at school, they urinate in the open place and in the case of defecation they do it going to home. Some of the children said that it smell bad and pollute environment if someone defecates in the open place. Many of them told that their parents and elder brothers and sisters suggested using latrine. They have learnt this issues from the school teachers and some of them learnt it from their parents. They reported that they kept their latrine clean by themselves and sometimes their parents told them to keep it clean. The above findings so far indicate that positive changes have occurred among the children.

6.4 Practice regarding latrine use

Table 17: Place of defecation

| Response | Model | | Non Model | | All | |
|-----------------------------------|-----------------|---------|-----------------|---------|-----------------|---------|
| | Open defecation | Latrine | Open defecation | Latrine | Open defecation | Latrine |
| Babies (1-<3) (%) | 91 | 9 | 94 | 6 | 94 | 6 |
| Babies (3-<5) (%) | 61 | 39 | 68 | 32 | 66 | 34 |
| Children-Girl (5-<11) (%) | 19 | 81 | 31 | 69 | 26 | 74 |
| Children- Boy (5-<11) (%) | 22 | 78 | 30 | 70 | 27 | 73 |
| Adolescent boys (11-<18) (%) | 9 | 91 | 21 | 79 | 17 | 83 |
| Adolescent girls (11-<18) (%) | 10 | 90 | 19 | 81 | 15 | 85 |
| Old men (%) | 12 | 88 | 26 | 74 | 20 | 80 |
| Old women (%) | 12 | 88 | 26 | 74 | 20 | 80 |
| All other men including self (%) | 12 | 88 | 20 | 80 | 16 | 84 |
| All other women including self(%) | 10 | 90 | 18 | 82 | 15 | 85 |
| Physically challenged persons(%) | 50 | 50 | 50 | 50 | 50 | 50 |

The evaluation attempted to explore the defecation places of people by age and sex. It clearly indicates that 94 percent babies aged under 3 defecate in the open while more than 80 percent adults use latrine for defecation. With increase in age the rate of latrine use increases. Use of latrine starting from the age 5 is very impressive except physically challenged people.

Nearly 50 percent of the households reported that children defecate in open places. However, 50 percent of such households reported that they either bury the feces or dispose it in the latrine. Another 40 percent reported about disposal of feces in in the 'river/chara' etc where vectors have easy access. The household observation also confirms this. Of the households observed for open defecation by children, nearly 60 percent were seen to be disposing of the feces safely (mostly in the latrine).

According to all participants of women FGD groups now people use sandals while going to latrines and sweep their houses everyday. Those who go for zoom cultivation (a way of cultivation on the slope of the hill in the hill tracts) dig holes for defecation and after defecation they cover the feces with soil. As a result diseases in the regions has declined.

According to few women participants of FGD session those who go for zoom cultivation use the jungle for defecation and do not use water to clean themselves, rather they use *kathi* or stick, because water is not always available there. They say that there are still people who use open places for defecation, but their number has been falling down.

Nozir Ahmed, a sixty year old physically challenged person living in Bandarban. He informed that her wife and children have to collect water from a water point which is quarter mile away from his house. Though government has installed a water point before 2 years but during planning and installation of that water point the issue of Nozir Ahmed as a physically challenged person was not included in discussion. But he feels that difficulties of physically challenged persons should be considered during construction planning of WatSan facilities. He usually defecates sitting on a branch of a tree fixed on a ditch. He is afraid of falling in that ditch during defecation.

Adolescent girls of FGD sessions reported that different types of latrines were used to defecate in their areas e.g. pit latrine, ring slab latrine with gooseneck, ring slab latrine without gooseneck, slab latrine, hang latrine etc. Participants of one FGD session reported that still

the poor people of their area defecate in the open place in the backside of their own houses. Except the participants of that FGD almost all the participants of the other FGD sessions reported that they use hygienic latrine for defecation. One participant of a FGD session reported that she used to defecate in the open place latrine but before 6 month they have installed a pit latrine without a lid. That girl also informed that at that time feces used to spread by the legs of poultry birds and cattle around their house and they had to live in unpleasant smell all the time. Another girl of a FGD session reported that they had latrine before two years but they were not used to clean it regularly. But now after being motivated by the PW they clean it regularly. They have changed their practices regarding cleaning the facilities.

According to all participants of women FGD groups, about 80 percent hilly people have begun to use sanitary latrines instead of open defecation and they have also learnt that one should wear sandal while going in the latrine. It is to be mentioned that such changes occurred in latrine use and gaining knowledge the project had a tremendous contribution that lead them to maintaining hygienic life.

6.5 Behavior Change in Neighboring Para

Some in-depth interview has been conducted with the neighboring para members to assess what they know about the para action plan (PAP) process, para workers, behavior change of the project para members, impact of PAP process on their own para. Majority of the interviewee reported that they know about the para action plan of the neighboring para. They told that it was the plan of teaching of washing hands, using sanitary latrine and safe water. One of the respondents told that he had heard about the role of the para worker from neighboring para worker. He has heard from the para worker that she has arrange courtyard meeting, she visit houses and arranged community meeting. According to them the para worker wants to make aware everyone on health and hygiene through these activities. Some of the respondents mentioned that they didn't know about the para action plan (PAP) process and para workers. But they know there was an office in the neighboring para and it had been teaching children. They heard it from the people. Some of them reported that they have visited the project paras. Some of the respondents said that they have heard from people and boys and girls of school that video films are shown there. As a result, the people of neighboring para were found that the behavioral changes regarding hygienic latrine use, use of safe drinking water, and cleanliness have changed as a demonstration effect.

Women of FGD sessions say that their behavior is better than their neighbors' in many ways, who are not under the project and they claimed that this changes happened due to the works of PAP. Some FGD participants reported that their neighboring community has also become conscious from their examples and as a result now they did not find remarkable difference in behavioral practices between the members of project para and neighboring para. So, it is evident from the study that the behavioral change has occurred among the people of neighboring para, specially the children who go to school located in the project paras.

6.6 Contribution of Change Agents in changing behavior of the community people in relation to water use, hygiene and sanitation

Almost all of the POs have reported that the headman/karbari and the religious leader contributed a lot for implementing their activities because the community people obey and honor them. POs have also reported that they (the headman/ karbari and the religious leader) have played a crucial role with para worker in the community about installation of water point and hygienic latrine.

Another PO reported that the religious leader such as imams, vanae also played a vital role to promote hygienic latrine, safe water use and sanitation in the community. The religious

leaders reported that imams discuss about WatSan issue at the time of religious sermons and after jumma prayer and the vanae discusses about water and sanitation by microphone from Kiong. They also motivated and made the community people aware about WatSan project.

Several types of stakeholders were interviewed regarding the communication for behavioral change. 50 percent of the PCMC members have reported that the people had changed their hygienic behavior. At present they wash hand with soap/ash after defecation, do not defecate at open place and clean up their home ground. Another 25 percent of the PCMC members mentioned that at present people are more aware than before. Now they cover their water pot, wash their hands before and after meal and they wear sandal now while going to school.

Regarding the issues of behavior change, the religious leaders mentioned that human being are the slave of their habits, so it will take time to have a sustainable change in the locality but however, a progress in healthy-life-seeking behavior is now visible. Religious leaders mentioned that previously people used to remain unclean after they had finished defecation in an open place, which is rare now. The prevalence of diarrheal and other diseases were common earlier, which has also almost disappeared, they mentioned. The religious leaders mentioned that proper education that provided by the para worker brought a remarkable change in hygienic behavior. Religious leaders mentioned that the people in the locality obey what they ask the people to do. They found their way of message dissemination regarding the cleanliness, safe water useful while it is quite visible at the present days.

6.7 Other Safe Water Related Behavior

The CHT population demonstrates good water management practices. In the following table self reported behavior is summarized.

Table 24: Water collection and storage behavior

(Figures in %)

| | Rangamati | Khagrachari | Bandarban | Model Para | Non-Model Para | Poor | Non-Poor | All |
|---|-----------|-------------|-----------|------------|----------------|------|----------|-----|
| Treat Drinking Water | 3 | 6 | 14 | 6 | 8 | 6 | 8 | 7 |
| Use separate mug | 45 | 29 | 56 | 48 | 40 | 43 | 44 | 43 |
| Clean water pot both inside and outside | 93 | 94 | 92 | 92 | 93 | 93 | 93 | 93 |
| Cover water pot right from source | 64 | 74 | 50 | 65 | 61 | 62 | 65 | 63 |
| Do not splash out water by hand | 86 | 96 | 89 | 95 | 87 | 90 | 94 | 90 |

Treating Drinking water: 7 percent households treat water prior to drinking. In Bandarban the phenomenon of treating drinking water is much higher than the rest of CHT. The predominant method of treating is boiling.

Using a separate mug for drinking water: More than 40 percent households use a separate mug to draw drinking water from the water storage pot. This phenomenon is somewhat lower in Khagrachari (29%). In Model paras and in Bandarban the practise is seen in 56 percent and 48 percent households respectively.

Clean water pot both inside and outside: Claimed practice of cleaning the water collection pot is near universal – 93 percent households claim to do so. However, the observation at household level reveals the correct practice prevails in 13 percent households. Others rather wash only inside.

Cover water pot right from source: Nearly 65 percent households claimed that they cover the water pot right from the source. Observation in individual households has revealed that 76 percent households keep the water collection pot covered right from source. Bandarban residents, Model para residents, and non-poor population demonstrate slightly higher than the CHT average, while residents of the other two districts, non-model para residents and poor people are slightly lower on this than the CHT average.

Further to the above claimed data household level observation and transect walk in the paras reveal observation based factual information according to the key purposes.

6.8 Safe Water Related Behavior Change

The evaluation attempted to ascertain the degree of behavior change brought about by the project intervention. The self reported behavior change has been captured by the evaluation through recall approach. To minimize sensitized response the research asked whether they think there have been any change in behavior since last two years and the reasons thereof. Thereby the evaluation attempts to attribute change to project intervention.

Table 25: Changed behavior

(Figures in %)

| | Rangamati | Khagrachari | Bandarban | Model Para | Non-Model Para | Poor | Non-Poor | All |
|--|-----------|-------------|-----------|------------|----------------|------|----------|-----|
| Source of water for drinking purposes | 60 | 38 | 43 | 48 | 47 | 48 | 46 | 47 |
| Covering water pot at source | 42 | 38 | 30 | 39 | 35 | 38 | 33 | 36 |
| Source of water for washing raw fruit/ vegetable | 45 | 30 | 30 | 37 | 34 | 34 | 37 | 35 |
| Using separate pot for drinking water | 21 | 13 | 11 | 19 | 13 | 14 | 18 | 15 |
| Cleaning pot used for drinking water | 21 | 11 | 13 | 18 | 13 | 14 | 17 | 15 |
| Not putting hand in water pot at source | 22 | 13 | 10 | 17 | 13 | 14 | 16 | 15 |
| Person collecting water | 17 | 11 | 9 | 16 | 10 | 11 | 16 | 12 |
| Treating water before drinking | 8 | 9 | 4 | 9 | 6 | 7 | 6 | 7 |

The project seems to have achieved laudable success in engineering change in source of water for key purposes.

Significant success is evident in the use of drinking water from safe source; 47 percent households reported that they have changed their source of drinking water within the last two years, and nearly three fourths of them have switched to safe sources like tube well, ring well and Tara pump. 35 percent households reported that they had switched source of water for washing vegetables/ fruits and nearly three fourths of them have switched to safe sources.

Also, covering the water pot right from source seems another significant achievement as 36 percent households report improved behavior in this regard, this is a significant addition to another 30 percent doing the practice prior to the intervention. In the other areas, moderate success has been achieved. However, the change is mainly attributed to the project communication. In the quest of identifying the change agents the research enquired who, if at all, informed them of the change alternatives and who, if at all, had influenced them to change their behavior.

6.9 Source of Information and Influence for Safe Water Related Behavior Change

The table below indicates the self reported source of information and influencer with regard to behavior change. The informers are those people who informed or provided messages related to the safe water use, benefit of hygienic practices, etc. while the influencer are those who influenced or put pressure to people for installation of latrine and use of latrine and safe water use.

Table 26: Sources of information and influence

| | (%) | |
|-------------------------|----------|------------|
| | All | |
| | Informer | Influencer |
| Para worker | 74 | 57 |
| TV /Radio | 21 | 18 |
| Health worker | 16 | 11 |
| PCMC Member | 11 | 9 |
| Headman/ Karbari | 7 | 6 |
| Women Samity Member | 5 | 4 |
| Watsan committee member | 6 | 4 |
| School Children | 8 | 4 |
| Project organizer | 3 | 3 |
| Vante/ Purohit/ Imam | 3 | 3 |
| Family / Husband, | 2 | 1 |
| Neighbor | 1 | 1 |
| School teacher | 1 | 1 |

Para worker comes out as the key source on safe water related information, leading any other sources by a wide margin. Perhaps the need for IPC cannot be over emphasized. Interestingly, power of mass media is also evident in this regard, as a distant second. PW's are the core informer and influencer in behavior change. Also other change agents like PCMC members, headmen/ karbaris, school children, women samity mebers, etc. played their respective role. It is to be mentioned that informer are those people who have provided information regarding the water and sanitation and influencer are those who influenced the people to installed and practices of hygienic behavior. There are various types of stakeholders of this project. The same type of stakeholder may be informer as well as influencer. When stakeholder only provided the information then they were treated as informer while when the same person influenced the respondent to installed latrine and or water points as well as in same case provoked/forced respondents to hygiene practices then they have been treated as the influencer.

In terms of information dissemination and motivating people on safe water use the PWs are posting excellent performance record.

26 out of 32 Karbaris reported that the PW disseminated messages on safe water, use of sanitary latrine, wearing of sandal while someone going to latrine etc. One of the karbaris reported that ICDP has arranged to show a video on water and sanitation, which was very effective in changing behavior of the community people.

One FGD participant of women group reported that he has heard about the management of menstrual hygiene from PW. She also said that the para worker gives advice so that the para members be aware on health and hygienic issues. She also said that she has seen the photo and flash card from the para worker on safe water use and sanitary latrine.

One of the participants in women FGD sessions reported that she had heard nothing about work plan but he had heard about the para visit, house visit and preparation of map of the para worker. One of the respondents mentioned that he had participated in the courtyard meeting. He has learned from there that para worker gives advise on menstrual management of the adolescent girls. They know that one should use clean cloth during menstrual period and it needs to dry the used cloth after using. One respondent said that they have got much information and flip chart from project para.

Out of 9, five POs reported that community children received education from school that helped their mental growth, adolescent girls received knowledge about their menstrual management and old aged people.

6.10 Barriers to changing behavior of the community people

According to the school teachers nothing but poverty and illiteracy are the main barriers to changing behaviors in the community. A teacher mentioned that no one thinks that cultural, tribal and religious factors can play major roles in changing behavior. Some respondents admitted that geographical barrier is the cause of shortage of water in their part of the country, whereas sanitation and hygiene requires a lot of water. A few of the teachers blamed also the national economy for hindrance to progress. A teacher said, “a person who has to struggle the whole day for a handful of rice cannot be much worried about his or her health or hygiene’.

Almost all the teachers denied that traditional beliefs, practices and superstitions play any role in changing behavior to water use and sanitation. However, a few said that traditional practices somewhat hinder the progress because people are used to thinking that as their forefathers had gone that way they should also not have any problem if they also follow their traditional practices. However, they said that this barrier could easily be overcome through education. All of them pointed out poverty as the main barrier to change behavior.

One of the SAEs reported that although there has been little progress about use of latrine but it was progressing gradually. According to him the main barriers to promoting sanitary latrines use include lack of education, lack of consciousness, poverty, years old traditional practice of defecation in nearby jungle or bushes lack of control of the headman on his clan etc. He also added that indigenous people rear pigs and pigs eat the feces of human beings immediate after defecation. He thinks that if the headman had control on his clan, he could order his clan members to construct latrines without any failure.

One SAE out of 5 reported that the Karnaphuli river flows across his area. During rainy season water is available in the river but during March and April water level goes down and then people face difficulties to fetch water from the river to their houses situated on the top of the hill. According to him during that time failure to ensure water supply decrease the use of sanitary latrines because water is not available at that time. In his areas it is very much expensive to install a ring well and it costs Tk 50,000-60,000 if someone plans to install it with his/her own initiative. According to him economic and geographical constraints work as barriers to promote water and sanitation problems.

According to one SAE out of 5, maximum hill people has a very low level of purchase capacity. Moreover they do not think the latrines as a better one, which are being promoted by the DPHE and PW. In this regard the lack of consciousness is the main barrier to promote the use of sanitary latrine.

Five POs out of nine have reported that the main problem in their community is safe water but without water it is impossible to use hygienic latrine and sanitation. Some of them have mentioned that they have faced geographical and financial barriers to change the behavior of

the community people. The community people are unable to bear the high cost for setting the ring well. Moreover, in the dry season it is difficult to get water from the tube well since the water level goes down at that time.

