

End Line Study of Sanitation, Hygiene and Water Management Project, Bajhang

Final Report

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By

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The Sanitation, Hygiene and Water Project is supported by the Australian Government through the Australian Red Cross and implemented by Nepal Red Cross Society.

ACRONYMS

ARC	: Australian Red Cross
BCC	: Behaviour Change Communication
CHAST	: Child Hygiene and Sanitation Training
CLTS	: Community Led Total Sanitation
DRR	: Disaster Risk Reduction
DWSS	: Department of Water Supply and Sewerage
D-WASH-CC	: District WASH Coordination Committee
FCHV	: Female Community Health Volunteer
FGD	: Focus Group Discussion
GoN	: Government of Nepal
IEC	: Information, Education and Communication
KPI	: Key Performance Indicator
MTR	: Mid-Term Review
NRCS	: Nepal Red Cross Society
PHAST	: Participatory Hygiene and Sanitation Transformation
ODF	: Open Defecation Free
RM	: Rural Municipality
R/M-WASH-CC	: Rural/Municipality-Water Supply, Sanitation and Hygiene-Coordination Committee
SHWM	: Sanitation, Hygiene and Water Management
VCA	: Vulnerability and Capacity Assessment (VCA)
VDC	: Village Development Committee
VMW	: Village Maintenance Worker
V-WASH-CC	: Village WASH Coordination Committee
WASH	: Water Sanitation and Hygiene
WHO	: World Health Organization
W-WASH-CC	: Ward WASH Coordination Committee
WSUC	: Water and Sanitation User Committee
WUC	: Water Users Committee

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Consultant

Executive Summary

Nepal Red Cross Society has implemented the Sanitation, Hygiene and Water Management (SHWM) project in targeted four earlier VDCs (Deulekh, Rayal, Kailash and Sainpasela) and selected three wards of Jaya Prithivi Municipality (ward 10, 11 and 12) in Bajhang district since July 2014 with financial supports of Australian Government and Australian Red Cross in line with the sanitation and hygiene policy and plans of the Government of Nepal with aims to enable vulnerable individuals and communities in the targeted rural areas to address their water, sanitation and hygiene (WASH) related needs, and to increase equitable access to and use improved WASH facilities among targeted communities. The project is being phase out by the end of June 2018. This end line study provides analytical information about achievements of impact, outcomes, sustainability and effectiveness of the SHWM project in the intervention areas.

Methodology

The mixed method research approach that integrates both quantitative and qualitative information was used in this study. Pre-and Post programme evaluation design was used to assess overall progress, impacts and changes by comparing baseline information with end line survey information. Primary quantitative data were collected from 548 randomly selected households from Kailash, Sainpasela, Rayal and Deulekh VDCs, and Jaya Prithvi Municipality through household survey using mobile technology with KoBo data collection software. Qualitative data were collected through FGD, KII, and direct observation through participatory approach. Additional information required for the review was obtained from the project documents and progress reports. Quantitative data were analyzed by using SPSS 18 software and thematic approach was used to analyze qualitative data. Achievements and outcomes of the project were assessed by comparing baseline and end line data. However, baseline study which was conducted after nine months of the project implementation did not reflect true situation/indicators of WASH in the project areas before the project initiation. Therefore, some achievements seem below the targets.

Findings

The project design and implementation plans were found consistent with the national sanitation and hygiene master plan, WASH policies and priorities of the government of Nepal. The project activities were relevant and appropriate to the urgent water supply, sanitation and hygiene needs of target communities. Seventy two WASH Committees including Ward WASH CCs and Water User Committees (WUCs) were actively involved and fully functioning during the project period. Out of 72 WASH committees formed by the project, 49 (68%) had 50 percent women who participated in the decision-making process. WASH committees found to be inclusive in terms of gender, caste, poor and vulnerable people's representation in them. Participation of women in meeting and sanitation campaigns at the community level found increasing and men were also involved in fetching water. But traditional women's roles such cooking, washing and cleaning are not changed. Practice of gender equality and social inclusion has been successfully promoted in WASH sector through the participation of women, Dalit and Disable people in decision-making body. Three out of seven WASH/Water Users Committees visited by the study team had Dalit in the position of chairperson and all six committees had women in managerial position. There was representative of people living with disability (PLWD) in some WASH committees. These are evidences of participation of women, Dalit and disable person in decision-making process.

The project has made satisfactory achievement in sharing WASH evidence, knowledge and learning through production and sharing of reports, documents, bulletin, case stories video, orientation and experience sharing meeting, conference, workshop, exposure visits, peer review publication and webinar/e-learning. Household members got information and learned about use of toilet and hand washing with soap (96.4%), safe storing and handing of drinking water (72.8%), household sanitation (64.5%), proper management of animal excreta and wastes (59.2%), and making menstrual pads

(31%). Main source of knowledge and learning about WASH (96.2%) at the community level is community motivators who made door to door visits for sharing WASH knowledge with members of households.

Hand washing behaviour significantly increased at all critical moments such as hand washing after using toilet (from 83.4% to 99.5%), before eating (from 69.7% to 91.6%), before preparing food/meal (45.3% to 69.5%), before feeding infants/children (15.9% to 87%) and after cleaning babies bottom (26.5% to 70.0%). Sixty-seven percent of women used old clothes for absorbing menstrual blood and 30 percent used homemade sanitary pad and 84 percent reuse homemade as well as old cloth pads. All people and members of women group visited by the study team had knowledge of sanitation and hygiene behaviour. They also reported that almost all people in the project areas were exposed to sanitation and hygiene knowledge. But this study estimated about 15,538 additional people had improved knowledge of diarrhea and hand washing behaviour. Likewise, 14,879 additional people had knowledge and practice of hand washing with soap before eating. The huge discrepancy between the project document (26,273) and end line estimated data (14,879) might be influenced by several factors. Many people were already exposed to hygiene messages and skills before the baseline survey which was conducted after nine months of the project implementation. Almost all people should have received knowledge about hygiene practice, but behaviour of some people has not been changed because the increased knowledge may not lead to the behaviour change.

A total of 9,744 additional people were found using improved toilet by the end of the project. Though this number is less than targeted number of 10,329 additional people. In reality it could be more than the target because access to improved toilet facility was estimated below 50 percent just before the project initiation. There is 69 percent improvement in access of people to dish washing and drying facility. Only 19,356 additional people had access to hand washing facility with soap and water by the end of the project. In reality, additional number of people with hand washing facilities and soap might be more than afore mentioned number as many households keep soap inside house. Out of 10 intervention schools, only 7 schools had adequate student-toilet ratio. It was also found that 90 percent of interventions schools had established disable friendly toilets. It was also reported that all students had access to improved toilets, but the number of improved toilets were still not sufficient as per the student number.

Schools had not maintained records of additional students' participation in school hygiene behaviour change programme. Head teachers visited by the study reported that all students in 18 schools of the project areas participated in the hygiene behaviour change programme and they also estimated that about 5556 additional students were involved in the sanitation and hygiene behaviour change programme of schools during the project period. Discussion with members of child clubs/Junior Rec Cross Circles revealed that almost all students wash their hands after using toilet and before eating meal. End line school survey revealed that all 10 surveyed schools had established hand washing facility with soap. It was also estimated that about 5556 students in 18 schools had access to hand washing facility with soap. Head teachers interviewed by the study team realized that they were unable to put soap daily at hand washing place for students despite the soaps received from the donor agencies.

All the 39 communities of the project areas were declared as ODF zones within the first year of the project period through concentrated and coordinated efforts of the project with active involvement of local WASH actors and community. Human shit was not observed by the study team during field visit and walking across the some village of the project area. All 39 communities actively participated in the sanitation programme implemented by the project. Local people and members of WASH committees/WUCs visited by the study team also reported that women, men, youths and children including PLWD and marginalized people enthusiastically participated in the sanitation campaigns in order to eliminate ODF and improve the sanitation status of the households and community.