The other barriers mentioned by the POs are as follows:

- Maximum community people are illiteracy
- Community people are ignorant and superstitious so they don't want to receive anything easily
- The tribal people don't understand the Bengali language that is one of the barriers to communication and motivation.
- Some people think that if their children receive general education then they will be spoiled; and
- Some people think that if their children receive vaccine then they can also suffer from illness.

Only one PO reported that they did not face any barrier to implement WatSan program in their community. Another one told that they have faced some problem of coordination with higher authorities.

6.11 Garbage management for Environmental Sanitation

The investigation of garbage management was not the direct objective of the evaluation as stated in the terms of reference. However, it was investigated to understand the extent of improvement regarding cleanliness of the household members. Proper garbage management system indicates the knowledge and practices of cleanliness. Taking into consideration of the objective the field research team observed households to see the garbage management conditions in the respective areas. The team observed that 47 percent of the households kept their garbage in a fixed place, in more than 34 percent cases it was found that garbage was lying around the courtyard and 23 percent of the households were found to throw garbage here and there. It was observed that more households in model paras (55%) keep their garbage in a fixed place those in non-model para (43%).

The key findings of this chapter are as follows:

Among the behavioral changes hand washing at critical times using appropriate change agents is key to hygiene practices. The people wash hands with change agents at critical times - before eating food and after defecation has increased. 54 percent claimed wash one hand with water and soap, while 10 percent claimed they wash both hands with soaps and water at critical times. However, it is evident that the 48 percent and 39 percent of the respondents have the habit of washing hands on cleaning young children's bottom after his/her defecation and after disposing of their feces respectively. In case of hand washing of the people the project has impacted to change their behavior. There is gap between man and women and poor and non-poor, During hand washing 39 percent non-poor and 25 percent poor use soap. While 31 percent man and 58 percent women use soap at critical times. The children have knowledge about washing hands at critical times. About 90 percent children reported they wash hand at critical times while during participants' observation it was found 50 percent only.

The latrine use status was found significant positive in project intervention areas. More than 80 percent of adolescent and adult use latrine. More than 70 percent children of 3-11 years age category use latrines. The latrine use in model para is comparatively higher than that of non-model paras that indicates the project intervention have tremendous impact on latrine use in the project areas.

Findings of this chapter shows that due to project activities the hand washing practice of the community people at critical times using appropriate agents and the defecation practice changed considerably. The project activities not only changed WatSan related practices of the project para but also the same of the neighboring para. Although the para workers and POs did a lot in changing behavior but the headman/karbari and the religious leaders also contributed to a great extent in changing behavior of the community people in relation to water use, hygiene and sanitation. Beside the favorable conditions of changing behavior the stakeholders of the project mentioned some barriers. An effective strategy to remove those barriers will certainly improve the efficacy of the project.

The contribution of change agents in changing behaviours related to hygiene practices is observably significant, because they have contributed a lot in overall implementation process of the project that brought the behavioral changes among the community people. As a result, the participation of all segments of community people became involved in the process of the project, which ultimately help in brining change.

The study finding reveals that nowadays the prevalence of diseases like diarrhea, malaria, dysentery, cholera, jaundice is almost nil but before two years sufferings from these diseases was a common phenomenon. While two POs reported that they could not be able to change the situation a lot. One of them reported that it would need a generation for a great change of the community's practice. According to him change comes slowly. Among other reported reasons supply of hardware and software materials was the other major barriers.

The safe water related behavioral changes were found positive. The project seems to have achieved laudable success in engineering change in source of water for key purposes. Significant success is evident in the use of drinking water from safe source; 47 percent households reported that they have changed their source of drinking water within the last two years, and nearly three fourths of them have switched to safe sources like tube well, ring well and Tara pump. 35 percent households reported that they had switched source of water for washing vegetables/ fruits and nearly three fourths of them have switched to safe sources. These are some of the evidence of success.

The sources of information regarding the hygiene practices in terms of safe water use, latrine use and maintaining cleanliness were the para worker, mass media and other change agent. The community people acknowledged as sources of information are para workers 57 percent radio/TV 18 percent and health worker 11 percent. Para workers played the key role in providing health and sanitation messages.

Poverty, illiteracy, geographical factors, languages, ignorance and superstitious and in some case culture is considered as main barriers to changing behaviors in the community. People who has to struggle the whole day for a handful of rice cannot be much worried about his or her health or hygiene'. In addition to that traditional practices somewhat hinder the progress because people are used to thinking that as their forefathers had gone that way they should also not have any problem if they also follow their traditional practices. In a nutshell, it can be conclude that poverty geographical factors and culture are the main barrier to change behavior.

Chapter Seven

Installation of Water Point, Poor's Access to Safe Water Points and Availability of Water

Installation of water as per PAP, access to safe water point, availability of sufficient water all year round from the water points and percentage of poor population having access to newly installed water point is the issues for discussion in this chapter. It is mentionable that the **objectives** number **six and ten** of the scope of work for the evaluation has been covered in this chapter. Alongside the OVI objectives 2B.1, 2B.2, and 2B.3 have been addressed in this chapter. In OVI objectives it was expected that 70 percent of new project water points benefit the poor in un-served and under-served areas, 90 percent households in 80 percent of communities in project areas use safe water for drinking and 70 percent of households in 80 percent of communities in project areas use safe water for appropriate food preparation and 70 percent of people (including students in SSHE primary schools) in 80 percent project wards (60 percent of people in 80 percent of project operas in the case of CHT) have access to adequate water for key sanitation and hygiene practices.

7.1. Installation of water point as per PAP

Since the project is implemented through demand driven approach, where community people determine their needs and ways of achieving the goal in a participatory manner. In para action plan community people indicate the place for installation of water points and install it under the project instruction. It is one of the issues for evaluation whether the water points are being installed as per PAP, if not what are the reasons behind it, etc.

Respondents were asked to confirm whether any water point was installed through the PAP process by DPHE-UNICEF. The respondents of household category reported that about 61 percent water point installed as per PAP, while 38 percent mentioned that the water points were not installed as per PAP. The findings of para workers' survey also reveals that 65 percent water points were installed as per PAP, 25 percent mentioned that PAP was not followed in installation and 11 percent reported PAP was followed infrequently.

Findings also show that in 63 percent model paras water points were installed which was 59 percent in non-model para. About 29 percent of the respondents who reported about installation of water points mentioned to contribute for installation. More non-poor people i.e. 37 percent than the poor ones i.e. 24 percent contributed for installation of the water points. Among the three hill districts, 40 percent people of Rangamati were found to contribute which were 20 percent and 17 percent in Khagrachari and Bandarban respectively (Table 163 & 164, Annex-A). The average amount of contribution was found Tk.240 for installing the water point. More than 65 percent of the PWs reported that the water points were installed according to PAP (Table 163, Annex -A).

Interview with Para Workers revealed that in 51 para in the Chittagong Hill Tracts, new water points had been installed during the project period so far. In 57 percent para only one water point was installed and in 31 percent paras two water points were installed. The average number of water points installed in 51 paras is 1.8 (Table 166, Annex-A). Para Workers also informed about the type of installed water points. Among the installed water points 74 percent were ring well, 19 percent were tubewell, 1 percent was dug well 1 percent was rainwater harvesting system (Table 166, Annex-A).

PWs were asked whether any feasibility study was conducted by DPHE prior to installing the water points. About 75 percent PWs reported of such feasibility study conducted by DPHE (Table 79, Annex-B).

7.2. Type of water points

Respondents at the household level were asked to indicate the types of water points installed in their areas. About 74 percent respondents mentioned about the ring well with water seal, 19 percent of them mentioned about tube well, 1 percent mentioned about dug well, 1 percent mentioned about rain water harvesting and the rest mentioned about other types of water points (Table 166, Annex-A). The proportion of the reported types of water points between poor and non-poor, between model and non-model para and among the districts were not remarkably different.

Table 18: Availability of water point by types

(Figures in %)

| Type of water point | Ranga mati | Khagra chari | Bandar ban | All CHT districts | | | | |
|-----------------------|------------|--------------|------------|-------------------|-----------|------|----------|-----|
| | | | | Model | Non-Model | Poor | Non-Poor | All |
| Tube well | 17 | 22 | 20 | 23 | 17 | 19 | 19 | 19 |
| Ring well | 73 | 74 | 76 | 73 | 75 | 75 | 73 | 74 |
| Dug well | 2 | 2 | - | 1 | 2 | - | 3 | 1 |
| Rain water harvesting | - | - | 1 | 1 | - | - | 1 | 1 |
| Pond sand filtration | 8 | 2 | 3 | 2 | 6 | 6 | 3 | 5 |
| Total in % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| N | 354 | 132 | 245 | 280 | 451 | 494 | 237 | 731 |

7.3 Maintenance of the Water Point by the Community

Respondents of the household category were asked about the maintenance of water points by their community people. Among 731 respondents 47 percent reported to do the cleaning, repairing and maintenance works jointly with their neighbors i.e. all together. They mentioned other ways of cleaning, repairing and rehabilitation e.g. 8 percent of them reported about raising fund as community contribution to repair it, 12 percent of them reported that they would repair it with their own efforts, 7 percent of them reported about repairing by the DPHE mechanic etc. But 7 percent of the respondents reported that they did not repair it when it became out of order (Table 168, Annex-A). This assessment was carried out both on the existing water points and newly installed ones. The findings of para workers' survey reveals that 47 percent water points are maintained by community people and 12 percent are maintained by para worker and different types of community level stakeholders altogether (PCMC member, Karbari, vantae, school teacher etc.) maintain 41 percent water points (Annex B: Table 78).

During household observation, the team observed the conditions of the water points. The findings of the observation show that 76 percent of the water points are in good and working condition, the platform of 30 percent of the tube wells are made of concrete, platforms were found clean in 25 percent cases, in 7 percent cases the drainage system was not found as functioning, 7 percent of the water points were found in broken condition (Annex-C: Table15). Among those broken water points a few of them do not have water because of the dry seasons and a few among the existing ones were not repaired due to negligence because there is an alternative water sources near by.

7.4. Access to Water Points and Availability of Water All the Year Round

Respondents of household were asked to explore whether they faced any difficulties in collecting water from the source. 73 percent of the respondents reported not to face any problem in collecting water. It was found that 73 percent of the poor also did not face problem in collecting water from water points. Findings also show that even in the un-served and under-served areas 83 percent of the people get water from the newly installed source all the year round. No remarkable variation was found depending on poor or non-poor and model or non-model criteria. But 17 percent respondents of household category in Khagrachari expressed about their difficulties in collecting water which were 23 percent and 22 percent respectively in Bandarban and Rangamati.

During transact walk and Para Centre observation it was found in the map data that in 78 percent cases the water points served the poor but during physical verification it was found that 56 percent water points served the poor. During physical verification, 2 percent poor people reported that they do not have access to water sources because the water points were not installed as per the para action plan. However, more than 65 percent of the PWs reported in the same manner that the water points were installed according to PAP, which confirm the findings of households survey. It indicates that the places of water points installation somehow varies from the para action plan. However, the PCMC members and para workers of those paras mentioned that due to geophysical constraints the water points installed in a place that is far from the poor households. Though insignificant in number (only two places) but a few water points remains inaccessible to some poor households due to social conflict and cultural reasons like to show respect to *vantae*. None collect water from the water point at the premises of *vantae*. So, the water points remains inaccessible to the poor.

To check easy access, the respondents were asked about any difficulties faced in collecting water from water source. About 73 percent of the respondents mentioned about getting water from the water points all round the year. The respondents mentioned various reasons of not getting water from the water points. 29 percent respondents mentioned about disorder of the water points, 11 percent mentioned about non-availability of water during 5 months in winter in case of generally all types of water points, 10 percent respondents mentioned about non-availability of water during February to March (*Chaitra* and *Baishak* and 9 percent mentioned about dirt in water or unpleasant smell in water etc. (Table 170 Annex-A,). The access to water points due to social reasons is very insignificant which is only 2 percent. As reasons for facing problem is that the owner of the place did not allow collecting water from the water point.

During the household survey respondents were asked to know about the distance of water points from their households. A large majority of the respondents reported to have access to water within 150 feet from their households. 27 percent of the respondents reported to have water points with 50 feet from their households, 22 percent of the respondents reported that the distance is between 51-100 feet, 18 percent of them reported that the distance is between 101-150 and 27 percent reported that the distance of water points is more than 150 feet away from their households (Table 167, Annex-A).

The adolescent girls in FGD sessions recalled that the water points have been installed 1-10 years back. The distance of their houses from the water point is around 20-150 feet. None of the participants reported about their problem in collecting water.

About 70 percent of the Karbaris reported that in selecting the installation point a community meeting was arranged ensuring participation of all members of the community and everybody actively expressed their views regarding selection of the place. Eventually the water point was installed in such a place where everybody has access. According to them all people of the

community have access to water point but during some specific period water is not available because water level goes down at that time. During that time i.e. during March and April or during afternoon of a day the water flow get reduced and people suffer severely from water shortfall at that time. Those Karbaris were asked about the measures those they have taken to solve the problem. They informed that they have talked several times to DPHE but they do not come to solve the problem. They are unsure what to do to solve this problem.

One of the Karbaris informed that there is no crisis of water in their para. Another Karbari reported that still no water point has been installed in their area. They have to collect water from a distant place.

Some of the religious leaders have mentioned that the newly installed ring well has yet to attract people as previously they were used to using traditional sources of water. The size of population in the para is bigger than the desired size of population under a water point. Moreover, the water points are scattered and still those are far away from the locality that kills time. Moreover, the powerful persons and groups make pressure upon the poor segment of people so that they do not go for safe water from the water points if it is installed in the land of a powerful person. Therefore still the solution of meeting the needs is not there with full promise. But 14 out of 20 of the religious leaders (70%) generally admitted that there was virtually no barrier to fetch water from the sources.

Religious leader mentioned that if someone lives on top of the hill faces difficulties in collecting water. Along with this, it becomes difficult in the rainy season while due to rainfall the small cannels (Charra) over flow and that acts as barrier. Then people need to use boats to collect water. They have also mentioned that the water level is not equal in all the places, so it makes the whole question of availability and access to water more difficult to the local people.

According to the WatSan Committee members generally there is no difficulty in collecting water. They have also mentioned that it is in the dry season when the people generally face scarcity of water, or else, there is no barrier to access to safe water in general.

Kalparanjan Chakma, a sixty year old man living in Khagrachari. Five years ago he lost his ability to work with his both hands by an accident. Previously he was a farmer but now he cannot work for livelihood.

There is no source of water in Kalparanjan's homestead. There is a tube well in one distant house from where her wife fetches water for her family. Kalparanjan cannot help her in collecting water since his both hands are paralyzed.

No water point has been installed in their para. Kalparanjan knows that tubewell's water is safe so they use it for both drinking and cooking purposes.

Kalparanjan's family own no latrine. They share a latrine with their neighbor. Its a open latrine on a earthen hole. He faces serious problem to sit on that hole because her hands are paralyzed so he can not hold anything to make his body balanced. During defecation sometimes his wife helps him to sit and to wash the bottom.

He mentioned with grief that his wife bear tremendous burden for collecting water and to serve for him as a physically challenged person. Installation of a water point can reduce their misery. He feel a latrine should be of their own and it should be designed properly so that as a physically challenged person he can use it comfortably.

28 out of 37 PCMC members reported that PW discussed with community people about site selection for installing water point. 25 percent of them reported that people suggested installing it in the middle place of para so that everyone could be benefited equally.

50 percent PCMC members reported that so far as they know no one is in trouble to share the water point. 33 percent of the PCMC members reported that they have faced problem because water source is far away from their home.

50 percent PCMC members reported that water was always available from their water points. But 33 percent PCMC members have reported that in their community a huge number of people do not get water during dry season, especially in Bengali month of Falgun, Chaitra, Baishak and Jaistha. At that time the water level goes down. Only one person reported that

they face problem during rainy season because at that time the road got submerged into water and they face problem to come to fetch water. Another one reported that they face problem to procure water when the tube well remain out of order.

So it can be concluded from the findings of household survey as well as qualitative findings from in-depth interviews with the religious leaders that around 70 percent people do not face any problem to fetch water from the water points. But 50 percent PCMC members reported not to face any problem in collecting water.

Almost all participants in women FGD sessions mentioned that they have free access to the water points, especially as all the tube wells are outside the houses, not inside. However some women in the sessions said that they had to take water from pumps, which were far away, and the sufferings got severe in the rainy season.

7.5 Quality of Water

Respondents of household category were asked to give their view as to whether they drunk water from the water point installed had good quality. 74 percent of them reported to drink water from that water point. More than 77 percent of the respondents reported the quality of the water as good but 7 percent of them reported the quality of water as bad (Table 169 and 170, Annex-A). The reported reasons of claiming good about the quality of water as follows: 73 percent of them opined that water was safe of the water points, 11 percent reported that it tasted good, 4 percent reported that it was free from insects etc. (Table-175, Annex-A). 19 percent of the respondents who reported the quality of water as bad mentioned that dirt existed in the water and 9 percent of them reported that the water got murky after sometimes of collection.

7.6 Suggested Type of Water Points

The community people have their own choice of the types of water points. Although ring well is the feasible option considering the geophysical condition and ground water table of the hilly area. But 45 percent of them proposed to install tube well, 26 percent of them opined to install ring well, 12 percent of them opined to install shallow tube well, 6 percent of them recommended to install Tara pump, 9 percent of them recommended for deep tube well (Table 176, Annex-A). The DPHE personnel and Program Organizer of the ICDP have the technical know how of the different options of water sources, who usually suggests the appropriate water point options such as ring well. Respondents households category in paras where new water points were installed were asked to know about their preferred options of water point to be installed in future.

7.7 Type of Problems Faced

About 25 percent respondents who reported about installation of water points told that they faced difficulties in collecting water. The reported mode of difficulties were as follows: 28 percent of them mentioned about disordered situation of the water point, 10 percent reported about problems related to climbing on hill to fetch water, 9 percent reported about over crowded situation when they went to fetch water, 8 percent reported about unavailability of water during winter season (8%) and only 2 percent mentioned about long distance. (Table 172, Annex-A).

In one FGD session, women participants reported that their *para* centre had not been given any tube well. The chairman of the village once set up a tube well, but now that cannot draw water. The only tube well they use in their community is 12 or 13 years' old. However water is

available there and they take water from that water point without facing any discrimination. They have heard that UNICEF supplies tube wells for only TK1500, but they are so poor that they cannot afford even that money. Those who are well off have set up the tube well and they also do not prevent other who can not afford to install water points to fetch water from those points.

4 POs reported about promoting low cost and appropriate option for hygienic latrine and water point, they told that they have a rule to raise funds from the community people so that community people can afford to pay for construction of a water point. Another PO reported that he has indicated and classified the households, directions of road, types of latrine, and appropriate options for water point in the community.

7.8. Collections, Storage, and Use of Water for Key Purposes

The project emphasizes collection of water from safe sources for key purposes like drinking, washing raw fruits and vegetables, etc. At the same time appropriate message is provided emphasizing washing the water collection pot thoroughly by rubbing both inside and outside and rinsing with safe water. It is also communicated that the water will remain safe if it is kept covered right from collection point and not contaminated by insertion of hands/fingers. At the household, the suggested way of drawing water from the storage pot for drinking purposes should be using a separate mug/ ladle.

Sadhan Manik, a Karbari of Rangamati reported that people used to suffer from various diseases like diarrhea, abdominal pain, malnutrition, helminthiasis etc. before 2-3 years back but now the same people rarely suffer from these types of diseases because now they have learnt about the personal hygiene from the PW.

Adolescent girls in FGD sessions reported that they collect water from tube well, ring well, pond and river for drinking, washing clothes, cooking and bathing. According to them people of their areas usually fetch water in pitcher, bucket, jug etc. They also reported that only 25 percent water collectors cover the water pot with a lid just after filling the pot and from the point of water source but rest of the water collectors cover the water pot after reaching their house.

According to the adolescent girls people of their areas usually store water in pitcher, bucket, bottle, jug and cooking pot. Almost all the participants reported that water was covered after collecting but one group of FGD participants informed that about 5-6 percent of their villagers still kept water uncovered. It was evident from the findings that the washing practice of the water pot is common i.e. they wash their water pot with ash, soil, sand and water but now a considerable portion of the hill people use soap, soda, detergent powder to wash the same. They also reported that the cleaning practices of the water pot were almost alike. One of the FGD groups reported that their neighboring para's people still used only straw to wash their water pot.

Almost all the Karbaris and other stakeholders reported that there has been gradual change in their society regarding water and sanitation. One karbari out of 32, reported that he observed many changes in behavior during recent times e.g. washing hands before and after eating, washing hands after defecation with soap or ash, wearing sandals while going to latrines, construction of new sanitary latrine facilities etc. According to him, after initiating the project i.e. during last two years almost half of the people in their area have changed their behavior regarding use of sanitary latrine and safe water use. Another Karbari suggested two major reasons of these changes e.g. people now realize that after maintaining personal hygiene the diseases like diarrhea, helminthiasis do not attack them as before and relatives of the hill people who now live in urban areas feel encouraged and comfort to visit their forefathers'

villages and appreciate their rural relatives to develop modern water and sanitation facilities like urban areas. People now using sanitary latrine and collecting water from safe water source. After initiating the PAP process local people have received many messages regarding hygienic behavior and thereafter they have learnt how to wash oneself after defecation and how safe water protect someone from getting diseases.

Most of children mentioned that they used to drunk tube-well water regularly. They drink water by glass or cup. They reported that it is stored water in pot or bottle from their house and they cover it. They also reported that a few of them don't cover the water. They use aluminum pot to bring water. They use tube-well water to take bath but sometimes they take bath in the river and pond water. They use tube-well water in washing cloth. They use it to wash hand. They wash their hands, legs and body with tube-well water. Many of them said that they used tube-well water to wash utensil. They also reported that they used tube-well water for cooking. According to the opinion of the children the water of the pond and river is not good. None of them drink pond water. Sometimes they catch fish in the pond water. They reported that their elder brother and sister or parents brought the cooking and drinking water.

7.9 Perception of Safe Water

Promotion of safe water use is one of the key purposes of the project. Historically, tube well water has been promoted as safe water for drinking for decades in the country. Ironically, due to arsenic contamination of the ground water in a large part of Bangladesh promotion of tube well water has been stopped and rather 'safe' water is now broadly defined as water free of pathogens and harmful chemicals. Fortunately, the CHT region is generally free of arsenic contamination. The project promotes technologically feasible and affordable water sources that are demanded by the community.

The following table summarizes the responses to the men and women regarding what they understand by the term 'safe water'.

Table 19: Description of 'safe' water

(Figures in %)

| Safe Water Descriptors | Rangamati | Khagrachari | Bandarban | Model Para | Non-Model Para | Poor | Non-Poor | Male | Female | All |
|---|-----------|-------------|-----------|------------|----------------|------|----------|------|--------|------|
| Tube well water | 35 | 60 | 26 | 40 | 40 | 39 | 43 | 41 | 39 | 40 |
| Water free from germ | 20 | 7 | 16 | 16 | 13 | 15 | 14 | 15 | 14 | 14 |
| Water free from dirt | 7 | 9 | 16 | 9 | 12 | 11 | 11 | 8 | 13 | 11 |
| Safe water | 14 | 6 | 10 | 8 | 11 | 11 | 9 | 12 | 8 | 10 |
| Water that causes no disease after drinking | 5 | 8 | 7 | 8 | 6 | 7 | 6 | 9 | 6 | 7 |
| Base | 407 | 399 | 400 | 447 | 759 | 806 | 400 | ---- | ----- | 1206 |

The concept of safe water is rather described mainly in terms of source. That way the correct knowledge and perception is very good. However, attempt to describe safe water appropriately is low though the sources mentioned imply the same.

As regards tube well water the program needs to do appropriate communication further so that risk of arsenic contamination becomes well known and the communities are well prepared and receptive to alternative sources in the unfortunate eventuality of arsenic contamination.

Again the perception pattern indicates that the differences are mainly in terms of regions rather than respondents' location in model areas or wealth or sex.

Adolescent girls in FGD sessions defined that safe water should be free from dirt, arsenic, iron, unpleasant smell, germs of diarrhoea and cholera, germs of warm and jaundice. They think ring well, tubewell, rainwater, boiled water of pond and fountain water are the safe sources of water.

7.10 Practices with regard to Safe Water

The current evaluation attempted to utilize multiple techniques to collect the behavioral data. Obviously, the key route is observation. As observation is very time consuming, and hence an expensive technique, this was attempted in 210 households. Again within the constraints of time and resources the observations were carried out only for one day in each sample household.

However, the evaluation fully recognizes that behavior like anal cleaning practices after defecation, particularly among adults, and menstrual hygiene maintenance are not possible to observe for various reasons including the cultural factor of privacy, shame in conducting such activities in front of others, and also the periodicity of activities like menstruation management. Hence the evaluation had other capsules like interviews, FGDs, transect walk, etc.

The evaluation had further one major task to identify changes in behavior. The evaluation team had to depend on self-reporting of respondents on previous and current behavior. For this reason also dialogue with the target group was crucial. This, however, offers opportunity for triangulation and comparison between observed and reported current behavior. Since the behavioral change is a long-term process, gaps between observation and reported issues on knowledge and behaviors were found significantly.

7.11 Current Source of Drinking Water

The current sources of drinking water of the CHT population in the project paras are generally considered safe. About 90 percent of the respondents reported that they use water from the safe sources; while significant percent of the total population uses water from other, non-safe sources like spring/creek, pond chara canal, and river.

Table 20: Current source of drinking water

(Figures in %)

| | Rangamati | Khagrachari | Bandarban | Model Para | Non-model Para | Poor | Non-poor | All |
|-----------------------|-----------|-------------|-----------|------------|----------------|------|----------|------|
| Spring/ Creek | 0 | 1 | 5 | 1 | 3 | 2 | 2 | 2 |
| Tube well | 37 | 75 | 31 | 49 | 46 | 46 | 52 | 48 |
| Tara Pump | 5 | 1 | 2 | 3 | 3 | 2 | 3 | 3 |
| Pond | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |
| Chara | 2 | 7 | 4 | 3 | 6 | 5 | 4 | 4 |
| Rain Water Harvesting | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ring Well | 49 | 7 | 47 | 37 | 33 | 36 | 31 | 34 |
| Canal | 4 | 4 | 2 | 2 | 4 | 4 | 3 | 3 |
| River | 1 | 0 | 2 | 0 | 2 | 1 | 1 | 1 |
| Well | 0 | 3 | 0 | 1 | 1 | 1 | 2 | 1 |
| Piped Water | 0 | 0 | 6 | 3 | 2 | 2 | 2 | 2 |
| Base | 407 | 399 | 400 | 447 | 759 | 806 | 400 | 1206 |

Tube wells are the most common source of drinking water among the CHT population - 46 percent households across the region in project paras use it as the source. Again this phenomenon has regional differences. While nearly 33 percent of the Rangamati and Bandarban households use tube well water for drinking purposes, 75 percent of the Khagrachari households do the same.

Almost all the community people also mentioned about their inability to bear the cost of installing a tube well for safe water. In addition, a kind of technological dependency i.e. dependency on a mechanic' (trouble shooter) to repair the tubes well make the community people unable to use those at the optimum level.

The second most prevalent source of drinking water is ring well, used by 34 percent of the CHT households. In this case however, Rangamati and Bandarban inhabitants are quite opposite to the Khagrachari ones. Almost 50 percent the inhabitants of these two districts use ring well as against 7 percent by the Khagrachari people.

Generally, there is no big difference in use of individual sources among the population in terms of location in a model para or wealth status. It appears that use of tube well and ring well is slightly above CHT average in the model paras and among non-poor. And it is found that poor people have slightly lower than CHT average access to tube well and slightly higher than CHT average in using ring well water.

On the whole, nearly 95 percent of the model para population uses water from safe sources for drinking purposes against 85 percent in non-model paras. The gap between poor and non-poor is very small in terms of drinking water from safe sources - 91 percent non-poor against 87 percent poor.

However, observation in 210 households reveals that 31 percent use surface water (pond/ canal/ chara river) for drinking purposes. This phenomenon is rather a practice of the poor population as only 13 percent non-poor household uses surface water for drinking purposes.

7.12 Use of Safe Water for Other Key Purposes

For other key purposes having health implication, the sources represent the same pattern though use of safe sources go down slightly. Following is a summary table for key purposes.

Table 21: Use of water

(Figures in %)

| | Rangamati | Khagrachari | Bandarban | Model Para | Non-model Para | Poor | Non-poor | All |
|--|-----------|-------------|-----------|------------|----------------|-----------|-----------|-----------|
| Use safe water for Cooking | 82 | 83 | 87 | 92 | 79 | 79 | 88 | 84 |
| Tube well/ Tara pump | 36 | 70 | 33 | 49 | 45 | 43 | 52 | 47 |
| Pond Sand Filter | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| Ring Well/ Well | 46 | 12 | 47 | 39 | 32 | 36 | 33 | 35 |
| Piped Water | 0 | 0 | 7 | 3 | 2 | 2 | 2 | 2 |
| Use safe water for Washing Fruits Vegetables | 68 | 83 | 83 | 85 | 75 | 76 | 82 | 79 |
| Tube well/ Tara Pump | 33 | 67 | 31 | 46 | 43 | 42 | 48 | 44 |
| Rain Water Harvesting | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 |
| Ring Well/ Well | 35 | 14 | 45 | 35 | 30 | 32 | 31 | 32 |
| Piped Water | 0 | 0 | 7 | 3 | 2 | 2 | 2 | 2 |
| Use Safe water for Washing hand before eating | 62 | 75 | 76 | 78 | 66 | 68 | 77 | 71 |
| Tube well/Tara pump | 33 | 66 | 29 | 45 | 40 | 40 | 47 | 42 |
| Rain Water Harvesting/ Pond Sand Filter | 1 | 2 | 0 | 1 | 0 | 1 | 1 | 1 |
| Ring Well/Well | 28 | 7 | 47 | 32 | 26 | 27 | 29 | 28 |
| Use safe Water for Panta Bhat | 78 | 74 | 83 | 86 | 75 | 75 | 86 | 79 |
| Tube well/ Tara Pump | 45 | 63 | 37 | 50 | 46 | 44 | 55 | 48 |
| Rain Water Harvesting/ Pond Sand Filter | 2 | 1 | 0 | 2 | 0 | 0 | 1 | 1 |
| Ring Well/ Well | 31 | 10 | 43 | 33 | 27 | 29 | 30 | 29 |
| Piped Water | 0 | 0 | 3 | 1 | 2 | 2 | 0 | 1 |

Use of safe water for other key purposes is quite satisfactory within two years of the project operation. Clear difference is evident between model and non-model paras in this regard in posting better habit record for the model paras. Also non-poor people have better habit than the poor in this regard.

It emerges that though there is not much difference in terms of using safe water between model and non-model para population or between poor and non-poor people, in other key purposes model para people and non-poor exhibit more conscious behaviour in other key water use areas.

The observation in 210 households could observe a few behaviors. The observation reveals that 33 percent households use surface water for washing vegetables and fruits and 10 percent use the same for 'panta bhat'.

Table 22: Various proportions of households using safe water in proportion of paras

(%

| para) | Model | Non-Model | All |
|--------------------------------------|-------|-----------|-----|
| <u>Use safe water for Drinking</u> | | | |
| 90% + household | 80 | 70 | 73 |
| 70% - 90% | 12 | 20 | 17 |
| < 70% | 8 | 10 | 9 |
| <u>Use sefe water for Panta Bhat</u> | | | |
| 90% + household | 64 | 50 | 55 |
| 70% - 90% | 20 | 34 | 29 |
| < 70% | 16 | 16 | 16 |
| Base Paras | 25 | 50 | 75 |

In 80 percent of the model paras 90 percent or more households use safe water for drinking. This is just in line with the **OVI 2B.2**. However in case of the non-model paras, in 70 percent paras 90 percent or more households do the same. On the whole, 73 percent paras have achieved the target of 90%.

In case of other food preparation, the OVI's targets at least 70 percent or more households using safe water in at least 80 percent paras. We can see that in case of Panta Bhat, this has been well achieved, as 84 percent paras have more then 70 percent safe water users.

7.13 Use of water for other Purposes

The evaluation also checked use and availability of water for other key purposes. The following table summarizes the findings.

Table 23: Source of water for various purposes

(Figures in %)

| | Bathing | Washing Clothes | Bathing animals | Washing utensils | Use in latrine |
|--------------------|---------|-----------------|-----------------|------------------|----------------|
| Tubewell/Tara Pump | 26 | 25 | 26 | 34 | 32 |
| Ring Well | 16 | 15 | 16 | 21 | 20 |
| Chera | 28 | 28 | 27 | 21 | 23 |
| Canal | 10 | 11 | 10 | 8 | 8 |
| River | 10 | 10 | 11 | 7 | 7 |
| Other | 10 | 11 | 10 | 9 | 9 |

It can be seen that use of water from safe sources like Tubewell/Tara Pump and Ring well is quite high across all purposes of use. Apart from these, a range of other natural sources is used for the purposes indicated in the table above.

Key findings of this chapter are as follows;

Findings show that majority of the water points installed as per PAP. The CHT people are using water from mainly ring wells, tube well, dug well etc. In this chapter the issues of maintenance and access to water points were also discussed. Moreover, the problems relating to installation, use and maintenance of the water points were also discussed here.