Household survey data revealed that about 90.6 percent of households in the project areas had access to improved drinking water. It was estimated that 7,900 additional people had access to improved drinking water, which is below the targeted number (8464). End line study and project data may vary because the household sampling was not purposefully design to reflect the households that benefitted directly from the new water schemes. Average water consumption per day per household increased from 147 liters before and 198 after the project. About 52 percent or 13, 694 additional people found following safe handling and storing practice, which is 92 percent achievement of the target (14,800). A total of 2783 students in 10 intervention schools had access to drinking water with improved sources. During field observation, study team also found that children in one schools were using drinking water from unimproved source. Out of 10 schools observed, seven had universally accessible water facilities. In six schools, number of water taps was sufficient for the students and drinking water taps were child friendly and disable friendly. All 36 water supply schemes completed by the project were designed and constructed after analysis of sustainable yield of water resources and possible risk of natural disaster.

The project has effectively promoted equitable access to improved water supply and sanitation facilities in the targeted communities. Brahman/Chhetri, Dalit, ultra poor, single women and vulnerable people are equally using toilet facility including hand washing facility. Likewise, Dalit, ultra poor and vulnerable households are more or less equally benefited from the equitable distribution of improved water supply facility. Community Led Total Sanitation and Community demand driven approach, pro-poor/vulnerable focused and GESI framework based approach were found effective to the establishment of equitable water supply and sanitation facility in the communities. Beneficiary households and women groups that were visited by the study team were very pleased with new and improved water supply facilities, which can be accessed within a few minutes. There was a perception among women that they benefited most from the water supply interventions both because of the reduction in the amount of time they now have to spend collecting water and because of the improvements in the health of their children.

WASH interventions also have some positive effect on children education as reported by parents and school teachers. However, there is no quantitative data to support this view. Children have also benefited from WASH facility as they less frequently suffer from illness and have additional time for playing and reading at home. As mentioned by the head teachers, the number of students' school absenteeism has been reduced with the improved access to WASH facility in school and community. But schools had not stored the attendance records of students before the project implementation. Interaction with high school girls and teachers, all menstruating girls attend school during their monthly period. Household survey also revealed the same.

Issues of DRR and Climate change were adequately discussed in planning meeting/orientation and in the process of vulnerability and capacity assessment (VCA) activities. But these issues have scarcely found in implementation process of water supply schemes. Current activities in this field in water projects cannot yield the necessary impact on reducing consequence of DRR and climate change, and on increasing awareness at the community level.

Likelihood of continuing key achievements made in equitable access to the improved WASH facilities is very high as local people, stakeholders and local government are capable for performing sanitation activities, and operation and maintenance of water supply facilities in the future. Newly elected local governments have already formed R/M-WASH-CC, Ward-WASH-CC. They are showing interest to recruit community motivators/hygiene promoters in order to continue community based sanitation and hygiene activities in the future. Bithhadchir Rural Municipality (Deulekh) had a plan for recruiting community motivator in each ward and forming Tol Improvement Committee in each settlement. Improved hygiene behaviour will be continued forever as children, men, women and elder people have been habituated to use toilet and wash hands with soap. But additional efforts and supports to the households from local governments are required to

improve the animal dung/waste management facility and achieve total sanitation status at households and community level.

All WUCs have at two members who are trained as water technician and mason, capable of repairing WASH facilities. They have also recruited a caretaker to look after the water supply facility and undertake minor repairs. Most of WUCs do collect user fees and have bank accounts to save the money for the future operation. Beneficiaries/WUCs are also receiving support from the local governments for rehabilitation and new construction of WASH schemes. Despite these, there is still donor dependent tendency among the local people, which may have negative influence on sustainability of improved water supply facility.

Lessons Learned

Increased Equitable access to Improved Sanitation Facilities: CLTS approach along with the use of low cost/improved technologies can enhance acceptatnce of sanitation facility and quickly increase access to and use of improved sanition facilities. Providing support to ultra poor, single women and vulnerable people for upgrandng temporary facility promotes equitable access to sanitation.

Improved in Hygiene Behaviour: Sanitation and hygiene education along with IEC/BCC activities in schools, mother groups, child clubs and regular home visit by community motivators are required to raise critical awareness, cultivate hand washing with soap at critical times, and bring out sustainable behaviour changes among men, women, children, youths and students.

Increased Equitable Access to Improved Source of Drinking Water: Integration of water supply schemes with sanitation and hygiene and GESI needs to be emphasized in rural areas for promoting equitable access to improved source of drinking water. Integration of DRR, climate change, vulnerability and capacity assessment activities into WASH schemes are essential for better management of water resource and sustainability, but it requires additional efforts to bring out postivie change at the community level.

Increased community participation and local stakeholders: Applilcation of CLTS approach and tools is essential for triggering and mobilizing people in community wide action. Planning and implementing WASH project in line with the government policy and plan, and using local governing bodies have resulted in better outcomes and an increased sense ownership of WASH initiatives.

Increased capacity and performance of WASH actors: Project activities focusing on capacity development and performance improvement of local WASH committees and actors in addition to service delivery is the best way to ensure the sustainability of WASH activities in the future.

Recommendations

- Establish participatory monitoring systems through which target group can evaluate their progress and define priority actions on regular basis.
- WASH project should be design and implement aligned with national WASH plan and local strategy with involvement of local governments and CBOs for effective implementation and sustainability of the project activities.
- Integration of sanitation and hygiene education, GESI framework, cross-cutting issues into WASH project and engaging multiple stakeholders along with multi-layer influence strategies (individual, groups, schools, community, stakeholders at community, VDCs, and district level) appears to be key factors for increasing equitable access to improved WASH facilities and changing sanitation and hygiene behaviour. Such integrated approach can be replicated in other WASH project in the future.

- Cultural practice of keeping cattle in courtyard and ground floor of houses continuously generate wastes and causes unhygienic environment at household level. Additional efforts from the local government are required to improve household environmental sanitation by motivating and supporting people to prepare proper manure pits as well as waste collection pits.
- Child friendly taps and public bathroom constructed at community water post is an innovation of the project, which can replicated in all WASH facilities of the country. More attention to harmonized approaches and adoption of best practices, with equal attention to the importance of trying out innovative methodologies, introducing new technologies.
- Mobilization of child clubs and Junior Red Cross Circles are effective strategies for conducting WASH activities in school through participatory approach.
- Universally accessible sanitation facilities in school need to be constructed in all public schools with supports of government and non-government agencies in the future. Such an initiative can convey positive message to the concerned authority and actors to promote disable friendly WASH facilities in public institution.
- School WASH programme can be linked with school garden and ecological sanitation where student can use waste water, compost fertilizer prepared from organic waste as well as urine collected from urinal as fertilizer.

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Chapter I Introduction

1.1 Background and Context

Nepal is one of the least developed countries with 144 position in the Human Development Index (HDI) among 188 countries surveyed by the UN (UNDP, 2016). Nepal also lags behind the Maldives, India, Bhutan and Bangladesh in terms of human development. About one-quarter of the total population (25.16%) still live below the poverty line, indicating the stagnation of economic growth and development in Nepal (CBS, 2016). Nepal has made significant progress in WASH Sector though a considerable proportion of the total population still lacks access to basic water supply and sanitation facilities. In 1990 before formulating National Sanitation policy 1994, 46 percent of the total population was using drinking water from the improved sources and only 6 percent had access to toilet facilities (NSASC, 2000). Census report shows that 85% of Nepalese households in 2011 had access to improved water sources and 62 percent access to sanitation facility (CBS, 2012). The involvement of users in the process of planning and implementation had significantly increased the coverage from 6% (1990) to 87.3% (2016) in sanitation and similarly 46% (1990) to 87% (2016) in water supply (MWSS, 2016).

From around 2005, total sanitation approaches were introduced in Nepal to increase Open Defecation Free communities, school catchment areas through Community Led Total Sanitation (CLTS) and School Led Total Sanitation (SLTS) (Shrestha et al 2005; GoN, 2011). Nepal Sanitation and Hygiene Master Plan (GoN, 2011) has promoted the involvement of local community to design and implement the total sanitation campaign using local technology and innovative idea. DWSS is the main agency responsible for the provision of water and sanitation services in Nepal. A number of development agencies including UNICEF, WHO, DFID, USAID, Water Aid, Nepal Red Cross Society (NRCS) along with NGOs are directly or indirectly have contributed to the WASH sector of Nepal.

Nepal Red Cross Society has been implementing Sanitation, Hygiene and Water Management (SHWM) project in Bajhang District for the period of four year, starting 1st July 2014 and ending 30th June 2018 with the support from the Department of Foreign Affairs and Trade (DFAT) of Australian Government and Australian Red Cross. The project aims to enable vulnerable individual and communities in the targeted areas to address their WASH related needs. SHWM Project has been implemented in former four Village Development Committees (VDCs) i.e. Deulekh, Rayal, Kailash and Sainpasela and Jaya Prithivi Municipality (ward 10, 11 and 12) of Bajhang through demand driven, participatory and sustainable approaches that has tailored to specific vulnerabilities and context as well engaged with the government and other stakeholders principally at district level, enabling key government agencies and other WASH agencies participation in the whole project cycle while building upon the capacity of NRCS at Volunteer, Branch and Headquarter level to effectively support the WASH programmes. The intended impact of the project was for individual and community level to motivate and enable to address their Sanitation, Hygiene and Water Related Challenges improving health, well-being, productivity and dignity. The project intends to bring out following outcomes:

Outcome 1: improved performance of wash actors

Outcome 2: Improved gender equality

Outcome 3: Improved WASH evidence and knowledge base

Outcome 4: Improved hygiene behavior

Outcome 5: Increased use of equitable sanitation services

Outcome 6: Increased use of improved and equitable water

The project activities have been implemented through community demand driven, participatory and Community Led Total Sanitation (CLTS) approaches in coordination with District Water, Sanitation and Hygiene Coordination Committee (D-WASH-CC), Village WASH Coordination Committees (V-WASH-CC) and Ward-WASH Coordination Committee (W-WASH CC) and other local stakeholders. Project areas were declared Open Defecation Free (ODF) in the first year of the project. From the second year the project prepared Post ODF plan in consultation with local WASH committees and stakeholders and initiated post ODF interventions focusing on total sanitation through sanitation funding mechanism. In order to bring changes in sanitation and hygiene behaviour of the targeted communities, hardware components of the project were linked with software interventions such as sanitation and hygiene education, behavioural change campaigns, WASH campaigns, orientation and consultation meeting. Major activities conducted at household level were hand washing promotion, waste management, awareness sessions on diarrheal disease and improvement of water storage. Behaviour change campaigns were intensified through door to door visits of all households in the project areas by community motivators. Sanitation campaigns and demonstration of hand washing practices were major interventions which started at the beginning of the project. Behavioural change messages were regularly aired through radio episodes coordinated by NFCS. Construction of child, girl and disable friendly toilet along with formation of WASH clubs and hygiene promotion activities in selected 10 schools and school hygiene promotion activities in the schools of the project areas were successfully completed by the end of the project.

The project has completed 36 water supply schemes and a total of 33 Water User Committees (WUC) were formed in the process of constructing water supply schemes. All the WUCs have taken over the management responsibility with the provision of Operation and Maintenance fund and caretakers. Each WUC has toolkits and at least one trained and operating caretaker. Water testing equipment has been provided in VDCs for water quality monitoring and is expected to be conducted by every six months.

Several consultation meetings with local WASH committees, WUCs, and other stakeholders/actors focusing on women, disability and social inclusion accessibility in WASH facilities and their participation in decision making were conducted with a view to promote GESI issues in the WASH sector. Consultation meeting about environment, climate change and disaster Risk Reduction with the provision of solid waste management plan and training in Vulnerability and Capacity Assessment were also some interventions of the project. To support learning and knowledge at sector level, national and international learning events, reflection/review workshops for knowledge and learning activities and case studies/stories were held, photos and videos disseminated. Bulletins and peer reviewed articles were also published. Case stories have also been uploaded on Nepal Red Cross Website and quarterly bulletins have been published to share the project's learning and evidence with stakeholders.

1.2 Scope of the Study

This survey is to collect and analyze information required to assess the impact, outcomes, effectiveness and sustainability of the project. In addition the study results provide information about the capacity of NRCS district chapter to provide post project follow up and support in sustaining the outcomes and impacts of the project.

1.3 Purpose and Objectives of the End-Line Study

Purpose of the end-line study was to determine achievement, impact, outcomes, sustainability and effectiveness of the Sanitation, Hygiene and Water Management (SHWM) project in the targeted former VDCs/Municipality of Bajhang for accountability to both beneficiaries and partners. It will also draw major findings and recommendations to fodder further WASH programming.

Objectives of the end-line study were to:

- To determine overall progress of the project towards project intended results (Impacts, KPIs and expected changes in services) including the changes in
 - level of accessibility to of drinking water and improved sanitation facilities by the target population,
 - knowledge, perceptions, attitude and practice of the beneficiaries and surrounding communities in relation to hygiene and sanitation
- To review effectiveness of community engagement in the design and implementation of the project. This includes accountability, participation and relevance of the project to the community.
- To determine what factors are now in place to ensure that the improved service level can endure or be replicated in other areas of Nepal.
- To capture lessons learnt to inform future WASH programming in the Red Cross movement and wider WASH including about mainstreaming GESI, DRR and Climate Change in WASH

1.4 Methodology

We adopted a 'mixed method' approach that draws on both quantitative and qualitative methods of data collection and analysis (Creswell, 2011). This method has been a useful approach to strengthen both reliability and validity of data and to deepen our understanding of the processes to evaluate the programme outcomes, impacts, effectiveness and sustainability of the project intervention. Quantitative data/information will be collected through survey questionnaire as well as be gleaned from project database, monitoring reports, quarterly and annual reports and records of Health Posts. Qualitative data were collected through key informant interview and focus group discussions as well as case studies.

1.4.1 Criteria of End-Line Study/Evaluation

This end-line study was mainly based on following criteria and research questions:

Relevance: It refers to the extent to which the project activity is suited to the priorities and policies of the target groups, the nations as well as donor agencies.

- How relevant is the programme in the Bajhang context?
- How well does the project tie in with national WASH policy and programmes of the Government?
- How well did the programme respond to the needs of the affected population?

Impact and Outcomes: It refers to the positive and negative changes produced by a development intervention, directly or indirectly, intended or unintended.

- What changes have occurred in WASH services responding to women's needs (e.g. workload, reproductive health issues)? How did the project contributed to this?

- How well has the project addressed barriers to inclusion and opportunities for participation for people with disability/reduced mobility and those from Dalit communities? How was this achieved?
- To what extent changes in the health status of the target population can be attributed to the project?
- How has the improved WASH service delivery resulted in better outcomes for poor/remote communities and poor/vulnerable households? How has the project contributed to this?
- What evidence is there of changes in targeted areas of WASH related behaviour, attitudes and practices and whose behaviour has been influenced?
- How has access to water improved for users in terms of reliability of supply; accessibility; equity of access; and water quantity and quality?
- Did the project have an impact on education (school attendance, children retention and absenteeism in the project areas due to increased access to WASH facilities in the schools)?
- To what extent have communities adapted WASH practices in response to identified climate-related risks/hazards? What consultations have been undertaken in the project to reduce the environment and disaster risks and climate change adaptation in water facilities, provide examples
- What innovative approaches has the project applied to WASH delivery?

Effectiveness: Effectiveness is understood as the degree to which the outputs are achieved or, in other words, whether the interventions achieved what they set out to do and whether it was done in the right way. It was evaluated based on following questions:

- How and to what extent have beneficiaries participated in decision-making processes informing project design and implementation? For example Dalit communities, children and women. And what impacts has this participation/participation had?
- To what extent are citizens in target areas satisfied, relative to expectations, with the delivery of WASH services?
- How actively has the project involved disabled peoples' organization in planning, implementation, and monitoring and evaluation?
- How effective are the processes in sharing knowledge and learning, within the project team and with partners, and how has that contributed to better WASH delivery?

Sustainability: Sustainability relates to the likelihood of the programme activities in some form continuing after technical and financial assistance has been withdrawn. It was examined on the basis of following questions:

- What factors are in place to ensure that the improved performance of WASH actors, gender outcomes, sanitation practices and hygiene behaviour changes, and improved water supply service level can endured and replicated?
- To what extent has the collaboration between the NRCS and its institutional partners such as district WASH Coordination Committee (D-WASH-CC), Municipality WASH Coordination Committee (M-WASH-CC), Village WASH coordination committee (V-WASH-CC), Ward WASH Coordination Committee (W-WASH-CC), School Management Committee (SMC), Ward Citizen Form (WCF), Drinking Water Supply and Sanitation Division Office (DWSSD), Drinking Water District Office (DWDO), District Women Development Office (WWDO), Female Community Health Volunteers (FCHVs) at local level built the sustainability of services that will continue to support the improved hygiene results.