PAP is considered as key milestone of the project so that following of PAP is also considered as success of the project. 61 percent community people and 65 percent para workers acknowledged that the PAP was followed in installation of water points. In 51 paras new water point has been installed of which 61 percent installed as per PAP. The rest were installed not as per PAP due to various reasons like geophysical condition.

Findings of the study show that in 73 percent paras 90 percent or more households use safe water for drinking. And in case of food preparation 70 percent or more households using safe water in at least 80 percent paras. The findings indicate the achievement of the OVI # 2B.2.
Maintenance of water points

The installed option of water points as mentioned by the community people are 74 percent the ring well with water seal, 19 percent tube well, 1 percent dug well, and 1 percent rain water harvesting. The rest are mentioned as other types of water points. The proportion of the reported types of water points between poor and non-poor, between model and non-model para and among the districts were not different remarkably.

Remarkable differences in hygienic practices between the people of model and non-model para were evident. In the model para 92 percent people reported to use safe water for cooking but in the non-model para it was 79 percent. In the model para 78 percent people washes hands before eating with safe water but it was found 66 percent in the non-model para. No remarkable difference was found between the people of model and non-model para regarding hand washing practice at critical times using appropriate agents. But considerable difference was recorded in defecation place between model and non-model para. In the model para 9 percent children under 3 defecate in the latrine but it was 6 percent in case of non-model para. The rate of open defecation by the women in model para was 10 percent but it was found 18 percent in non-model para.

Among the community people 47 percent do the cleaning, repairing and maintenance works jointly with their neighbors, 8 percent raise fund as community contribution to repair it, 12 percent repair it with their own efforts, 7 percent reported as repair by the DPHE mechanic etc. The Para worker survey reveals that 47 percent water points are maintained by community people and 12 percent are maintained by para worker and stakeholders altogether maintain 41 percent water points. The observation bring to light that 76 percent of the water points are in good and working condition, the platform of 30 percent tube wells are made of concrete, platforms were found clean in 25 percent cases. In 7 percent cases the outlet system was not found as functioning, 7 percent of the water points were found in broken condition. Among those broken water points a few of them do not have water because of the dry seasons and a few among the existing ones were not repaired due to negligence because there is an alternative water sources near by.

In collecting water, 73 percent people did not to face any problem and 73 percent of the poor also did not face problem to do the same. In the un-served and under-served areas 83 percent of the people get water from the newly installed source all the year round. No remarkable variation was found depending on poor or non-poor and model or non-model criteria. These findings meet the both objectives of scope of work and MTR objective.

74 percent people they drink water from that water point. More than 77 percent reported the quality of the water as good and reasons for claiming as good are opined as water was safe (73%) , tasted is good (11%) and free from insects etc (4%). About 19 percent of the respondents who reported the quality of water as bad mentioned that dirt existed in the water and 9 percent of them reported that the water got murky after sometimes of collection.

The community people have their own choice of the types of water points. Among them 45 percent proposed to install tube well, 26 percent proposed to install ring well and 12 percent of them opined to install shallow tube well, 6 percent of them recommended to install Tara pump, 9 percent of them recommended for deep tube well. DPHE and ICDP personnel have the technical know how of the different options of water technology, who usually suggests the appropriate water point options such as ring well.

Chapter Eight

Latrine Installation, Status of Use and Maintenance

This chapter dealt with **objectives seven and nine** of the scope of work. The objective seven was to assess the number of families in the para installed new latrine after the introduction of ESHWSRA project and their current usage. And the objective nine was to assess the new sanitation facilities promoted by the para worker, health workers and other change agents were convenient for use by the community and also assess cleanliness, use and maintenance of the latrine. Findings related to above mentioned two objectives are discussion in the following sections. The OVI objective number 2A.2 have also been covered in this chapter.

8.1. Installation of new latrine after the project intervention

Latrine installation and its use is one of the key factors for hygiene practice. Under this project various change agents have been promoting hygiene practices through different activities in the community. To assess the number of families in the para installed new latrines after the introduction of the ESHWSRA project and their usages was an objective of the evaluation. Respondents of household category were asked to report about installation period of the latrine if a latrine was found at that household. The average duration of installation of latrine was 2.7 years. The average years of installation of the non-poor is higher (3 years) than that of poor (2.3 years) (Table 93, Annex-A). The latrines in the model para were installed earlier than those in the non-model para. It indicates, the project activities including the promotion of latrine by the different stakeholders have changed people's behavior to install latrine.

During household observation, it was found that 82 percent of the household has latrines. Of them about 45 percent had been installed within 2 years that means after the project intervention. Among these 82 percent households, 37 percent households had latrine earlier. (Table-186, Annex-A) Findings of the household observation shows that in 28 percent of latrines only soap was available, in 24 percent of the latrines both soap and ash/mud was available, in 12 percent of the latrines only ash/mud was available and in 36 percent latrines nothing was available (Table 191, Annex - A). Household observation data indicated that in case of 55 percent latrines water was available outside the latrine, in 11 percent of the latrines water was available inside the latrines, and in case of 34 percent latrines water was not available neither outside nor inside of the latrines (192, Annex- A). The team observed the cleanliness of interior side of the latrines. Only 17 percent of the latrines were found very clean and have no trace of feces, 69 percent of the latrines were found moderately clean and minor trace of feces and dirt and in 14 percent cases latrines were not found clean and feces were found visible.

During household interview the interviewers tried to explore the reasons for taking decision to install a specific type of latrine, reasons behind choosing that specific type of latrine and influencing factors for taking decision. Respondents mentioned various reasons of installing latrine. About 20 percent of the respondents thought that they should install it for using a hygienic latrine. About 10 percent of the respondents realized that germs spread through vector if someone defecated everywhere so they should install it to stop spread of germs. 8 percent of them mentioned about the Para Worker's advice to install latrine and 6 percent of them thought that installation of latrine improved environment. A small portion of the respondents (5%) installed it to develop the health conditions. The other reasons of taking decision of installing latrine were as follows: 5 percent reported about health worker's advice, 4 percent reported about no scope to defecate in the nearby bush and 4 percent mentioned about relative's advice to install a latrine etc. (Table 94, Annex-A).

About 20 percent of the respondents have chosen that type of latrine to install because they knew that it was hygienic. Another 20 percent of the respondents took decision to install it because it was low cost and it was within their affordability. The other reported reasons behind choice of this type of latrine were as follows: 11 percent think that it ensure hygienic environment, 7 percent mentioned that that latrine help stop spreading unpleasant smell and 12 percent think that it stops spread of germs etc. (Table 95, Annex-A). FGD participants believe that sanitary latrine is beneficial for their health but they are too poor to afford the money. So they would be very happy if UNICEF set up the latrine for them free of cost.

33 percent of the respondents reported about Para Workers' advice as an influencing factor behind taking decision of installing latrine. More than 20 percent of the respondents mentioned that they themselves got motivated to install latrine observing the positive effects of latrines by others of their locality. The other reported factors were as follows: 3 percent respondents installed it because of UP chairman's advice, 7 percent installed it because of their neighbor's advice and 4 percent became encouraged to install it because of receiving messages from Radio/TV and 2 percent mentioned to install it because of advise of UNICEF/DPHE/ICDP staff etc. (Table 96, Annex-A). So it can be commented from the above findings that affordability of the community people and proper motivation by the PW to install a latrine are the crucial factors in installing a new latrine.

Various factors influenced the community people to decide regarding installation a latrine. 17 percent community became influenced because of self-realizing for meeting the need of a hygienic latrine, 4 percent people mentioned about their community people's influence, 7 percent installed it to stop the spread of germs, 11 percent community people were influenced by the PW, 8 percent thought about development of health, 5 percent installed it to improve environment, 6 percent people installed it to make themselves free from getting disease etc.

8.2 Notion of a Sanitary Latrine

Participants of one adolescent girls' FGD session think a sanitary latrine is one, which has a lid on it. Another group of participants reported, "If a ring slab is fixed on a hole and if it has a lid then it can be called as a sanitary latrine". The other groups of FGD participants think that a sanitary latrine should not emit unpleasant smell, feces and other wastes should not be in and around it, a person who will defecate in it should not be visible from outside, there should not be any scope for the insects, flies, mosquitoes and poultry birds to enter in it. According to them a sanitary latrine should have options to clean it quickly and easily. It is evident from the FGD findings that the community people have different but meaningful ideas about a sanitary latrine.

8.3 Use Status of Latrine

During household survey, the respondents were asked to investigate the usual places for defecation and urination. About 73 percent of the household category respondents mentioned that they defecated in the latrines at their homes and 8 percent generally use neighbors or community latrine. The rate of latrine used by the non-poor was found 84 percent which was higher than that of poor i.e. 68 percent. Findings also showed that fewer people of the non-model pare than that of model para use latrine for defecation. More than eighty percent of the people in Rangamati use latrine at their home but in Bandarban the rate of latrine use was slightly more than sixty percent. A considerable portion of the hill people i.e. 13 percent still defecates near the slope of the hills since they could not install latrine at home. It is to be mentioned that some old age population yet not become habituated to use latrine. The rate of defecation near the slope of hills was found remarkably higher in Bandarban than Khagrachri and Rangamati. About 10 percent of the hill people share latrine with their neighbor or

community people. Apart from the mentioned places, 7 percent people defecate in the backyard, 7 percent defecate in the bamboo forest and 3 percent in the courtyard. A very small portion of the hill people i.e. only 2 percent continues to defecate in the bushes (Table 58, Annex-A). Although the rate of defecation in the sanitary latrine by the people in the CHT is commendable but the practice of defecation on the hill-slope, backyard, bamboo forest, bushes and courtyard must be changed as early as possible. In this regard PWs and opinion leaders have more things to do.

Household level respondents were asked to know about the place of urination. 57 percent household level respondents reported to urinate in their house's latrines, 26 percent reported to urinate in the backyard, 14 percent reported to urinate near the slope of hills, 10 percent do it in the courtyard, 9 percent in the bamboo forest etc. The findings did not show any difference in urination depending on sex. But urination practice varied depending on the poverty status of a respondent. More non-poor people than the poor ones could afford to use latrine at home for urination. More people of model para than those of non-model para use latrines at home. Almost double male persons than female ones urinate near the slopes of the hill (Table 59, Annex-A).

The patterns of latrine use vary with the variation of age. Respondents were asked to know about the practices of latrine use by their HH members of different age groups. Almost all the babies of 1-3 years of age i.e. 88 percent use backyard and courtyard. Findings show that with the increase of age the practice of defecation get changed. The rate of own latrine use was only 7 percent for the babies who belong to 1-3 years group but the same was 33 percent for the babies who belong to 3-5 years' age group. Slightly more than 50 percent of the babies of 3-5 years' age use courtyard and backyard for defecation but about 90 percent of the babies of 1-3 years of age were found to use courtyard and backyard for defecation (Table 61, 62, Annex-A).

The rate of using latrine at home by the both the male and female children of 5-11 years was two times higher than that of children of 3-5 years of age (Table 63 and Table 64, Annex-A). The rate of using latrine at home by both the adolescent boys and girls is around 80 percent (Table 65 and Table 66, Annex-A) and which was about 75 percent by the old men and women (Table 67 and Table 68, Annex-A). About 10 percent of both the adolescent and old age groups defecate near the slope of the hills. Fifty percent of the physically challenged persons were found to use latrines at home and rest of them was found to use backyard, courtyard, and neighbor's latrines (Table 71, Annex-A). These findings reveal that about 10 percent old age population and adolescent are used to defecate in the slop of the hill. There might be a reason for which still some adolescent and old age people could not still change their behavior totally.

More than 80 percent reported that the babies of 1-5 years of age urinate in the backyard, courtyard, bamboo forest and near the slope of hills. Though around 40 percent boy and girl children of 5-11 years of age urinate in the latrine but the rate of using latrine by the adolescent boys and girls is somewhat higher i.e. around 55 percent (Table 76 and 77, Annex-A). Around 60 percent of both the old men and old women use latrine for urination. They also urinate in the courtyard, backyard, near the slope of hills and bamboo forest (Table 79 and 80, Annex-A).

Respondents who reported about open defecation by their children were asked to know about the disposal of those feces. According to them many issues happen to those feces e.g. 38 percent of them reported about disposal of feces in the latrine, 30 percent of them mentioned that they disposed off at a fixed place, 12 percent of them reported to bury those in the ground and 10 percent of them reported that they disposed it off in the river/spring/ pond/chara water. Only 5 percent of them mentioned that they left those feces as it is and more 5 percent of them reported that they left those feces for consumption by pigs/dogs (Table 83, Annex-A).

Women in FGD sessions said that in their community almost all used latrines, but all of those might not be sanitary. Some people have latrines with ring slabs. Others made holes in the ground and constructed a structure on and around it with bamboo or wood. Being poor they have to accept these latrines as sanitary. But they do not go to open fields for defecation. Only those who go to *zoom* cultivation use jungles or make holes away from the stream. According to them grown-up people go to latrines and children defecate on the courtyard or at the backside of the house. They later on throw the feces into latrines. According to a considerable portion of the women FGD participants, some households make the urinal in a separate place from the latrine and they surround it with bamboo sticks.

Household observation data shows that in 25 percent open defecation was found outside the houses, in 10 percent cases open defecation was noticed in/near the bushes, in 5 percent cases open defecation was noticed in/near the bamboo garden, in 6 percent cases open defecation was found near the slope of the hills and in 3 percent cases open defecation was found in the courtyard (Table 10, Annex-C). It is clear from the findings that despite remarkable progress in the field of sanitary latrine use the project still could not solve the problem of open defecation. PWs are needed to give special effort so that the feces of children are disposed safely by their caretakers. In this regard, the role of PWs and communication strategy to solve this unsolved problem can be redefined.

8.4 New sanitation facilities promoted by changes agents

During household level interview respondents were asked to indicate the types of latrines they were using at that time. 33 percent respondents reported about using pit latrine without cover, 22 percent of them reported to use pit latrine with cover, 19 percent mentioned to use ring slab without water seal, 12 percent reported to use ring slab with sea, 6 percent reported to use offset latrine and 4 percent reported to use earthen hole as latrine. Findings show that more poor households use pit latrine (without cover) than that of non-poor ones in the CHT areas (Table 60, Annex-A). Poverty is still one of the major reasons of not accepting the safe options of latrines.

Table 27: Type of latrine

| Type of latrine | Districts | | | All CHT districts | | | | |
|--------------------------------|------------|-------------|-----------|-------------------|----------|-------|-----------|-------|
| | Ranga mati | Khagrachari | Bandarban | Poor | Non-Poor | Model | Non-model | Total |
| Ring slab (water seal) | 11 | 9 | 14 | 6 | 20 | 16 | 8 | 11 |
| Ring slab (without water seal) | 20 | 18 | 18 | 15 | 25 | 23 | 16 | 19 |
| Pit latrine (with cover) | 34 | 12 | 18 | 21 | 22 | 25 | 19 | 21 |
| Pit latrine (without cover) | 24 | 34 | 33 | 37 | 18 | 21 | 36 | 30 |
| Open/hanging latrine | 1 | 2 | 6 | 3 | 2 | 2 | 3 | 3 |
| Kandalia latrine | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 1 |
| Offset latrine (pit/slab) | 6 | 6 | 5 | 6 | 6 | 7 | 6 | 6 |
| Others | 1 | 9 | 1 | 4 | 3 | 3 | 4 | 4 |

8.5 Convenience for use by the community

Objective 9 of the evaluation mentioned, to assess the extent of convenience of new sanitation facilities promoted by the para worker, health worker and others change agents for use by the community and also assess cleanliness, use and maintenance of latrines. The evaluation findings reveal that about 66 percent of the respondents of household category mentioned about various conveniences. 64 percent of the respondents stated that the latrine was low cost i.e. it was within affordability, 22 percent reported that it was easy to install as conveniences of installation (Table-100,Annex-A). Among the respondents who reported about conveniences 29 percent of them mentioned that they did not feel problem to use it, 24 percent found it convenient to sit on, 13 percent mentioned that it was free from unpleasant smell etc. (Table-101, Annex-A).

The evaluation reveals that about 66 percent respondents at the household level mentioned about various conveniences and 34 percent of them mentioned some inconveniences regarding use, cleanliness and maintenance. The major reported reasons of inconveniences were unpleasant smell, high cost of construction and replacement, distance etc. The reported inconveniences of maintaining cleanliness were lack of required water in need, cost of maintenance, lack of arrangement to clean it regularly etc. To make the latrines more convenient in use the practice of cleaning the latrine regularly and availability of water must be promoted. So development of behavior in cleaning latrine and promoting water availability inside the latrines are two crucial issues of making a latrine convenient.

Among the respondents about 33 percent mentioned some inconveniences regarding installation, use, and maintenance of the latrine. Among the respondents who reported about inconveniences of installation mentioned that when the old hole got filled with feces then difficulties arise to dig a new hole. Apart from difficulties in digging new hole respondents also mentioned about high cost and unpleasant smell as inconveniences for installation, use and maintenance of latrine (Table-103, Annex-A.). Those who reported about inconveniences of using the latrines mentioned about unpleasant smell, high cost for construction, requirement of digging new hole when it got filled, distance from households etc. (Table 103 and 104, Annex-A). The respondents who reported some inconveniences of maintenance stated about requirement of pouring much water in it, possibility of breaking it, unpleasant smell, cost for maintenance, requirement of cleaning regularly etc. (Table 105, Annex-A.).

8.6 Cleanliness status and maintenance of latrine

Respondents of household category were asked about the ways of maintenance of the installed latrines. They were also asked about the person who usually cleaned that one, about procedure of cleaning that and frequency of cleaning that latrine. 70 percent of the respondents reported that their spouse cleaned the latrine, 11 percent of them reported to have cleaned by their adult daughter/daughter in law, 10 percent of them reported to have cleaned that latrine by their mother or mother in law, 6 percent of the respondents mentioned about their adolescent girls. The other responsible persons were adolescent boys and servants. 3 percent of the respondents told that no one cleaned that latrine (Table-97, Annex-A). The average number of days after which the latrines are cleaned is 12 days.

Participants in FGD sessions of the adolescent girls mentioned that their latrines were cleaned at least once in a week. One or two participants of each sessions reported that their latrines were cleaned everyday. Almost all the participants in those sessions reported that the women i.e. their mothers, their sister-in-laws, sisters and they themselves clean the latrine. Only in two FGD sessions, a few participants reported that both their mother and father cleaned the latrine.

Findings show that in most of the cases the females clean latrines. Gender discrimination in performing the cleaning task must be reduced to promote the situation of cleanliness of latrines. More male persons are needed to encourage so that they share the responsibility of cleaning the latrine with their female household members.

The survey explored about the ways of cleaning the latrines. About 60 percent of the respondents informed about cleaning the latrines with the use of water and broom. More than 12 percent respondents informed about using only water for cleaning it and 11 percent of them used brush and water to clean it. 6 percent of the respondents reported to use liquid latrine cleaner (*Harpic*) and 5 percent of them mentioned that they used bleaching powder to clean it. Only 3 percent of the respondents reported to use straw and water for cleaning the latrine (Annex-A: Table-99).

During household observation, the conditions of latrines were documented. During household observation it was found that 10 percent latrines were found clean, 37 percent of the latrines were found reasonably free from smell, in 30 percent cases water was available near the latrine, the goose neck of 19 percent latrines were found broken and feces were lying in and around the latrine in 31 percent cases (Table 5, Annex-C). Among the respondents of household category who mentioned about conveniences regarding maintenance 37 percent of them thought that it was easy to clean, 16 percent of them think that they themselves can clean it and money was not required to clean it, 24 percent of them think that it is not required to maintain and 7 percent of them did not require to clean it (Annex-A: Table-102).

The key findings of this chapter are as follows;

Among the surveyed households 82 percent have latrines. Among the households those who have latrines, 45 percent of them were installed within 2 years i.e. after intervention of the project. It is noteworthy that within two years 45 percent households have installed new latrine in their home, which is significant success of the project.

Women played major role in maintaining newly installed latrines. 70 percent respondents reported the latrines cleaned by wives, 11 percent reported by adult daughter/daughter in law, 10 percent reported by mother or mother in law, 6 percent reported by adolescent girl respectively. 60 percent reported that when they clean the latrine they use water and broom. 12 percent used only water, 11 percent used brush and water, 6 percent used liquid soap, 5 percent used bleaching powder and 3 percent used straw and water for cleaning the latrine.

The evaluation reveals that about 66 percent respondents at the household level mentioned about various conveniences and 34 percent of them mentioned some inconveniences regarding use, cleanliness and maintenance. The major reported reasons of conveniences in using were no problem to use (29%), convenient to sit (24%), free from unpleasant smell (13%), within household and can be used at night (12%) etc. The major reported reasons of inconveniences were unpleasant smell (41%), high cost of construction and replacement (14%), distance (10%) etc. The reported inconveniences of maintaining cleanliness were lack of required water in need (33%), cost of maintenance (4%), lack of arrangement to clean it regularly (8%) etc.

The available options of hygienic latrines and messages for promoting hygiene behaviours, which are being promoted by the project, were found socio-culturally acceptable to the community people. In addition, Union WatSan Committees were found very much interested to involve in these project activities. In most of the cases Union WatSan Committees extended their cooperation.

A considerable portion of community people still are not capable to install a latrine since they have no money to spend for it, who are basically landless and day labourers. Poor people also consider that regular expenses of maintaining cleanliness of the latrine are also a burden for them.

Chapter Nine

Communication Materials

The **objective** number **eight** of the evaluation was to review the communication materials developed for para workers was being used and easily understood by the community and para worker and identified if changes were needed and also effectiveness of the materials. Beside the communication materials the MTR objective 1.4 of the evaluation indicates that at least 50 percent men in 80 percent project wards/paras are reached by hygiene promotion efforts.

Different stakeholders mentioned that because of multiple level communication by the agencies, workers, video show, involvement of the religious leaders, use of posters etc. a visible change is on the process regarding the cleanliness-behavior of the local mass. A better health seeking behavior in on progress, they added.

9.1 Use of Communication Materials by Para worker

One of the objectives of the evaluation was whether the communication materials are used and understood by the community people and para worker. The household respondents have reported that they have seen the BCC materials, which were used by the para worker. 52 percent household respondents have seen posters, 35 percent of them have seen flash cards, 16 percent of them have seen leaflet, 15 percent of them have seen picture on sanitary latrine, 10 percent of them reported to see picture of safe water use, 3 percent of them reported to enjoy the video show, 2 percent of them have seen the maps and 2 percent of them have seen the picture of tube well etc. throughout the project activities. It is to be mentioned here that the community people have seen these communication materials when the para workers conducted their activities for interpersonal communication. Although only 2 percent community people saw the maps during the behavior change communication activities used by the para worker. However, 64 percent of the community people saw the maps and PAPs during the project period either in para centre or somewhere else.

Women in the FGD sessions reported that the PWs use different types of materials to promote knowledge on health, hygiene, water and sanitation of the local people e.g. flip charts, posters, leaflets, flash cards, pictures, videos etc. It indicates that the para workers used the communication materials during the courses of activities at the community level. Among the 72 Para Worker 98 percent reported that they had shown communication materials, while only 2 percent did not show any materials. It is to be mentioned that there are very few Para workers have been replaced due to dropout from the service. This 2 percent might have joined in the job very recently, who did not get any opportunities to work at all.

The Para Worker have reported that they have shown the materials to the community people. 89 percent Para Workers shown posters, 55 percent of them shown flash cards, 46 percent have shown leaflets, 14 percent of them have shown picture of hand washing, and only 7 percent have shown video show. A higher percentage of para workers claiming to use BCC materials in their activities but comparing to the PW's claim a lower percentage of the household level respondents recalled to see the same type of BCC materials. For example, 89 percent Para workers reported to show posters during the BCC activities but 52 percent of the household level respondent could recall about poster by the PWs. Loss of knowledge retention by the household level respondents regarding BCC materials shown by PW could be one of the reasons of lower level recall.

Three project organizer out of 9 of Rangamati district told that the PW advised the community people about hand washing with soap or ash after defecation, feces management, balance diet, teaching of children by pictures etc. The community people feel easy to understand by BCC materials because those who are illiterate can understand what is shown in picture.

According to the FGD participants of adolescent girls, the PW informed about hygienic latrine, safe water, and hygienic practices during menstruation and hand washing etc. The adolescent girls in FGD sessions found that the activities of PW workers are useful for developing their human conditions. So according to them these types of activities should be continued. Some other adolescent girls reported that the courtyard meetings were much useful because in those meetings they could share their experiences and discuss about various issues among girls of same age group. According to the girls BCC materials used by the PW e.g. flip chart, flash card and poster shows the situations and correct behavior regarding sanitation and hygiene.

9.2. Understanding of communication materials by community and Para worker

60 percent of the women in FGD sessions mentioned that they liked all the materials because these helped make their understanding clearer. They help even an illiterate person to understand the subject well. But according to participants of a group they have not got all the 11 messages from these. Some women liked big posters, on the other hand some others preferred videos. They remembered the occasion when a TV set was brought and video films were shown. To them it is most popular because here listening, watching happen simultaneously, and they can remember the subject for a longer period. According to them it is popular to people of all ages and they discuss the subject afterwards. It helps them understand the subject more clearly. Some participants opined that it had better if it would have been in their own language or dialect. They hoped that it would be shown again.

Every POs have reported that the BCC material has contributed a lots because if it were not provided the PW would not be able made the message understand to community people. Without poster, flipchart it would be difficult to make them aware.

The survey findings reveal that the people have seen the materials through out the course of project activities and almost all para workers of the project reported that they have shown the materials to the community people. These findings indicate that they are so far using the communication materials developed for the Para worker. Among the respondents, those who have seen the materials 94 percent of them like this materials. The liking of materials indicates that they understand the messages otherwise they would have not liked the materials.

Almost all the respondents i.e. 99 percent respondents who saw the BCC materials liked those. Respondents reported that posters, flash card, picture of hygienic latrine, picture of safe water use, picture of hand washing with soap, picture of cemented latrine, picture of taking a child to latrine were specially liked by them (Table 170, Annex-A). It is to be mentioned that all those pictures refers to the picture of flashcard, and posters developed under the project. Respondents also expressed their views that everything became easier when a picture is shown to make people understand something and they could understand easily about sanitation, hygiene and safe water when the Para Worker explained showing pictures. Almost all the respondent e.g. 99 percent community people liked all kinds of BCC materials but only one percent did not like the BCC materials (Annex-A, Table-169). They disliked because the content of the BCC materials was not clear to them.

Since the communication materials were well articulated so it helped to understand those messages to the community people. Almost all the POs reported that the community people

had not faced any difficulties to understand the message of communication material because the Para worker helped the people to understand the communication material. It has made the task of PW easier and the community people like to get the messages by poster, leaflet, and flipcharts etc.

One SAE out of five, reported that in one of his para centre a ethnic group called “Chak” live in and they do not understand Bangla but the Para Worker is a Bengali so the Chak community do not understand what the para worker say. In appointing a para worker for a specific para, the language, culture, religion of that para’s majority population need to be considered. Appointment of a para worker from the concerned ethnic community has a better chance in better communication and understanding of message.

9.3 Changes required of communication materials

A portion of community people reported that there is a need to improve the quality of communication materials in terms of presentation of picture and size. Respondents of the household category suggested various ways to improve those BCC materials for a better comprehension although 44 percent of them could not suggest any way to improve those. They suggested various ways to improve the quality of BCC materials e.g. to produce good pictures those are easy to understand and bigger in size, to show movie on WatSan and to improve quality of poster those will be more colorful etc.

Only a few of community people in FGD sessions have reported that there is a need to revise or improve some of BCC materials by incorporating picture of indigenous people and relevant subject which are more relevant to culture of the ethnic minority the CHT.

Almost all of the POs reported that the PW presented posters (*Kalim chacha*), leaflets, and flipcharts to community people and made them aware about importance of safe drinking water and usages of hygienic latrine. It is also suggested that the terms and concept used in the communication materials like *Kalim chacha* are not always indigenous people’s term, which should be taken into consideration.

Adolescent girls in FGD sessions suggested that video show could be more effective to make the people understand about health behavior in a better way. They also suggested that TV and Radio program in local language and local dialect should be telecasted and broadcasted to promote health and hygienic behavior among the local people.

9.4 Effectiveness of communication materials

Among the communication materials almost all were found effective in making people aware about the health and hygiene related issues. About 36 percent of the respondent of household category reported that through using this communication materials awareness on health and hygiene is increasing in the area. The materials containing picture, so the poor and illiterate people can understand the messages and its importance (Annex-A: Table-175). The materials are also effective in understanding the messages because 64 percent reported everything become easier when a picture is shown and 25 percent reported that one could easily understand about washing hands and about types of latrine when someone see the picture. FGD participants of both male and female group reported that the flashcard, flipchart, video show were most effective materials. Though a significant percentage of respondents commented on the existing BCC materials as effective materials, but a few were suggested for some further revision.

Respondents of household category were asked to indicate whether they saw any Behavior Change Communication (BCC) materials e.g. posters, leaflet, flash card etc. on safe water

use, hand washing, sanitation and hygiene etc. 76 percent male and female respondents acknowledged that they saw BCC materials. The OVI indicators mentioned that 50 percent men in 80 percent para have received the promotional efforts. This indicates that the expected result in OVI has been achieved.

Those who did not like the communication materials they have mentioned categorically the reasons as; the picture used in the posters are small which should bigger in size and quality of print should be better than that of present one. The terminology used in the communication tools like Kalim Chacha should be changed into an indigenous people's friendly term.

The key findings of this chapter are as follows:

Almost all the people (99%) who saw the BCC materials liked those. Respondents reported that posters (38%), flash card (26%), picture (11%), picture of hygienic latrine (20%), picture of safe water use (8%), picture of hand washing with soap (6%), picture of cemented latrine (3%), picture of taking a child to latrine (1%) were specially liked by them. Only a very few disliked some materials because the content of the BCC materials was not clear to them.

Among the para workers 98 percent reported that they have shown various communication materials. Among various communication materials 89 percent PWs reported that they have shown the posters and 46 percent reported shown leaflets and 14 percent shown picture of different sanitation practices, while 52 percent of the community people reported that they have seen the posters.

The evaluation aimed to investigate the availability, quality, and effectiveness of communication materials, which were produced under the project. The findings reveal that 76 percent male and female respondents acknowledged that they saw BCC materials. Among the BCC materials 52 percent posters, 35 percent flash card, 16 percent leaflet, 15 percent picture on sanitary latrine, 10 percent picture of safe water use, and only 3 percent video show seen by the respondents during the BCC activities carried out by para worker. Almost all the respondents (99%) reported that they liked the BCC materials. Only few of them have reported that there is a need to revise or improve some of BCC materials by incorporating picture of indigenous people and relevant subject

Almost all people like the communication and for the betterment of these materials they have suggested to improve. The picture used in the posters are small which should bigger in size and quality of print should be better than that of present one.

The terminology used in the communication tools like Kalim Chacha should be changed into an indigenous people's friendly term, because chacha is not the term, which is used by the indigenous people. Alongside, the picture of flipchart should be clearer than the present one.

The communication materials have been considered as very effective ones. Sometimes only problem was the language barrier as they indigenous people have their own languages/ dialects and they are not used to other languages, which they do not use.

Chapter Ten

Para Worker's Knowledge and Community People's understanding on Health Messages

This chapter dealt with the objective 11, which includes the knowledge of the para worker on 11 health messages. Considering the key agent for promoting coverage of water, sanitation and hygiene at the community level, they need to know the health messages to deliver properly and effectively to the community people. The knowledge of para worker about those messages were evaluated through direct and indirect approach like direct interview to para worker and as well as to the community people to whom the para worker provided message. In addition to that the other stakeholders were also asked about the knowledge on health messages of para worker. If the Para workers were spontaneous and responded accurately and when the community people get the information from the para worker properly then it validated the para workers had adequate knowledge about health messages. Alongside, the understanding on health messages of community people and other stakeholders were investigated, which have also been covered in this chapter.

10.1 Knowledge on Health messages of Para Workers and community people

Respondents of the households survey reported about various messages e.g. 89 percent respondents reported about rubbing of both hands with soap and wash with adequate water before eating, 86 percent reported about rubbing of both hands with soap and wash with adequate water after defecation, 76 percent mentioned about rubbing of both hands with soap and wash with adequate water after cleaning baby's bottom, 70 percent reported about rubbing of both hands with soap and wash with adequate water after disposing off child's feces, 72 percent reported about rubbing of inside and outside of the kolshi/water pot and rinse it with safe water, 77 percent reported about collection of water from safe water source, 73 percent reported about covering the kolshi/ water pot from the collection point, 67 percent of them reported not to put finger in the water during drawing from kolshi/drinking from glass, 57 percent reported about use of separate pot for drinking purpose, 75 percent reported about use of sandal in the latrine, 67 percent reported about keeping the latrine clean, 53 percent reported about men's required assistance for women to clean the latrine, 44 percent reported about washing rags with soap and water and dry in the sun before reuse and 13 percent reported about disposal of the used sanitary pads/napkins or rag in a fixed place etc. (Table 155, Annex A). These findings demonstrated that the community people are well informed about the safe water use, keeping the water safe, advantages of sandal use during defecation, proper menstruation management in terms of using clean rags, cleaning and drying of rags and overall hygienic practices. Para workers have provided these messages to the women and adolescent girls.