1.4.2 Desk Review

The study team collected and reviewed the following documents:

- Project documents, Logical framework, operational plan, project reporting template (PRT) of project
- WASH pol
- Baseline survey, Vulnerability & Capacity Assessment (VCA) and mid-term review reports
- NRCS wash policy and procedure and NRCS 7th development plans
- Project reports including beneficiary list, monitoring reports, external monitoring reports, monthly reports and progress reports and other relevant document provided by Nepal Red Cross Society

1.4.3 Study Areas and Sampling

This end line survey was conducted in Deulekh, Rayal, Kailash and Sainpasela and Jaya Prithivi Municipality (ward 10, 11 and 12) of Bajhang where Sanitation, Hygiene and Water Management Project (SHWMP) have been implemented since June 2014. Both random and non-random sampling approaches are suitable in the mixed method of evaluation. Random sampling procedure was used in household survey and non-random/purposive sampling was appropriate to select participants and conduct qualitative interview and focus group discussions.

Sample Size for Household Survey: Household KAP (knowledge, attitude and practice) survey is essential for measuring changes in key behaviour of beneficiaries. A total of 4010 households are main beneficiaries of the project. As mentioned in TOR, almost all targeted activities have been accomplished. Therefore, more than 80 per cent positive responses will be obtained in the end line survey. Here estimation proportion is 0.82. The sample size of households at the 95 per cent confidence level, with a margin error of 3 per cent and the estimated proportion of 0.82 (the total number of households is 4010) was determined as follows:

$$n = \frac{(z^2 \cdot p \cdot q) + ME^2}{ME^2 + z^2 \cdot p \cdot \frac{q}{N}}$$

$$n = \frac{(1.96^2 \cdot 0.82 \cdot 0.18) + 0.03^2}{0.03^2 + 1.96^2 \cdot 0.82 \cdot \frac{0.18}{4010}} = \frac{0.56792}{0.00104142} = 548$$

Where n = sample size

z = critical standard z-score at specified confidence level, p = estimated proportion, q = (1 – p)

ME = margin of error, N = population size (i.e. beneficiary households in this case)

The equation shows that the minimum sample size for the households is 550.

Table 1: Sample Size Distribution in five project sites

	Kailash	Deulekh	Luyanta	Rayal	Sainpasela	Total
Households	339	703	525	1152	1117	4010
Sample	70	95	82	153	148	548

As shown in above table, a total of 548 households were randomly selected in household survey. Probability Proportionate to Size (PPS) method was used to determine sample size in each of five project areas. We included 70 households from Kailash, 95 from Deulekh, 82 from Luyanta, 153 from Rayal and 148 household from Sainpasela for the household survey.

Sample for school survey: The project supported 18 schools for sanitation and hygiene promotion in the project areas. Only 10 schools received support from the project for improving drinking water and toilet facilities

along with hygiene promotion interventions. All 10 WASH intervention schools were purposively included in the school survey.

Qualitative sampling

- 14 key informant interview with Community Motivators, School Teacher, Care taker, representative from W-WASH-CC, V/M-WASH-CC, Chair of District Red Cross Society, District Project Manager, and Civil society were conducted.
- 12 Focus Group Discussions (FGD) with members of three WUCs, one W-WASH-CC, one V/M-WASH-CC, three women groups, four students/Junior Red Cross Circle in Schools will be conducted.
- One interaction with executive members of NRCS District Chapter will be organized.

1.4.4 Data collection tools and techniques

- **Household survey questionnaire:** Survey questionnaire containing closed ended and coded questions WASH related KAP and behaviour was prepared in consultation with the project staff. Household survey questionnaire which was used in the baseline survey and mid-term review were adopted in the end line survey after minor modification. Questionnaire were translated in Nepali Language and installed in KoBo software for digital data collection.
- **Observation checklist:** Observation checklist was prepared to observe and record situation of WASH facilities and services. Separate observation checklist for households and schools were prepared
- **Key Informant Interview:** The key informants are the people who hold special knowledge/experiences in WASH related development sectors and are willing to share their knowledge and experiences with the researcher. Interview guide containing open ended questions was prepared considering the objectives and research questions of the evaluation. Community Motivators, School Teacher, FCHV, Water Supply Caretaker, Water Technician, representative from W-WASH-CC, V/M-WASH-CC, D-WASH-CC, Chair of District Red Cross Society, and Project Manager were interviewed as key informant.
- **Focus group discussions (FGDs):** Focus group discussion is a qualitative research method in which 6-10 participants having similar characteristics sit together and discussion on specified topics and discussion is facilitated by a researcher/moderator. FGDs were conducted with the members of Water User Committees, V-WASH-CC, women group, Dalit Community, Child club and Junior Red Cross Circles.
- **Case/In-depth interview:** Typical cases such woman and households having typical experiences related to WASH were identified and interviewed in depth to prepare case study reports.
- **Institutional Capacity Assessment Tool:** We will use institutional capacity assessment tool in order to assess the institutional capacity of the Nepal Red Cross Society, District Chapter Bajhang. The ICAT is designed to measure the organizations' overall capacity in the following seven key capacity areas: 1. Governance and organizational structure; 2. Financial management and internal control systems; 3. Administration and procurement systems; 4. Human resources systems; 5. Programme & grants management; 6. Project performance management; and 7. Organizational management and sustainability. We prepared indicator of each area and organize workshop in Bajhang with executive members of the NRCS district chapter to assess their capacity using the given criteria through participatory technique. However, we assessed the capacity of the local stakeholders by analyzing key capacities such as Problem Assessment, Planning and Management, Leadership, Collaboration with CBOs, Community Participation, Resource Mobilization and External Linkage. Result of capacity analysis was presented in spider diagram.

Participation of Dalit and Vulnerable People in Data Collection

We made our best efforts to include women, Dalit and people living with disability (PLWD) and to capture their views and experience regarding their participation in decision-making and access to WASH facilities. Separate FGD was organized for Dalit people and women group. It was not possible to organize separate FGD for PLWD because of their scattered settlement. At least two PLWD were identified and interviewed at community level. Representative from District Disabled People Association was interviewed to explore the situation of their participation in WASH activities at the district level.

1.4.5 Training to Field Surveyors and Field Test of Data Collection Tools

Local field researchers from Bajhang were identified and hired in consultation with the Project Staff. A two-day intensive training was conducted for field surveyors in Bajhang. This workshop cum training was rigorous in which discussions on each question of household survey, checklists (FGD and KII), and other elements, sampling method and selection of households, FGD and KII, rapport building and the like will be performed in a participatory way. Each field researcher was actively participating in the training.

1.4.6 Data Management and Analysis

KoBo software was used to develop data management system. Data collected through mobile technology were compiled in a single file. Household survey was conducted by using mobile technology. At the end of each day, field surveyors send electronic field up questionnaire to data manager if they have access to internet service. Data collected through mobile technology were compiled in a single file and then data were cleaned by producing frequency tables, checking range and conducting consistency check. A clean data set was available for data processing within a few days once the survey is completed. The data manager transported the final data set to SPSS software. Data analysis was carried out by using the SPSS, which generated simple tables and complex/cross-tabulation along with descriptive statistics, graphs and charts. Key findings were presented in tables, figures and spider diagram.

Qualitative data were managed and analyzed manually. First scratch field notes taken and audio-tape recorded during in-depth interview and focus group discussions were expanded and transcribed. Important sentences and paragraphs of field notes were underlined, highlighted and noted down with key words and phrases identified. Then, key dimensions and themes of qualitative data were identified considering objectives and scope of the study. Key issues emerged from data were grouped under the identified themes or categories. Data were sorted out, reduced, linked and displayed in the form of summaries. These qualitative findings were triangulated with the results of the quantitative data.

1.5 Ethical Consideration

The study team is well aware of ethical issues in research process such as protection of research participants' right to autonomy, self-determination, protection of identity and informed consent. Consultants are well aware of child rights and child protection in school. Sincere efforts were made to protect child rights and keep them safe from possible harms during the data collection period. Before conducting the interviews and focus group discussions, our team explained the purpose, outcome, and benefit of the study as well as possible risks in participating in research activities to the participants. They were also informed about their right to deny and withdraw their participation from the study. A verbal consent was obtained from those who want to participate in the research process voluntarily. The data collected from the research participants and households were kept and treated confidentially, and were used only for the purpose of this study. The real names of the research participants have not appeared in the report while quoting their verbatim.

1.6 Limitation of the Study

This end line study was carried out within a short period based on baseline study design and tools; hence its scopes, process and products are bound to be limited to some extent. However, the study team made its efforts to obtain the required quantitative and qualitative data from the field using multiple methods of data collection. The achievements and outcomes of the project were determined by comparing baseline and end line study data. Baseline data may not reflect true situation of WASH before the project implementation because it was conducted after nine months of the project initiation. Awareness, hygiene behaviour, access to toilet and hand washing facility might be already increased to some extent at the time of the baseline. That might data discrepancy between the project data and estimated data of the end line study. Therefore, the data obtained from sample household survey conducted in the end line may vary from the data recorded in the project document.

Chapter II Findings

This chapter presents findings of analysis of data and information collected from field as well as project documents. Findings have been organized under six project outcomes and themes derived from research questions.

2.1 Background Characteristics of the Respondents

A total of 548 households from five project sites, namely; Sainpasela (148), Rayal (153), Kailash (70), Deulekh (95) and Luyanta Municipality (82) were surveyed using structured survey questionnaire. Only 14 households found to be headed by female member of household. About 60 percent of the total respondents were male and 40 percent female. About 80 households were from Brahman/Chhetri/Thakuri community.

Table 2: Background Characteristics of Respondents

SN	Background	Number (n=548)	Percent
1	<i>Household head</i>		
	Men	471	85.9
	Women	77	14.1
1	<i>Sex of respondents</i>		
	Male	327	59.7
	Female	221	40.3
2	<i>Caste/Ethnicity</i>		
	Brahman/Chhetri/Thakuri	442	80.7
	Dalit	106	19.3
3	<i>Education</i>		
	Illiterate	128	23.4
	Non-Formal Education (Literate)	62	11.3
	Basic Education	127	23.2
	Secondary Education	161	29.4
	Twelve passed and above	70	12.8
4	<i>Marital Status</i>		
	Unmarried	42	7.7
	Married	505	92.2
	Widow	1	0.2
5	<i>Types of family</i>		
	Nuclear	250	45.6
	Joint	298	54.4

Regarding education of the respondents, 23 percent were illiterate, 29 percent had secondary education and only 13 percent had education with grade 12 passed and above. More than 90 percent of respondents were married. Majority of the respondents were from joint family (Table 2).

About 95 percent of the total households had their own agricultural land. Among them 63 households can feed their family members for less than six month from food grains produced from their agricultural land. Only five percent households can secure sufficient foods from their land for a year. It indicates that most of households have a problem of food security. About 70 percent households, by and large, depend on subsistence agriculture

for their livelihood. Most of households (80%) live in semi-permanent type of houses made of stones, mud and wood (Table 3).

Table 3: Socio-Economic Condition of the Households

	Land holding and sources of income	Number (n=548)	Percent
1	Land holding status		
	Households having agricultural land	519	94.7
	Landless	29	5.3
2	Food sufficiency		
	Less than 6 month	326	62.8
	6-9 months	149	28.7
	10-11 months	19	3.7
	12 months (round year)	25	4.8
3	Main sources of livelihood		
	Agriculture	382	69.7
	Business/retail shop	25	4.6
	Traditional Occupations (Blacksmiths and traditional tailoring)	27	4.9
	Service/Employee	53	9.7
	Wage Labour	27	4.9
	Foreign employment	30	5.5
	Skilled labour	2	0.4
	Other	2	0.4
4	Type of houses		
	Permanent (Made of cement/stone)	92	16.8
	Semi-permanent (Made of mud/stone/wood)	438	79.9
	Temporary (Made of bamboo and wood)	16	2.9
	No own hoses	2	0.4

2.2 Relevancy of the Project

Relevance of the project refers to the significance of the project design and interventions in the local context and their alignment with national priorities in responding to the local needs. The project design and interventions are found to be consistent with the national priorities and policy, particularly, Sanitation and Hygiene Master Plan of Nepal (GoN 2011). The SHWM project design maintains that its implementation is compatible with the existing initiatives of the Government to make Nepal as ODF free zone and address the WASH needs of the local people. It was compatible with D-WASH-CC and V/M-WASH CC initiatives and project activities have been implemented through collaboration between NRC, D-WASH-CC, V/M-WASH CC, local governing bodies, CBOs and concerned stakeholders. The project sites selection and implementation were guided by the WASH and ODF strategy of the Bajhang District. As a whole, the project design and implementation plan were found to be appropriate and suitable for achieving the targets of both D-WASH-CC and the Project.

The project activities were conducted in the selected areas where people had poor access to improved sanitation facilities and improved water supply facilities. Remote, poor and vulnerable communities were selected by D-WASH-CC. Selection of water supply schemes was based on community demand driven and need assessment conducted in initial phase of the project. A targeted and focus interventions were implemented to address urgent

sanitation, hygiene and water supply needs of community and school children in the project areas. Local people and beneficiaries visited by the study team expressed their views that open defecation was rampant, many households did not have access to improved source of drinking water, and people were ignorant about their sanitation and hygiene behaviour. Local people are satisfied with improved water supply, sanitation and hygiene situation resulted from four year project interventions.

2.3 An Overall Progress and Achievement of the Project toward Expected Results/Outcomes

2.3.1 Achievement of Expected Outcome 1: Improved Performance of WASH Actors/Committees

The SHWM project intended to improve capacity and performance of WASH actors and Committees at local level. Supports to WASH governing bodies at local level, especially the V-WASH-CCs (Village WASH Coordination Committees) and the lower-level Ward WASH Coordination Committee (W-WASH-CC)¹ were provided through orientation meeting, interaction, knowledge sharing and engaging WASH activities so that they could effectively implement the National Sanitation and Hygiene Master Plan in their locality.

KPI 1.1 Number of WASH committees targeted by project

Review of project document and discussion with project staff and NRCS executive members revealed that a total of 72 WASH Committees including 39 Ward-WASH-CC and 33 WUCs were formed, oriented and mobilized in WASH activities of the project at the local level. During the field visit, members of V-WASH-CC and local leaders also reported that NRCS' project formed W-WASH-CC in each ward of former VDCs and selected wards of Prithivi Municipality, and water supply schemes were conducted through the Water User Committees.

KPI 1.2 Number of WASH committee members targeted by project

The project had set target to form WASH committees in the project areas by including 533 members. This target was achieved because there were 562 members in 72 WASH committees.

KPI 1.3 Number of targeted WASH committees that are fully functioning

All 72 WASH committees were fully functioning during the project period as reported by beneficiaries, members of women groups, water users committees and school teachers. During interaction with local people and members of WASH committees, it was reported that all W-WASH-CCs were actively involved in planning, implementing and monitoring activities related to WASH during the project period. During field research, study team visited six water user committees which were fully functioning in terms of operation, maintenance, water tariff collection and taking care of water supply facilities by recruiting care takers. It was also found that all water user committees were fully undertaking their roles and responsibilities. W-WASH-CCs, which had no formal existence in the new local government structure, were found informally functioning and undertaking their roles in their locality. It was also reported that new local governing bodies were interested to reform and continue such WASH Committee in each village/cluster of the Rural/Municipality for the improvement of WASH situation at the community level.

Interactions with local people and former members of V-WASH-CC revealed that they successfully performed various activities such as preparing/updating VDC WASH profile, prepare and implement ODF and Post ODF plan as well as drinking water supply plan with the support from the project. They also said that they were capable to plan and implement WASH plan and perform their roles effectively.

¹ A ward is the smallest administrative unit of the local government, earlier VDC. At present many VDC was converted into Ward of the rural municipality in 2017.