Table 28: Sanitation and hygiene related messages delivered by the Para Worker (recall by household respondents).

| Type of messages delivered by PW | Model | Non-model | Total |
|--|-------|-----------|-------|
| Rubbing of both hands with soap and wash with adequate water before eating | 88 | 89 | 89 |
| Rubbing of both hands with soap and wash with adequate water after defecation | 86 | 87 | 86 |
| Rubbing of both hands with soap and wash with adequate water after cleaning baby's bottom | 77 | 75 | 76 |
| Rubbing of both hands with soap and wash with adequate water after disposing off child's feces | 72 | 69 | 70 |
| Rubbing of inside and outside of the kolshi/water pot and rinse it with safe water | 73 | 72 | 72 |
| Collection of water from safe water source | 78 | 76 | 77 |
| Covering the kolsi/water pot from the collection point | 76 | 72 | 73 |
| Not to put finger in the water during drawing from kolshi/drinking from glass | 66 | 67 | 67 |
| Use of separate pot for drinking purpose | 60 | 56 | 57 |
| Use of sandal in the latrine | 75 | 74 | 75 |
| Keeping the latrine clean | 68 | 66 | 67 |
| Men should assist the women to clean the latrine | 55 | 52 | 53 |
| Washing rags with soap and water and dry in the sun before reuse | 46 | 42 | 44 |
| Disposal of the used sanitary pads/napkins or rag in a fixed place | 36 | 30 | 33 |

The Para Workers were asked about the messages they delivered to people. They recalled the messages they delivered during their home visit, courtyard meetings and other activities. The level of spontaneous recalls messages indicate their capacity, performance, and efficiency in their duties. 100 percent para workers recalled to deliver messages on rubbing of both hands with soap and wash with adequate water before eating, 94 percent on rubbing of both hands with soap and wash with adequate water after defecation could recall spontaneously. Among the Para worker 68 percent recalled rubbing of both hands with soap and wash with adequate water after cleaning baby's bottom and about 56 percent rubbing of both hands with soap and wash with adequate water after disposing off child's feces could recall. However, about 5 percent PCMC members and two SAEs mentioned the knowledge of para workers on health message and its mode of delivery are not up to the mark. So, the PWs are needed to build their capacity on techniques to disseminate messages to the community people. These findings revealed that the recalled level of message delivery by the para worker and the level of message retention among the community people seemed to be consistent. However, the community people recalled comparatively a bit less than the para workers.

About the information regarding cleaning the water pot, about 49 percent para worker recalled spontaneously rubbing of inside and outside of the water pot (*Kolshi*) and rinse it with safe water, 39 percent recalled collection of water from safe water source, and 27 percent recalled covering the kolshi/water pot from the collection point. To keep the water safe, Para workers provide information to the community people regarding keeping water pot clean. To keep water safe during collection the Para Workers also informed the community people. About 17 percent of them reported that they advised people not to put finger in the water during drawing from water pot for drinking, 15 percent reported about use of separate pot for drinking purpose. The participants of focus group discussion reported that the changes occurred in practices of cleaning water pot in a safe manner, which they did not earlier.

About 42 percent reported advise to use of sandal in the latrine and 32 percent mentioned they advise in keeping the latrine clean. The 13 percent Para Workers also recalled that they give information on men's assistance required to women for clean the latrine, 15 percent of them recalled they provide information on washing rags with soap and water and dry in the sun before reuse. 9 percent of Para Worker recalled they provide information on disposal of the used sanitary pads/napkins or rag in a fixed place. (Table 153, Annex- A). However, all the Para Workers could recall all the messages when they were prompted. The objective 14 of the evaluation was to investigate whether the para workers having knowledge about health message and other activities. The above findings reveal the knowledge of para workers about the message and other activities. The para workers are key persons to provide information to the community people, so they should be well conversant and spontaneous in delivering the messages. The information recalling status indicates that there is a need to initiate for further improvement in making para workers more informative and skill in lively message delivery.

10.2. Knowledge of the Key Messages on safe water and sanitation

The Para Worker has been communicating messages through household visits and courtyard sessions on safe water related issues along with other sanitation and hygiene behavior. The current level of knowledge on these messages was collected from men and women. The interviewers first asked about knowledge of the messages. This was followed by aided questioning i.e. they were told of the messages and asked if they had been given the individual messages. In the next table the total awareness, i.e. any awareness either spontaneous or aided is reported.

Table-29: Awareness of safe water related messages among men and women

| Safe Water Message | Rangamati (%) | | | | | | | | | |
|--|---------------|-------------|-----------|------------|----------------|------|----------|------|--------|------|
| | Rangamati | Khagrachari | Bandarban | Model Para | Non-Model Para | Poor | Non-Poor | Male | Female | All |
| Rub inside and outside of the water pot/ pitcher and rinse with safe water | 82 | 66 | 69 | 73 | 72 | 71 | 76 | 72 | 73 | 72 |
| Collect water from safe water sources | 85 | 75 | 71 | 78 | 76 | 76 | 80 | 78 | 76 | 77 |
| Cover pitcher/ water pot right from the collection point | 81 | 70 | 69 | 76 | 72 | 73 | 74 | 71 | 76 | 73 |
| Don't put finger in the water during drawing from pitcher/ drinking from glass | 77 | 62 | 61 | 66 | 67 | 66 | 69 | 66 | 68 | 67 |
| Use separate pot for drinking purposes | 71 | 46 | 53 | 60 | 56 | 57 | 58 | 58 | 56 | 57 |
| Base | 407 | 399 | 400 | 447 | 759 | 806 | 400 | | | 1206 |

As far as awareness of the safe water related messages is concerned, high level of recall is evident. It is clearly evident that this awareness level is markedly higher for Rangamati than for the other two districts. However, as far as awareness generation, what in turn can be called BCC activity seems to have happened equally. Only difference emerging is the achievement in the three different districts representing diverse tribal population.

Each of the first three key messages regarding collecting safe water, cleaning water pot, and keeping the pot covered right from source has been recalled by around three fourths of the adult men and women.

The respondents of the household survey were asked to say what are the information the para worker informed them. This information were investigated in two ways; firstly unprompted or spontaneous recall by respondents and secondly recall with assistance of interviewers. The highest 65 percent of respondent spontaneously reported that they were informed about washing both hands with soap ash and with adequate water before eating. They have learned these from the Para worker.

All the adolescent girls in FGD sessions reported that they use sandals when they went outside home and they also reported that they used sandals when they went to latrine. In one FGD session 5 participants out of 7 participants mentioned that they use special sandals when they went to latrine and the rest of the two participants used the same sandals which were used for going out. They reported that they did it so that they cannot be infected with any germ.

According to participants in FGD sessions of adolescent girls they used to throw feces of children on the slopes of the hills before two years but now they either put it in the latrine or put it in the earthen hole. Some of the participants reported that they covered the feces with soil. According to almost all the participants now they know that someone must dispose feces safely to make himself or herself safe from getting diseases like diarrhoea, dysentery, helminthiasis etc.

According to the teachers nowadays people have become quite aware of the hygienic issues. About 80 percent households now use latrines instead of open fields. They wash their hands before meals and after defecation. Even children go to latrines wearing sandals. Parents send their children to school. More than 70 percent people now drink water from tube-well instead of ponds or streams. As a result people now suffer less from diseases and lead a better and healthier life.

10.3. Community perception about the PW

Several factors influenced the process that helped reached to the stated goal. Adolescent girls of 100 percent FGD sessions reported that the PW goes to each household of their para to disseminate messages, arrange meeting with women in the courtyard, arrange meetings with adolescent girls, arrange meetings at para centres, teaches children, prepared map with the help of the community people.

The participants of adolescent girls groups mentioned that the active involvement of the Para Workers in conducting meeting is evident at the community level. They have seen the para workers were working hard in organizing and conducting those meetings in their respective paras. The WatSan Committee Members living at the locality were invited to participate in some of the meetings. Two adolescent groups added that the PWs needed proper capacity building to make them more effective to deliver message and communication with WatSan committee members and other influential stakeholders of the respective community.

They mentioned that the Para Workers disseminate health information in various occasions regarding the cleanliness, use of safe drinking water, use of sanitary latrine etc. Use of poster and pictorials displayed in strategic locations like Kiong Ghor were useful, they added. 3 POs have reported that they have conducted meeting during the last week and visited Para center at that time.

Key findings of this Chapter are as follows

The Para Worker has been communicating messages through household visits and courtyard sessions on safe water related issues along with other sanitation and hygiene behavior.

The knowledge of para worker about health messages were evaluated through direct and indirect approaches and it reveals that the para workers have grasped the health messages to disseminate to the community. The para workers tried their best to the community people to inform them about the safe water use, keeping the water safe, advantages of sandal use during defecation. Para workers have also provided messages to the women and adolescent girls.

Regarding proper menstruation management in terms of using clean rags, cleaning and drying of rags and overall hygienic practices. Despite the knowledge level of the worker is higher than of the of the community people. As such the PWs are needed to build their capacity on techniques to disseminate messages to the community people.

The community people know that someone must dispose feces safely to make himself or herself safe from getting diseases like diarrhoea, dysentery, helminthiasis etc. These information were received from the Para workers working in the area.

Nowadays people have become quite aware of the hygienic issues. About 80 percent households now use latrines instead of open fields for defecation. They wash their hands before meals and after defecation. Overall the community perception about the para worker found to be positive

Chapter Eleven

Knowledge and Practices on Menstrual Hygiene

Menstrual hygiene was one of the critical point for the project as well as of the evaluation. Women suffers several diseases due to lack of knowledge on cleanliness and menstrual hygiene related issue. In addition to that there are norms and practices on menstrual management issues in different indigenous communities that might cause health hazard of adolescent girls who experienced puberty. However, considering the health issue of women in CHT, the project provided various menstrual hygiene messages to increase knowledge of women on menstrual management for safe and healthy menstrual management practices. This study evaluated the knowledge and practices regarding menstrual hygiene of adolescent girls and women of the project intervention areas. This chapter also covers the MTR objective that at least 20 percent of project wards/paras there is evidence that at least 40 percent of adolescent girls receive menstrual hygiene related information.

11.1 Menstruation Management

The menstrual management issues were evaluated through survey and qualitative tools and technique. The evaluation covered adolescent girls as participants of qualitative study, while women were covered as participants and respondents in both qualitative and quantitative respectively. The respondent women were asked in the survey regarding their menstruation management, practices, and knowledge related information. Among the issues of menstrual management the knowledge of women and adolescents, equipments used, general practices, social norms and values, etc were covered.

The evaluation documented the practices regarding menstrual management. Seventy two percent women reported to use rags during their menstruation, 8 percent of them mentioned to use sanitary napkins and 11 percent women were found to use thami. The general practice of washing the rags is highly encouraging as 82 percent rag users claim to wash them using soap and water. As rags, Thami, etc. reusable materials are used, their hygienic cleaning and drying becomes critical for menstrual hygiene. The general practice of washing the rags is highly encouraging as 82 percent women rags users claim to be washing them using soap and water. However, washing the rags with water is substantial (16%).

The drying of the rags is also quite hygienic as 43 percent dry the rags on hanging rope or wire another 43 percent dry them in the sun but away from others' sight. Others usually dry the rags inside the house. The general way of keeping rags for reuse is putting it away from the sight of others. This mainly involves putting it in a dark but ventilated place (44%), putting in a box (23%), and putting in a cupboard (11%). The rags and pads are mostly disposed off in a bin (44%). A group of adolescent girls of FGD participants reported that they did not know earlier about the health issues related to the menstrual management, since they did not get any information on the issue. However, after the intervention of the project the para workers and other stakeholders have provided various information/ messages on menstrual management in relation to the health and hygiene practices.

In household interviews women were asked whether there were any adolescent girl in the household and if so whether she had received any menstrual hygiene related message from the Para worker. As far as the adolescent girls are concerned, 40 percent or more of them in a para have received menstrual hygiene related message in 57 percent Paras.

One participant reported that he has heard that the para worker gives advice on menstrual management to the adolescent girls. They know that one should use clean cloth during menstrual period and those cloths, needs to be dried up after using. One respondent said that they have got much information and flip chart from project para. Though menstrual management issue is a matter of shyness and the women wanted to keep it in themselves but now the women did not hesitate to discuss this issue. This reflects women's awareness has increased through knowledge menstrual management through the para workers advice.

According to the women in FGD sessions, there have been changes in their behaviour regarding menstruation. Two years ago they used to take bath in the river water and washed their rags or napkins used during menstruation in the river water which could pollute the water. Now they bathe in the tube-well water, so washing of the used rags or napkins do not pollute river water any more. However there are women who still bathe in the river and wash those rags and napkins there. But whereas two years ago they washed it with only water, now they use soap. According to the participants, some use napkin or pad during menstruation. Others who cannot buy the napkin use new or old soft cotton cloth. After cleaning it they dry it in the sun beyond people's eyes. Then they keep it in a secret place so that people cannot see it. They say that a piece of cloth can be used for 2 or 3 months. During menstruation, some use panty and some use petticoat or *thami*. There are also others who use neither panty nor *thami*. If the blood flow during menstruation increases, then they take bath 2 or 3 times a day. After 3 days when blood flow of menstruation becomes less, they stop using it. They throw the pad or panty into the latrine, in a hole, or in the river or canal.

Table 30: Various proportions of girls receiving messages

| | Model | Non-Model | All (%) para |
|-----------------------|-------|-----------|--------------|
| <20% Adolescent girls | 8 | 20 | 16 |
| 20% +40% | 20 | 30 | 27 |
| 41% -60% | 24 | 26 | 25 |
| 61% - 80% | 24 | 16 | 19 |
| 80-1% - 100% | 24 | 8 | 13 |
| Base | 25 | 50 | 75 |

11.2. Knowledge and Practices of Adolescent girls on menstrual hygiene

The evaluation investigated the knowledge and practices of menstrual hygiene of the adolescent girls of the respective area. Since the study populations were mostly indigenous communities of the CHT, it was expected that there are diverse knowledge and practices, which will be gathered from the evaluation. The evaluation findings reveal that substantial changes occurred in knowledge and practices of menstrual hygiene of the adolescent girls regarding menstrual management.

Marma adolescent girls in FGD sessions reported that menstruation was a natural process of polluted blood secretion from the body and it helped to keep the body healthy. According to them it starts at the time of puberty. According to them menstruation proves the eligibility to get married and to conceive. They also think that it brings completeness in a girl as a woman. They think it continues 5-7 days and different types of physical and mental symptoms may appear during this time e.g. pain in the lower abdomen, waist pain, headache, vomiting tendency, drowsiness, mental anxiety, irritation, nervousness, phobia, inability to perform physical work with usual load etc. Among the 7 Marma girls, all of them reported that they had experienced menstruation. Among the 7 girls 5 girls use rags of their *lungi* during menstruation, another one uses napkin and the other one uses panty. They dispose the used napkin, pad and rags in the ditch, river or jungle. Marma girls so far do not attend schools during their menstruation because according their culture during menstruation they are considered as impure, but during examination, they have to attend in the examination to pass the class even in the menstruation period. One of the girls participant reported that due to lack

of knowledge regarding the menstruation and pureness maximum do not attend school that hampers their study. Know some girls are coming forward to break the rules.

Chakma adolescent girls who participated in the FGD sessions reported that they used rags during menstruation. They usually wash those rags with soap and water and dry up those rags in the backyard of their houses. At this time they feel that their health become weak and mind become feeble. Though the menstruation is a usual phenomenon but socio-culturally it is considered as matter of shame and impure. However, after the intervention the people are becoming aware about the misconception and also becoming habituated to hygienic practices.

Buddhist girls reported that their mothers forbid them to participate in social and religious activities during menstruation. They also use rags during menstruation, wash those with soap and hot water, and then hang those in the sun to dry up. They do it to be safe from getting infected. These findings demonstrated the knowledge about the hygienic way of menstruation management have increased among the adolescent girls. This shows that the ways of preventing infection from germs have also increased through their increased knowledge about hygienic way of menstruation management.

It's a responsibility of a Para Worker to give menstrual hygiene related messages to adolescent girls in the households. More than 75 percent among the respondents who reported that their families having adolescent girl in the households mentioned that the Para Workers gave menstrual hygiene related message to their adolescent girls.

Table-31: Proportion of adolescent girls receiving menstrual hygiene message in various para

| % of girls | % of para | | |
|------------|------------|----------------|-----|
| | Model para | Non-model para | All |
| <20% | 8 | 20 | 16 |
| 20% - 40% | 20 | 30 | 27 |
| 41% - 60% | 24 | 26 | 25 |
| 61% - 80% | 24 | 16 | 19 |
| 81% - 100% | 24 | 8 | 13 |
| Total | 100 | 100 | 100 |

OVI says that in at least 20 percent of project wards/paras there is evidence that at least 40 percent of adolescent girls receive menstrual hygiene related information by Mid Term review. Finding reveals that that 57 percent in project paras the above 41 percent adolescent girls have received menstrual hygiene messages. It is to be mentioned that in 24 percent model paras and 16 percent Non-model paras about 61-80 percent adolescent girls have received menstrual hygiene messages. 41 percent of adolescent girls in 72 percent in model para and 50 percent in non-model para mentioned above have received the menstrual hygiene messages. It indicates that the project activities have achieved their target in this regard.