After formation of W-WASH-CCs and WUCs, the project well informed and oriented their roles and activities. W-WASH-CCs were responsible for preparing WASH profile of Ward, identification of WASH needs at the ward level, prepare WASH plan and facilitate the implementation of Ward WASH plan and monitoring WASH activities at the ward level. It was also reported that they prepared record/lists of households having access to water supply and sanitation facilities, prepared and implement WASH plan at the local level. They played effective roles in implementation of ODF and Post ODF plan, and facilitation in the implementation of water supply schemes including identification of drinking water sources and ultra poor households. Likewise, WUC effectively played their roles and responsibilities in the process of planning and implementation of water supply schemes:

2.3.2 Outcome 2: Improved Gender Equality and Social Inclusion

KPI 2.1: Number of targeted WASH committee members overall who are women

The focus of the project was on the promotion of gender equality and social inclusion in WASH sector. During discussion, the project staff reported that there were 325 women in 72 WASH committees which exceed the targeted number. During discussion with WASH committee members and beneficiaries, it was reported that NRC project emphasized on the inclusion of sufficient women members in the WASH committees and each WASH committee had composed of both women and men.

KPI 2.2 Number of targeted WASH committees which have at least at least 50% women

The project had target of 39 WASH committees with at least 50 percent women. Out of 72 WASH committees formed by the project, 49 (68%) had 50 percent women who participated in the decision-making process. There were about 50 share per cent of women in all seven WASH committees including water users committees visited by the study team. During discussion with members of WASH committees and social leader, it was expressed that NRC is the only one institution in the district, which advocated and promoted the inclusion of women in WASH committee and decision making process. All these indicate that practice of gender equality and social inclusion has been promoted in WASH committees at the local level.

KPI 2.3 Number of targeted WASH committees with women in management or technical roles

All 72 WASH committees formed by the project had women with the responsibility of managerial or technical roles such as chair, secretary, treasurer or water technician. Six user committees and one Ward-WASH-CC visited by the study team had at least one woman member in managerial or technical roles in each committee. One Water User Committee in Deulekh had a woman in the position of chairperson. During interaction, the woman chairperson said that NRC encouraged women to lead the user committee and she was ready for undertaking the given roles. Field observation and interaction with members of the WASH committees as well as beneficiaries revealed that women were capable to undertake the given managerial or technical roles.

Table 4: Women in managerial/leading position of WASH and other Committees

SN	Committees	Baseline	End Line	
			Number (n=548)	Percent
1	Any woman member of household in managerial position of W-WASH Committee	2.2	13	2.4
2	Woman in managerial position of Water Users Committee	1.5	30	5.5
3	Woman in managerial position of Community Forest Users Group	1.5	18	3.3

End line household survey also collected information about women's participation in managerial or leading position of WASH and other Committees at local level. Thirteen (2.4%) out of 548 surveyed households reported

that they had woman family member in managerial position, which was similar to that of baseline survey. It may be due to fact that almost all W-WASH-CCs were already formed by the project by the time of baseline survey. Only 1.5 percent households in the baseline survey and 5.5 percent in the end line survey had women members who were in managerial/leading position of Water Users' Committees (Table 4). Proportion of women participation in leading position of Community Forest Users' Committee slightly increased from 1.5 percent to 3.3 percent. It might be due to the influence of women's participation in WASH committee.

Information related to women's involvement in earning and WASH related activities was collected from household survey. In the baseline survey, majority of household reported that the main income earner in the households were male (57.6%), whereas both male and female members of households (67.3%) were reported as main income earner in the end line survey. Likewise, majority of households (66.8%) reported that both male and female members participated in WASH related meeting and gathering at the community level. Qualitative data collected from women groups and WUCs reveal that both main and women are equally engaged in earning as well as in community WASH activities. But women are primarily responsible for cooking, washing dish and cleaning surrounding at household level. About 80 percent households reported that women alone carry out cooking, washing dishes and cleaning houses.

Table 5: Reported status of men and women involvement in earning and WASH related activities

SN	Status and decision-making	Baseline (n=1171)	End-line (n=548)
2	Main income earner in household		
	Male	57.6	27.7
	Female	5.7	4.9
	Both male and female	36.6	67.3
3.	Who control WASH related expense at household level?		
	Male		8.2
	Female		7.1
	Both		84.7
4.	Who usually involve in cooking, washing and cleaning at household?		
	Male		0.9
	Female		79.0
	Both		20.1
5	Who usually participate in community level meeting/gathering related to WASH?		
	Male		13.1
	Female		20.1
	Both male and female		66.8

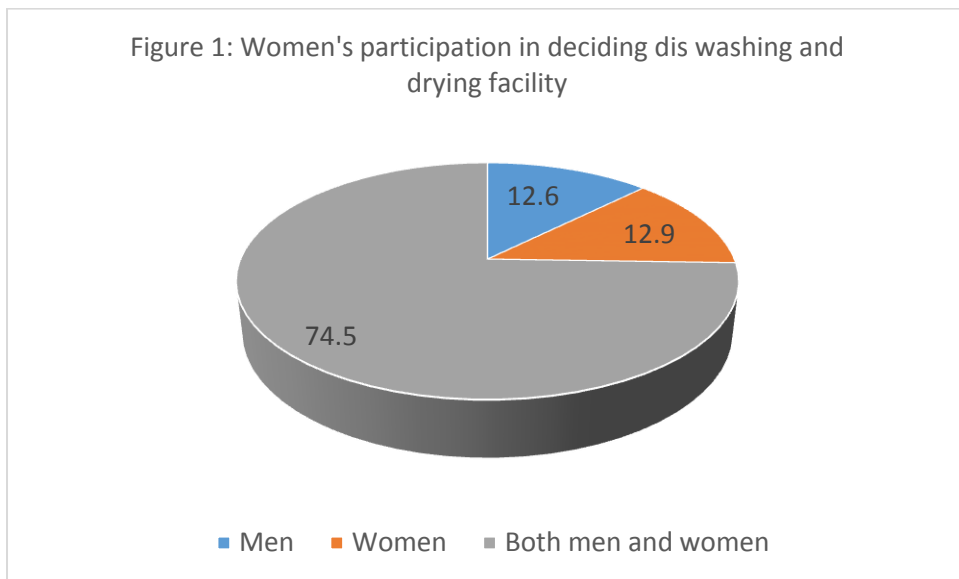
Women's Participation in WASH Related Decision-making

Traditionally women are responsible for performing sanitation activities and maintaining cleanliness at the household level. In this connection, household survey respondents were asked about the involvement of women while deciding construction of toilet and dish washing and drying platform.

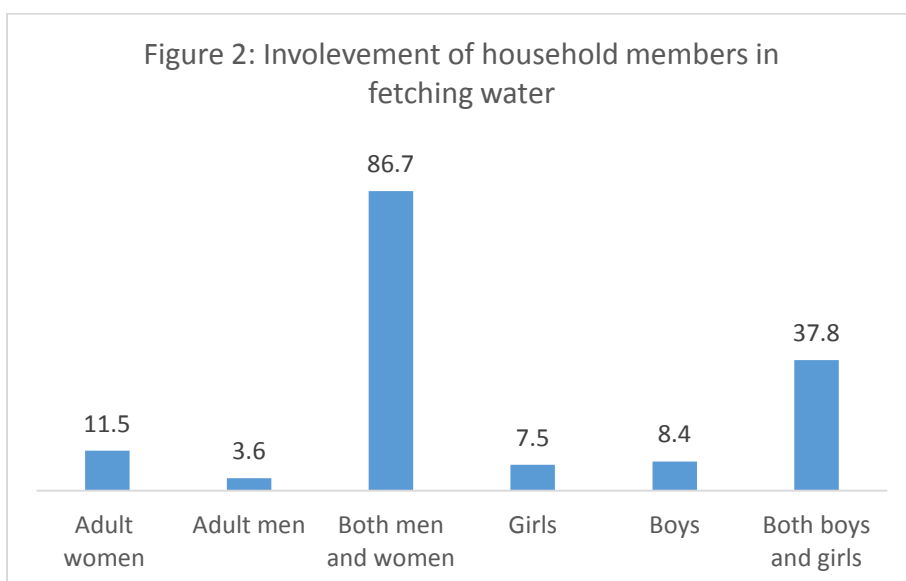
Table 6: Participation of Women in WASH Related Decision-Making at household level

SN	Gender Participation in Decision-making on toilet construction	Number	Percent
	Adult male	77	14.1

Adult female	21	3.8
Both men and women	446	81.4



Most of the households said that both men and women jointly decided about toilet construction (Figure 1). Likewise, men and women are equally involved while deciding construction of dish washing and drying platform. Traditional stereotype role of women in water fetching has been changed as 87 households reported equal involvement of both men and women in collecting water from improved piped water located nearby their houses. Only women were responsible for fetching water in Jar few years ago when source of drinking water was located away from households.



2.3.3 Outcome 3: Improved WASH evidence and knowledge base

KPI 3.1: Number of peer-reviewed publications

Interaction with project staff and review of the project document revealed that two articles based on the evidence and knowledge obtained from the project activities were published in peer-reviewed publication. Such publications widely disseminated WASH related knowledge and evidence among stakeholders and intellectual working in the field of WASH sector.

KPI 3.2: Number of externally focused information sharing products/events

During the field visit, it was also found that several case stories prepared by community motivators and staff have been documented and posted on Bulletin Board of the NRCS office. It was also reported that electronic copies were also circulated through email among their network. It is an example of evidence documentation and sharing among stakeholders. Quarterly bulletins containing evidences of WASH activities and changes brought by the project activities have been published as per the project plan. Data suggest that the project has made satisfactory achievement in improvement in evidence based WASH knowledge, learning and sharing activities.

Data related to learning and sharing of WASH evidence and knowledge at household/community level were collected through household survey. The survey result showed that almost all households got information and learned about construction and use of toilet, benefits of ODF community, and hand washing with soap (96.4%). Majority of households also learned about safe storing and handing of drinking water (72.8%) and covering meal/foods (69.3%), household sanitation (64.5%), proper management of animal excreta and wastes (59.2%), and protection of water sources (37.7). Only 31 percent households said that at least one female member of households learned about making sanitary pad using cotton clothes. Community motivators appear to be main source of learning about WASH (96.2%). Almost all households reported that they learned something about WASH from community motivators who shared knowledge and evidence by making door to door visits. About 37 percent respondents learned about sanitation and hygiene and safely storage of drinking water from radio episodes run by NRCS through local FM/Radio and 16 percent got WASH related information from posters.

Majority of households also learned something about WASH from Female Community Health Volunteers (FCHVs), Health workers/staff and school teachers. Household respondents were asked whether they shared learned knowledge and skills with others. Sixty-seven percent respondents said that they shared some knowledge and information gained from the project activities with their family members and neighbors (Table 7). It can be said that WASH related information and knowledge were effectively disseminated and shared through community motivators and other methods and media.

Table 7: Reported learning and sharing about WASH through different sources at household/community level

SN	Learning and sharing	Number	Percent
	Learning about WASH		
	Got information and learned about use of toilet and avoiding open defecation	530	96.2
	Learned something about hand washing with soap	531	96.4
	Learned about safe handling of drinking water and covering water vessels	401	72.8
	Learned about covering meal/foods	382	69.3
	Learned about cleaning house and its surrounding	356	64.6
	Learned about proper management of animal excreta and solid wastes	326	59.2
	Making sanitary pads	168	30.5
	Learned about protection of source of water	208	37.7
2	Source of learning		

	Red Cross Motivators	527	95.6
	Female Community Health Volunteer	331	60.1
	School going children/students	168	30.5
	School teachers	293	53.2
	Health staff/workers	312	56.6
	Radio/FM/TV	347	63.0
	Posters and printed media	89	16.2
	Group meeting	206	37.4
3	Did you or your family members teach and communicate to other people what you learned about water, sanitation and hygiene?		
	Yes	368	67.2
	No	180	32.8

2.3.4 Outcome 4: Improved Hygiene Behaviour

One of the expected main outcomes of the project was to improve hygiene behaviour of people including school students in the areas covered by the project. In order to achieve outcome 3, the project has conducted various activities: BCC training to community motivators including use of PHAST (Participatory Hygiene and Sanitation Transformation) and CHAST (Child Hygiene and Sanitation Training), triggering techniques of CLTS (Community Led Total Sanitation), Hygiene and Sanitation Education Sessions, quarterly hygiene promotion activity, distribution of IEC/BCC materials, setting up hoarding board with sanitation and hygiene messages, radio programme and hand washing practices.

KPI: 4.1 Number of additional people with increased knowledge of hygiene practices

The project targeted to provide 26,335 additional people with increased knowledge of hygiene practice in 4010 households within four years of the project period. Community motivators informed the local people about sanitation and hygiene behaviour by making door to door visit. All these activities contributed to the improvement in hygiene behaviour of the local people.

Knowledge of Diarrhea and Hand Washing

Household survey result revealed that almost all people can describe consequences of open defecation, poor sanitation and not washing hand with soap and causes of diarrheal diseases. All respondents were aware of hand washing with soap in critical time mainly after using toilet and before eating meal. It is evidence from the survey that all the targeted people received information and messages from community motivators and other sources about sanitation and hygiene, and have increased their knowledge and understanding. Most of households knew that diarrhea is caused by contaminated drinking water (85%), open defecation and poor sanitation (85.9%), and not washing hands with soap in critical moment (76.5%) and contaminated food (70.8%). Overall 59 percent or 15,538 additional people had knowledge of diarrhea and hand washing behaviour. However all people visited by the study team said that they received knowledge and information about diarrhea and hand washing from community motivators and other media and they can link sanitation, hand washing with soap and diarrhea. But some people cannot explain what they learned about sanitation and hygiene behaviour in the last four years.

Table 8: Respondents' Knowledge of Diarrhea and Hand Washing

SN	Knowledge	Baseline (n=1171)	End-line (548)
1	<i>Perceived causes of diarrhea</i> Through contaminated water	63.5	85.0

	Poor sanitation and open defecation	27.0	85.9%
	Not washing hand with soap in critical moments	35.0	76.5
	Contaminated food	58.6	70.8
2	<i>Awareness of washing hands with soap</i>		100.0
3	<i>Perceived harms/consequences of not washing hand with soap</i>		
	Chance of getting diarrhea		91.6
	Chance of getting cholera		55.1
	Chance of getting dysentery		35.6
	Chance of getting jaundice/hepatitis		8.0
	Chance of getting typhoid		38.0

Respondents were also asked what happened when someone does not wash hands with soap in critical times such as before eating, after using toilet, after touching dirt, etc. More than 90 percent replied that there is chance of getting diarrhea if someone does not wash hand with soap and water in critical moment. They also link proper hand washing behaviour and chance of occurring cholera, dysentery and typhoid.

Hand Washing Behaviour

Hand washing behaviour has significantly increased at all critical moments such as hand washing after using toilet (from 83.4% to 99.5%), before eating (from 69.7% to 91.6%), before preparing food/meal (45.3% to 69.5%), before feeding infants/children (15.9% to 87%) and after cleaning babies bottom (26.5% to 70.0%) (Table 9). Almost all people wash hands with soap and water after using toilet. It is the big achievement of the project. Likewise, 84 percent of households reported that their family members always wash their hands with soap before eating meal. It indicates that about 15 percent of the population does not regularly wash their hands with before having meal. Some women, in group discussion, said that some people do not wash hand with soap if hands are not noticeably dirty or they have not touched dirt.

Table 9: Hand Washing Behaviour of Respondents

SN	Behaviour	Base line	End - line	Additional people with increased knowledge/practice (Pop. 26,335)
KPI 4.1	Hand washing in critical moments			
	<i>After using toilet / defecating</i>	83.4	99.5	
	<i>Before eating</i>	69.7	91.6	
	<i>Before feeding infant/children/sick people</i>	15.9	87.0	
	<i>Before preparing food</i>	45.3	69.5	
	<i>After cleaning babies bottom</i>	26.5	84.5	
	<i>After working in dirt/field</i>	54.1	81.8	
KPI 4.1	Family member always washing hand with soap before eating	27.8	84.3	56.5 (14,879)
KPI 4.1	Caretaker's handing washing with soap before feeding infant/child	35.2	84.4	49.9 (13,141)
KPI 4.1	Caretaker's hand washing with soap after cleansing baby's bottom	43.1	86.9	43.8 (11,534)

About 85 percent of households reported that their family members always wash hand with soap before eating. Percentage of people hand washing with soap before eating increased by 56.5 percent. It indicates that 14,879 additional people have knowledge and practice of hand washing with soap before eating. According to project document, 26,273 additional people were exposed to hygiene knowledge and practice. Almost all people in the

project areas had received knowledge about hygiene practice. The huge discrepancy between the project document and end line study data might be influenced by several factors. Many people were already exposed to hygiene messages before conducting baseline survey. Almost all people should have received knowledge about hygiene practice, but behaviour of some people has not been changed because increased knowledge may not necessarily lead to the behaviour change.