There are some general norms on menstrual management in almost all communities in the CHT. Marma women do not cook food during menstruation, the used rags must be kept out of sight because they believe that if the male members see this rags that will be inauspicious for the family. So they kept those rags or used cloths during menstruation out of sight. There was a general tradition that during menstruation women had to sleep on floor instead of bed since they are considered as impure. This trend has been gradually changing among enlighten people of the community. Some religious myths by the community discourages the women to participate in religions activities during menstruation as they believe women remains impure at the time of menstruation. Buddhist girls reported that their mothers forbid them to participate in social and religious activities during menstruation.

The key findings of this chapter are as follows;

The above findings reveals that the stated objectives of the project have met substantially. The findings also demonstrate that the community people specially women and adolescent girls have received the messages on menstruation management from the para workers that helped increasing knowledge and hygiene practices. The findings also reveal that the objective of menstrual management and safe and hygienic practices have substantially increase among the women and adolescent girls.

Finding reveals that 57 percent in project paras above 41 percent adolescent girls have received menstrual hygiene messages. It is to be mentioned that in 24 percent model paras and 16 percent Non-model paras about 61-80 percent adolescent girls have received menstrual hygiene messages. 41 percent of adolescent girls in 72 percent in model para and 50 percent in non-model para mentioned above have received the menstrual hygiene messages. It indicates that the project activities have achieved their target in this regard. Observably, this finding has met the OVI objective 1.3.

Chapter Twelve

Community Perception about Quality and Activities of Para Worker

This chapter discusses the findings of the objectives 14 and 15 of the scope of work. These objectives include the issues of quality of para worker in terms of their knowledge on health messages and other relevant activities. In addition to that the perception of community people towards the quality of para workers as well as the activities of para workers are reflected in this chapter. Both the objectives were investigated in two fold, through direct and indirect approach. The direct approach was to inquire para workers knowledge and their activities from them, while the indirect approach was to collect information about the quality of para workers and their knowledge about activities conducted by them at the community level from the community people.

12.1. Community Perception about activities of Para Worker

Para workers as the key change agents at the community level have been performing project activities. The perception of the community people towards the para workers and their activities has investigated as part of this evaluation. On an average 92 percent of the respondents of households' category informed that they know about activities of para worker in the para, while only 8 percent either mentioned that they do not know or did not responded about para workers activities. 94 percent and 91 percent respondents of model and Non-Model paras respectively reported that they are aware about the activities of Para worker. The community people think that the para workers have been working very well for the development of the respective para. The people perceived the para worker as catalyst for the promotion of water, sanitation and hygiene practices. Most of the stakeholders of all categories treated para worker as the key factors of the project, because they performed activities like child education, organize and conduct courtyard meeting, make liaison with the PCMC members, ICDP personnel, and facilitating agency members. The findings reveal that the perception of community people towards the para workers is positive and they praise their activities.

12.2. Frequency of household visits and recall of messages

Respondents were asked about the frequency of door-to-door visit and courtyard meeting done by the Para Workers in their community. The average number of door-to-door visit within a month by a Para Worker is 4 times. But the female respondents reported about 5.4 times visit in a month by the Para Worker which was reported as 2.8 times in a month by the male respondents. As per the plan, the para worker will visit at least two households after completing the courtyard meeting. It is interesting to note that the average home visit reported by the non-poor was much higher (4.7 times in a month) than the average home visit reported by the poor (3.7 times in a month) (Annex-A, Table 152). During household interviews, the respondents reported that Para Workers organized courtyard meetings. The average number of courtyard meeting organized in a month by the Para Workers was 3.2. Female respondents reported about more courtyard meetings (4.6 times in a month) than the male ones (2 times in a month). These findings also indicate the para workers are performing their activities regularly.

Respondents of household category were requested to recall the messages delivered by the Para workers regarding sanitation and hygiene during home visit or para sessions. At spontaneous recall level high recall was evident only for rubbing of both hands with soap and wash with adequate water before eating (65%), rubbing of both hands with soap and wash with adequate water after defecation (61%), rubbing of both hands with soap and wash with adequate water after cleaning baby's bottom (35%), collection of water from safe water source (39%), use of sandal in the latrine (42%). They were also aided on the all key messages to confirm their exposure to these by the Para Worker. After prompting by the interviewers the total recall of information by Para worker comparatively higher than that of spontaneous recall by them.

12.3. Activities of Para Worker

The Para Workers are supposed to perform various kinds of activities in implementing the project. There are three types of activities like preparatory activities, day-to-day activities and periodic activities. The preparatory activities are planning meeting, transect walk, wealth ranking through FGD, and preparation of community maps and para action plan. The day to day activities are conduction of different meeting with different stakeholders, teaching pre-school students, visiting households, motivating people to use hygienic latrine and washing hands, motivating people to safe water use and management, courtyard meeting, household visit, providing different message regarding water and sanitation, provide information on menstrual management, etc. The quarterly activities of Para Workers, are submitting monthly report, updating of Para action plan and Maps, meeting with PCMC members, follow up activities, monthly meetings and participation in coordination meeting and other development activities.

One of the objectives of this evaluation is to assess the quality of para worker, which include knowledge on health message, other activities. The Para workers have reported that they perform all activities as per the responsibilities, which are above 80 percent (Annex-B, Table-7-10). The household members were asked the reasons for their watsan related behavior change. In response, 43 percent participants reported as influence of Para worker (Annex-A, Table –141) is one of the important reasons for changing behavior regarding water use sanitation use and hygiene practice. The community people have got the information on hygiene practices like washing hands before eating food (61%), hand washing before serving food (67%), hand washing with soap or ash after defecation (58%), hand washing with soap or ash after cleaning child's bottom (61%), after disposing the feces of young children (77%) have been received from the Para worker (Annex-A, Table 50-54). These findings indicate that the quality of para workers is considerably good and knowledge on health message and including other activities are also noteworthy.

The findings of qualitative study complement the quantitative one. The 5 Program Organizer (PO) out of 9, reported that PWs always played an important role for developing and updating para maps and implementing Para Action Plan developed earlier. The PWs identified the entire Para development indicator for PAP and identify the locations of latrine and tube well and other settlement pattern in the map. The POs mentioned that a PW bring update maps whenever a latrine or a water source is constructed, get replaced or get disordered. In addition to that other stakeholders also acknowledged the activities of the para workers. It demonstrates that para workers have been performing their duties regularly and effectively.

The activities that have performed by the PW are promoting low cost and appropriate options for hygienic latrine and water point in the community. Almost all of the POs told that the PW have visited every household and created awareness among community people regarding promotion of low cost and appropriate options for hygienic latrine and water point. They have

motivated and advised the community people about those issues. Almost 33 percent of the POs reported that the PW help the community people for site selection and installation of water source. They have also provides proper suggestion for deciding about appropriate options of safe water and sanitary latrine to community people especially for those who were poor or unable. PW help decide the poor people about low cost hygienic latrine or water source.

28 out of 37 of the PCMC members have reported that actually in WatSan projects they provide support to the community for hygiene, safe water and sanitation. These activities are conducted through a Para center that operates a Para worker. Para workers motivate the community people to use soap, to pour adequate water after defecation, and to use soap after and before meals. Five of the PCMC members told that by this project they provide education for children with the help of UNICEF, arrange meeting in the courtyard and create awareness among the community people about cleanliness and to use sandal at the time of defecation. One of the PCMC members told that they also provide vaccination for the community people.

26 out of 32 of the Karbaris reported that PWs usually suggest the local people not to drink water from river or canal. PW motivated the people to collect water from the water point which has been constructed near the houses (*kiyong*⁹). According to the Karbaris, PW regularly arrange courtyard meetings. They also disseminate information regarding benefits of using a sanitary latrine. One of the Karbari reported that PW tells about the process of latrine construction to a family when they start to construct it.

Religious leaders have appreciated the kind of motivational work that the PWs carried out. However, the influential religious leaders could not mention all the activities that PWs carry out. But they mentioned the overall objectives and important activities of the Para workers during the indepth interview. The courtyard meetings were effective, which gave the women to interact and discuss the issues openly that helped them to understand the importance of those activities. In addition, they emphasized on improvement of the mode of delivering messages, which is interesting and simple. The message should be paraphrased and delivered in their own language, which will be user friendly.

About 50 percent of the PCMC members have reported that PW and PO have met with him many times in the last year to discuss about the WatSan project. About 25 percent of the PCMC members called on him and discussed about getting more water points for her areas.

All of them have reported that they know the activities of Para worker. Seven of them told that Para worker did lots of work. Twenty of them have mentioned that she teaches children, visits door to door for awareness build up (though sharing information, giving proper ways of maintaining cleanliness, keeping latrine clean), provide health message in community, arrange courtyard meeting (*Uthan Boithok*), tell people to use soap/ash after defecations. One PCMC member reported that PW tell people about vaccination, oral saline, updates map and arrange meeting once in a month.

More than 75 percent of the POs have mentioned that to implement their activities PWs arrange courtyard meeting for awareness building, motivating parents and their children to use safe water, using sanitary latrine to maintain personal hygiene and to teach the children at the Para Center.

Another PO has reported that actually they work according to Para Action Plan and decisions of their higher authorities. They suggest people to construct a latrine with a ring and slab rather than to defecate at open places. Moreover, those who have no ability to construct a sanitary latrine POs suggest them to dig a pit, to surround it by bamboo and to use a lid to

⁹ Kiyong is house. The Marma community termed house as Kiyong.

cover it so that fly can not reach feces. POs also inform about the mode of transmission of the diseases like diarrhea, dysentery, and helminthiasis.

All the POs reported that PWs play a vital role to implement the project activities. According to the POs the major roles of PWs include door step visit at each households of the para and disseminate information on sanitation, hygiene and cleanliness, operating a pre-school, mobilizing the community people and arranging courtyard meetings. One PO estimated that in fact the Para worker did 75 percent works among the total activities. She also motivates the people about the immunization of 14-49 years aged women and children and identification of problem in understanding the messages, which have given through IEC materials.

All school teachers have a good idea of the works a para worker does. They say that she visits each household, teaches children, inform them about hygienic issues, and advises them on sanitation and hygiene. She tells people that they should use sanitary latrines, and if not possible, at least make a hole, but not to use open fields for defecation. According to them PWs ask the community people to wash their both hands properly and show them by example how to do it. They advise people to drink only safe clean water and not to dispose their waste materials here and there. She even tells people to cut their nails regularly. The para worker gives advice to the young girls about their menstruation and about personal hygiene to be followed during the period. They make sure so that mothers and children get vaccinated regularly.

Only two respondents showed disapproval of the para worker's role. According to them para workers do not do their work properly, that they are not available at para centres where children go for study. They accused that para workers do not visit houses and do not inform people of health rules. Almost all others say that para workers do a great job for the community.

12 out of 20 of the schoolteachers involved themselves in motivating community people in promoting hygiene, sanitation and use of safe water. A few of the teachers do not take part in it. Those who took part in the motivational activities did mainly advise people on drinking tube-well water, use of sanitary latrines, and washing of hands properly before meals and after defecation. There are some schoolteachers who did not directly take part in the motivational work, but advised the para worker and also talked of those matters to their school students.

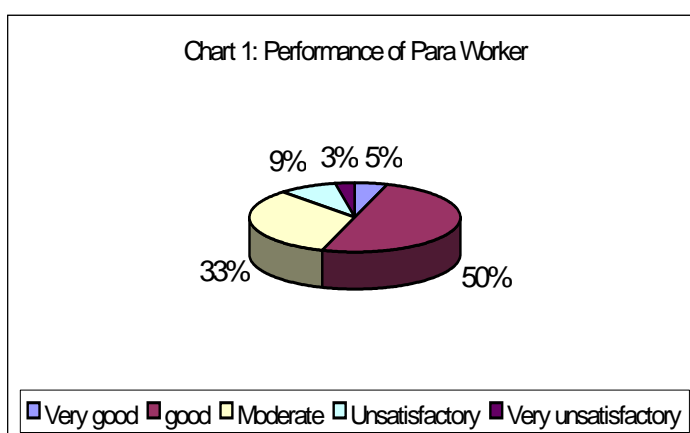
Religious leaders from all faith communities are aware about the PAP process although all of them were not included in the training. They are aware about the kind of activities being carried out by the project workers and can mention their activities and the use of those activities. All Religious leaders have mentioned that a positive change can be noticed in the project area regarding the hygiene and use of safe water, which were rare in the past. The religious leaders have proactively got involved in the process as they appreciate the activities. They disseminate the information that asks for a healthy way to life while they take part in preaching. They can mention about the existence of a committee, which is inclusive in nature comprising people from all social strata and from all faith communities. They can also mention its activities that regularly conducts meeting and builds awareness of the local people and get the people involved with certain activities regarding safe water, sanitation, and hygiene. Most of them were able to mention the Para Action Plan, its authority and scope of work. They can also mention the role of Unicef and DPHE. They all have opined that the plan is useful to the communities under the project. Some of them have mentioned that they have received training from Unicef and DPHE which was useful and have made them active in delivering information they have learnt to the mass people visit them, and, or while they come in mass contact. They have mentioned that the plan that they have developed jointly through a participatory process has contributed a lot to the local level water management, which is benefiting them all. One of them has mentioned that recently a village named Talukderpara has been declared "hundred percent sanitation."

The findings from indepth interviews with PCMC members, POs, Karbari, revealed that the PWs have been planning very effective role in promotion of water and sanitation use and hygiene practices. Both the implementers and community people could recognize the activities of para workers and the impact of their activities. It indicate that the para workers are performing their duties as per the project guideline but some of them needs additional capacity to make more smooth the activities.

Presence of Para Worker: The respondents were asked whether they know about the presence of Para Worker in their para. About 93 percent respondents mentioned about the presence of para worker and rest 7 percent mentioned no or dont' know. It is to be mentioned that out of seventy three there no para workers in three paras.

12.4. Useful Activities of PW

Respondents of households' category were asked to report about the performance of para workers in promoting sanitation, hygiene, and safe water use. About 50 percent of the respondents think that the performance of the Para Workers is good, 33 percent of the respondents consider the performance of Para Workers as moderate, 9 percent of the respondents consider the performance of Para Worker as unsatisfactory. Only 5 percent of the respondents ranked the performance of Para Workers as very good while only 3 percent ranked the same as very unsatisfactory (Table 158, Annex-A and Chart 1).



Respondents who consider the performance of Para Worker as satisfactory reported that Para Workers always gave them useful advice (44%), she always kept contact with them (17%), her job was praiseworthy (13%) etc. (Table 159, Annex-A). Respondents were asked to inform about the person who teaches their children about using latrines or cleaning the latrine. In this regard about 25 percent of the respondents mentioned about the role of Para Workers beside the roles of parents, brothers, and sisters (Table 160 and 161, Annex-A).

Findings of interview with Para Workers show that they perform crucial activities in developing water and sanitation conditions of the para. According to them their important activities are as follows: teaching of pre-school students (99%), visiting households (88%), motivating people to use hygienic latrine (97%), motivating people to wash hands (90%), motivating people to use safe water (83%), motivating women and girls on hygienic menstrual management (92%), motivating people for safe disposal of feces (50%) and motivating people for involvement with other health and developmental issues (Table-8, Annex-B). Para Workers perform the following activities periodically e.g. submit monthly report (96%), updating Para map (93%) updating the PAP (72%), organizing the courtyard and community meetings (67%). In addition all the almost all the Para Workers reported that the prepare the para map, prepare the para action plan, conduct wealth ranking session and go for transact walk as a part of their preparatory work. The above findings reveal community perception about the quality and activities of the para worker, which is the evaluation objectives number 15.

Women in FGD sessions informed that they liked the 11 messages the Para Workers have given to them. Almost all the women in the sessions reported that Para Workers suggested them to keep their houses clean, wash hands before meals and after defecation, use clean and washed piece of cloth after menstruation for adult and young girls. Some of the women in the sessions added that PWs provide vitamin "A" capsule regularly to children. PWs go to each house of the village and show people how to make oral saline for diarrhoeal diseases are also mentioned as very effective by some women. Almost all the women in all the FGD sessions expressed their views that the rate of using safe drinking water and using sanitary latrines have considerably gone up within the last two years that improved the hilly people's health and reduced their suffering from diseases.

6 out of 9 of the POs reported that they were actively involved with the development of Para mapping and Para Action Plan. They generally monitor and coordinate the Para workers' activities regularly and visit Para from door to door and raise the awareness among community people, motivate them about hygienic latrine use, safe drinking water and sanitation. Besides those activities they always try to overcome the problems of PW that are occurred during their duties at deferent Para in the community.

The key findings of this chapter are as follows:

The findings reveals majority community people are aware of para workers activities and they are satisfied about their activities in promotion of water and sanitation and related activities. The PW workers visits door-to-door 4 times, organize 3.2-courtyard meeting in a month.

The community people recalled the sanitation and hygiene messages such as rubbing of both hands with soap and wash with adequate water before eating, rubbing of both hands with soap and wash with adequate water after defecation, collection of water from safe water source and use of sandal in the latrine etc. The overall knowledge on sanitation on hygiene seems positive.

PWs always play an important role in developing and updating para maps, created awareness on promotion of low cost and appropriate options of hygienic latrine and safe water point. They also help the community people for site selection and installation of water point along with proper suggestion for deciding about appropriate options of safe water and sanitary latrine to community people. The other change agent have appreciated the kind of motivational work that the PWs carried out to motivate the community people in building and promoting awareness promotion of water and sanitation related activities

The PCMC members have met PW and PO many times to discuss about the WatSan project during the year. PW tell people about vaccination, oral saline, updates map and arrange meeting once in a month. The PW also motivates the people about the immunization. The school teachers are also aware of the activities done by PW. The PW advice the young girls about their menstruation and about personal hygiene to be followed during the period. They have mentioned positive change, which took place in the project area regarding the hygiene and use of safe water, which was not seen before. A significant proportion of credit goes to para workers.

Chapter Thirteen

Coordination, Convergence and Sustainability

This chapter dealt with the objectives thirteen and sixteen of the scope of work. Objective 13 includes the issues of coordination among the stakeholders such as DPHE, ICDP, facilitating agency and para workers. Objective 16 is listing of activities carried out under health, education, protection and identify the scope of convergence. In addition to that the issue of sustainability has also been covered under this chapter.

13.1. Coordination among stakeholders

The assessing the level of Coordination among ICDP including Para Worker and project organizer, facilitating agencies, DPHE/UNICEF and other stakeholders was one of the objectives of the evaluation. Though there is a diverse opinion among different stakeholders but the overall coordination among the stakeholders were found positive.

DPHE, Facilitating Agencies, ICDP and PCMC members and PWs were asked about the level of coordination among different stakeholders. In response 97 percent of the para worker reported that they coordinate among themselves (Annex-B, Table-91). While only 3 percent reported that there is no coordination among them. Those who have reported that they have coordination among themselves, they have mentioned that the coordination happens through different activities and process. Those are through meeting (67%), through visit of para center (71%), and discussion with stakeholders (80%) (Annex-B, Table-92). 100 percent of the para workers reported that their views are taken care of in different level of the project implementation (Annex-B, Table-93). The PWs viewed that that the coordination among different stakeholders was found encouraging.

At the same time one SAE out of five, reported that there is a lack of coordination among different stakeholders of WatSan in the hill tracts. For example, ICDP do not let DPHE know about their activities and achievements regularly. He thinks it is better not to give the responsibility to ICDP to implement the project. He also added that this project could be run as in plain land where implementing and facilitating agencies are working directly under DPHE. All POs reported that they coordinate with their higher authorities through proper communication, coordination meeting/gathering, and sharing meeting. It indicates that there is a gap among the government official and ICDP personnel at the field level.

The POs reported that that at first, they received report from PW then they checked it. After checking they submit it to Deputy Project Coordinator. Another PO mentioned that after receiving decisions made by the PW and PCMC members for implementing certain project activities, they go to DPHE, WatSan committee and facilitating agencies and finalize decisions through consultation with them. However, they opined that they always communicate with DPHE, PCMC and WatSan committee and arranged meeting at the scheduled time. It has been mentioned by the ICDP personnel that through the process of activities they communicate and coordinate with all concern stakeholders in making the activities effective as well as to maintain the coordination among them.

About problem facing, they told that, they did not face any major problem about coordination but they face a few minor challenges those are:

- DPHE do not let the community people know about the sanctioned budget for ring well that create confusion and mistrust among community people, which sometime hamper the participation of them.
- Some technical problem arises at the time of installation of water source. Some times community people select a place for installation of water points, which is not technically feasible because of soil texture and ground water table. In such case people need to be informed about the situation.
- DPHE sometimes supply ring well in the rainy season. It's very difficult to install ring well in that season. Not only that during rainy seasons the water table comes up and water point is installed expecting the depth is sufficient. In the dry seasons the water tables goes down and water point could not provide sufficient water round the year.

It can be conclude that the coordination among all stakeholders seems needed further strengthen, because misunderstanding among different stakeholders came out during discussion with them. If all the contributing agencies' representatives reached every Para jointly then it could be easy to make aware of the community people and misunderstanding would be resolved.

13.2 Scope of convergence in ICDP

In Chittagong Hill Tracts various development activities have been conducted under the integrated community development project (ICDP) and ESHWARA project. Among activities conducted by ICDP, child education, health, extended program of immunization, family planning, adolescent girls education on menstrual hygiene, School sanitation and hygiene education, water quality check, nutrition project implementation, material development of education are notable.

Alongside the development activities from the assistance of the UNICEF, ICDP also conducting the development activities with government fund program. Most of these activities are being conducted centering the Para centre. There is scope of convergence among movement program like health, nutrition, protection, and water and sanitation with education. If these development activities could be integrated that might help to create more effective outcome by providing less cost and effort.

Alongside, ICDP help government to conduct various survey. The program organizers mentioned that there is scope of convergence of some issues such as when they develop materials for education they can include the issues of menstrual hygiene, right of children and protection, hygiene education etc. The issues of menstrual hygiene education can also be integrated with adolescent school sanitation and hygiene education that can be more effective in terms of overall understanding and cost effectiveness. At the same time DPHE personnel working in CHT expressed their views in same direction. Such views and statements indicate that there is a scope of convergence in some specific areas where it needs special attention and integrated effort of the concerned department and that can bring more effective and fruitful result. It is also seemed that the agricultural activities can also be linked with the micro-credit program that can help to generate more outcome in agriculture through utilization of credit.

13.3 Sustainability of project activities and achievement

The issue of sustainability is an important one, which is considered from various points of view in different level. In this section, the sustainability of the project is been considered in terms of financial, institutional, participation of the community people, technology promoted under the project and achievement of the project. In this section all kinds of stakeholders were addressed to cover the issues of sustainability.

Among the stakeholders all the Karbaris reported that people liked the facilities, which were being promoted by the project. But the community people are so poor and they have little ability to install sanitary latrine or contribute to install a water point. Many stakeholders participated in promoting the water and sanitation situation e.g. community people, PCMC member, PW, Imam, Karbari, Para leaders, NGOs, women samity members, health workers etc. According to the Karbaris now the union parishad also realize that the development of para means the development of the whole union so the union WatSan committee is also active in implementing the activities through para centre. Ownership of these activities by the local government institutions will help sustain this type of activities. More active participation Union Parishad can make this program sustainable. The participation of stakeholders is observably found positive because they are taking active part in promoting water and sanitation condition as well as in behavioral changes of the respective para. It also indicates that they project created a space for taking about this issues and also taking active part in promotion of those activities. This might be milestone for sustainability of the project.

Karbaris as powerful and respectable persons of the community often sit to discuss with union WatSan committee on watsan and hygiene issue. The stakeholders feel that they require community fund to sustain this project for the long term. In this regard, the community people should contribute for developing and maintaining these activities. The community people should be facilitates to contribute in the project.

However, it is remarkable that people irrespective of different social strata and faith communities have preferred the option and the benefits of sanitary latrine and safe drinking water. It was also very encouraging that the hill people themselves have participated and contributed to search out and fixing up the water resources e.g., they, in a body, have consulted and fixed a place up. Another instance was also remarkable while they had collected a local contribution that amounts Taka 2000 to install a ring well.

The Religious leaders indigenous ways of communication and local available resources has added value in the project activism.

However, some of religious leaders were also apprehensive about the kind of dependency that the technological package offered them resulting to unavailability of 'a Mechanic' (trouble shooter) while there is a need to repair the tube well.

The common provocative proposition made by the religious leaders was an improved project package that can reach out all the primary stakeholders. They have also suggested to enhance the project pace that really addresses the enthusiasm of the people of the locality who are emotionally attached to the activities being done over there. Another strong suggestion that supplements the proposition was to include the issues of equity, which emphasize on the empowerment of a large number of people in the area, who are poor and who also deserve to lead a healthy way to life. Addressing the poverty alleviation issues would in turn contribute to the local level solution, they added.

All schoolteachers observed that the available options of hygienic latrines and messages for promoting hygiene behaviour, which are being promoted by the project, were socio-culturally quite acceptable to the community people.

Regarding the question whether all community people were able to afford the technology for safe water and sanitation, all respondents answered in the negative. They said that setting up a tube well will cost about Tk.5000, whereas a poor person can collect not more than Tk.2000 so she/he needs help of another Tk.3000. Others say that even this amount is too much for a poor person. It is too hard for a poor man to collect Tk.500 in order to set up a sanitary latrine. They can give labour, but not money, and it is also a burden for them to bear the regular expenses of maintaining cleanliness of the latrine.

A major portion of the community people could not afford the cost for installation of latrine, because of poverty, who that are day laborer, landless and peasants and they lives on hand to mouth. Since they have eagerness to install hygienic latrine but they cannot afford it. So there is need to installed affordable low cost option.

The Local elite, Karbari, Vantae has contributed a good amount of money, some land, some valuable suggestions. The community people who could not afford to contribute invested time and labor in installing it. One PCMC member reported that the community people had installed two water sources by their own initiatives.

According to the PCMC members Union WatSan Committee have shown interest and they provided some assistance. According to some other PCMC members Union WatSan committee felt interest and conducted a meeting but virtually they were in no action.

Chapter Fourteen

Recommendations

The evaluation findings indicate some issues that need to be considered for the future improvement and smooth operation of the project. Through out the evaluation process, some of the recommendation evolved from the various suggestions made by the stakeholders, while some of them are made based on the analysis of primary data. The recommendations have been categorically presented in the following:

Para Centres

- The project was designed to implement in para center approach, which was found as an effective approach in local development, because multi-sectoral development has been initiated centering the para. This activity should be continued and strengthened. Para Centres can be the centre for all development activities in the CHT in future. Para Centres should incorporate all other development aspects e.g. agriculture, health, education, local governance, Income Generating Activities (IGA) for the poor, gender equality planning and implementation, legal and human rights activities etc.

The physical verification finding reveals that the number of households in the para is more than the number mentioned in the PAP and maps. During para action planning, it is needed to be cautious about it and performed these activities more accurately.

It was found that a portion of PCMC members was trained under this project. The trained PCMC member's participation is comparatively higher than that of non-trained members. To ensure participation of all PCMC members they should be trained as early as possible for better outcome of the project.

PAP updating is one of the issues that need to be strengthened. As part of performed activities by para worker only 61 percent reported that they update PAP regularly which is the lowest among all other activities of them. Though updating of PAP is regular activities but that is not updated as per the project guideline. So project organizers and facilitating agency members need to be more active in supervise and follow up of these activities.

- The evaluation findings reveal that monitoring on the para centre activities were found weak and irregular. The para workers and other change agents suggested to increase the frequency of monitoring of Para Centre activities should be increased and more made efficient and participatory to ensure quality outcomes.
- A large number of para centres were found do not have facilities of safe drinking water and electricity. Safe drinking water and electricity connection should be made available at each Para Centre to ensure better facilities and create comfort for the children. The electricity connection will ensure comfort and light, which will help to attract people to participate in the meeting.
- The physical infrastructure and facilities (building, water, electricity, educational materials, etc.) of the para centre were found insufficient. The physical infrastructure and facilities of a para centre should be increased and improved to make it more functional and more attractive to the local people.

- In some cases DPHE do not let the community people know about the sanctioned budget for ring well that create confusion and mistrust among community people, which sometimes hamper the participation of them. To ensure participation and community contribution the joint meeting could be organized at the Para Centre to inform them about the budget and required community contribution.

Para Workers

- The para workers are the providers about the message and other activities as well as influencer of the community people. So they should be well conversant and spontaneous in delivering the messages. In making them aware and spontaneous there is a need for further training on information and techniques on mode of message delivery.
- Para Workers are low paid in comparison to their burden of responsibilities. Expectation of high performance and more sincerity from them will require ensuring an increase their salary.
- A provision of exchange visit of para workers especially to the successful para centers can be introduced so that one can learn the key to success and replicate in their para.
- Sometimes political interference hinders appointing qualified Para Workers. In appointing a PW political interference should be removed through joint initiatives by stakeholders.

Water Points

- Some technical problem arises at the time of installation of water points. Sometime the place selected by the community people are not feasible for installation of water point due to technical reasons like soil texture and ground water table. In such case, after feasibility study concerned stakeholders DPHE, ICDP, Para Workers and PCMC members should sit together at the para centre to inform people about non-feasible condition and finding an alternative places together.
- The community people claimed that most of the water points are installed in rainy season when ground table comes up. It is better to installed water points in dry season when ground water table goes down. If the water is available in dry season it is likely that the water will be available all year round. As a result, DPHE should not supply ring well in the rainy season, which is very difficult to install in that season. DPHE and ICDP should take initiatives to ensure supply of technology options on appropriate seasons
- Sometimes local influential people exert their power in installing the water point at their desired place i.e. near their household. When majority of the community people do not find reflection of their expectation in installation of the water point then they become less interested to use it as well as to maintain it. So in installing the water points majority people's opinion should regarded and implemented.
- Scarcity of safe water is acute in the dry season in CHT areas so water experts should think for alternative options of safe water during dry seasons for the CHT people. The ideas of rainwater harvesting and community-based reservoir could be some other alternative options of water to encounter the water problem during the dry season.

Sanitary latrine

- Still a considerable portion of the CHT people does not have financial capacity to buy a sanitary latrine so ICDP or other NGOs working in CHT can provide sanitary latrines to the poor people through long-term microcredit installments.

The latrine should be designed properly so that a physically challenged person can use it comfortably.

- The ongoing social mobilization activities such as SSHE activities, showing of video documentary on use of latrine, community meeting etc. should be kept in operation to increase people's awareness to install and use sanitary latrines.
- The rate of open defecation by the children <3 is still high. Special awareness campaign can be launched especially for the mothers to stop open defecation of below 3-year children. Moreover, child friendly latrine should be designed to promote the use of it by the child.

Communication

- It is evident that a Bengali Para Worker has been appointed for an area where "Chak", an ethnic group lives. Most of the *Chak* do not understand the language of that Bengali PW, and on the other hand, the Bengali PW does not understand the Chak language. In appointing a Para Worker, it should be remembered that she knows the languages of the communities living in that specific para.
- Behavior Change Communication (BCC) activities, materials and methods should be very much acceptable to each of the specific ethnic minority groups of CHT to make it most effective. In designing those BCC activities and materials their language, rituals, beliefs, customs and religion should be considered. Therefore, in each step of developing BCC materials it must have an indigenous shape.
- The picture used in the communication materials should be bigger in size and clearer to understand. It is also suggested that picture should represent the nature and culture of the respective communities.
- The terminology used in the communication materials like *Kalim chacha* should be used incorporating the terminology of respective communities.
- Para worker in such a way should deliver the menstrual management messages so that everybody can take it easily. If possible it can be visualized to make more clearer like others message such latrine and safe water use.

Control of Vectors

In CHT the prevalence of malaria and diarrhea challenges the public health situation till now. Infestation of mosquitoes and flies should be controlled through appropriate measures in each para so that the rate of malaria, diarrhea etc. gets reduced.

Coordination

- In the process of implementation of the project activities, lack of coordination among stakeholders was evident among ICDP and DPHE personnel. All contributing agencies' representatives should sit together on a regular basis to strengthen the coordination among ICDP, DPHE, NGOs, UNICEF, local administration. The capacity of the Local Government Institutions (LGIs) and local institutions should be enhanced gradually to ensure good governance and sustainability.

Coordination among DPHE, ICDP and community people regarding water point installation.

- In most of the hilly areas coming to the Upazila HQs from a village of a Union requires unbearable transportation cost and physical stress for the Para Workers. Coordination meeting should be taken place at the Union level instead of Upazila level.

Participation and sustainability

- Participation of the beneficiaries i.e. people of the CHT in designing, implementation and monitoring the CHT component of ESHWSRA project was found as a crucial issue for sustainability of the project. Ways and means for ensuring more effective and meaningful participation of the CHT people in the project activities should be ensured since the research team finds more scopes of participation of the beneficiaries in the project activities. More participation by the beneficiaries will make them more empowered in resolving their local problems.
- It was found that meetings of the PCMC are not held regularly. Meetings and discussions by the Para Centre Management Committee (PCMC) should arrange regularly to use it as a tool for strengthening local participation.

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