It can be said that community based hand washing and behaviour change activity of the project are very successful in changing hygiene behaviour of people. During interaction with WASH committees and women groups, it was expressed that key messages related to toilet use and hand washing with soap were effectively circulated during ODF/Post-ODF campaigns among women, children, youths, adult men and other local stakeholders. Likewise, in the initial phase, a total of 35 community motivators were recruited and mobilized, and by the end of the project period only 25 community motivators were engaged in sanitation and hygiene education focusing on demonstration of hand washing with soap at women/mother group meetings, child clubs meeting, schools and door to door visit campaigns.

KPI 4.1 Menstrual Hygiene Management

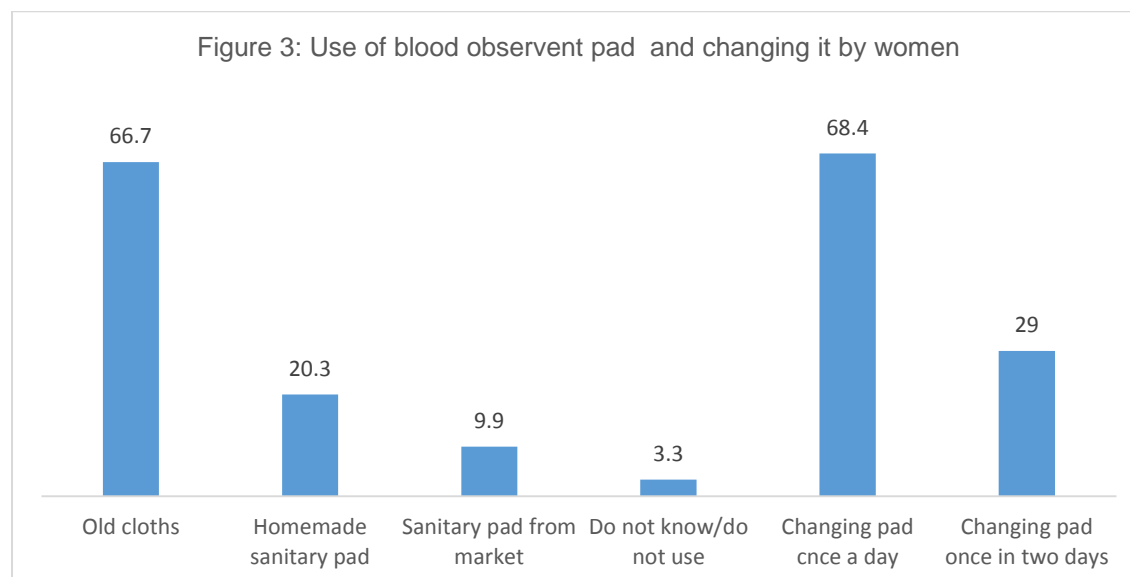
Menstrual hygiene management (MHM) component of WASH was not included original plan, which lacked outcome indicators in the logical framework. Therefore, there is no data and information of MHM in the baseline survey. Later this component was inbuilt in the implementation of the project. Community motivators delivered menstrual hygiene management messages along with skills required for making and using cotton pads to women groups as well as adolescent school girls. A total of 156 women were trained on preparing sanitary menstrual hygiene pads using soft cotton cloths available in the market. Women were informed about how to use and re-use cotton pads. Some women make cotton pads and sell them to adolescent girls and young women.

Table 10: Reported practice of menstrual hygiene management at household level

SN	Description	Number	Percent
1	Staying place for women/girls during their monthly period/menstruation		
	Separate room inside house	450	82.1
	Chhau hut outside home	73	13.3
	In the same room and same bed	25	4.6
3	Women can prepare sanitary cotton pads themselves	90	16.4
5	Reuse of pads		
	Do reuse pad	461	84.2
	Do not reuse	75	13.7
	Do not know	12	2.2
6	Disposal of pads		
	Dispose in stream/river/kolsha	102	73.4
	Dispose in bush/ditches	107	19.5
	Buried in the field	20	3.6
	Do not know	13	2.4

Household respondents were asked about practice of women on menstrual hygiene management. About 82 percent households reported that women/girls stay in separate room inside houses during monthly period (Table10). Only 13 percent women lived outside house in a Chhau hut during their monthly period. Highest percentage of women use old clothes for absorbing menstrual blood and 20 percent used homemade sanitary pad. Use of marketed sanitary pad is negligible in the study area. Some women in 16 percent households can

prepare sanitary pads using cotton clothes themselves. About 68 percent respondents said that women their households change pads daily and 84 percent women reuse pads (Figure 3). Most of women dispose their sanitary pads in stream/river and ditches.



During group discussion with women, it was said that till some years ago, almost all women in their village used to wear old cotton clothes as pads. They also said girls and women were being aware of use of sanitary pads through activities of the Red Cross Society. Community motivators and members of women groups reported that the number of girls and women using sanitary pads are gradually increasing; however, adult women who do not wear pantie still feel uneasy to wear menstrual pads. Most of women above 30 years usually used old clothes as blood observing pad.

KPI 4.2: Number of additional people with hand washing facilities and soap (or ash) in their household

Household survey revealed those 94 percent households have established hand washing facility near by toilet. Baseline survey which was done after 9 months after project implementation recorded 34.9 households with hand washing facility with soap. The proportion of households keeping water and soap at hand washing facility increased 73.5 percent because it was estimated in the project inception report that 0 percent households had hand washing facility with soap near toilet before the project implementation. *Only 19,356 additional people had access to hand washing facility with soap and water by the end of the project (Table 11).* In reality, additional number of people with hand washing facilities and soap might be more than afore mentioned number as many households keep soap inside house. Some households who had kept only water at hand washing facility said that they had kept soap inside house because cattle also swallow it or damage it, rain water also damages it. Participants of FGDs with women group and WUCs expressed similar voice that almost all houses had kept soap for washing hand but it was often kept away from the hand washing point. It was also found that some ultra poor households were still unable to manage soap for hand washing.

Table 11: Distribution of Households by Their Access to Hand Washing Facilities and Soap

SN	Toilet Facility and its condition	Baseline	End line	Additional people access to improved sanitation facilities
KPI 4.2	Availability of hand washing facility nearby toilet or at home	72.2	94	

Water and soap or cleaning agent	34.9	73.5	73.5 (19,356)
Only water	37.3	20.6	
No hand washing facility	27.8	5.8	

KPI 4.3: Number of additional students participating in school hygiene behaviour change programmes

In the project document it was reported that a total of 5514 additional students participated in school hygiene behaviour change programmes. Schools had not maintained the record of additional number of the student who participated in the hygiene behaviour change programme. According to Head Teachers, all students of in 18 schools participated in hygiene behaviour change programme. There were about 5057 students in all 18 schools, who participated in the first year of the programme. Head teachers also estimated that about 10 percent (506) additional/new students were engaged in sanitation and hygiene behaviour change programme in remaining three years of the project. That means altogether 5556 additional students were involved in the sanitation and hygiene behaviour change programme of schools during the project period.

KPI 4.4: Number of additional students with access to an adequate number of school hand washing facilities with soap

It was not possible to calculate additional number of students with access to hand washing facility from school survey form because schools did not have records of additional students with access to hand washing facility with soap after the project implementation. End line school survey revealed that all 10 surveyed schools had established hand washing facility with provision soap. Based on information provided by head teachers, it was estimated that 5556 additional students in 18 schools had access to hand washing facility with soap. During interview with school head teachers, it was reported that almost all receiving soap from different organizations including NRCS, WFP and other non-governmental organizations. They also pointed out that soaps received from donors were not sufficient for all students and all days. Out of 10 schools visited by the study team, 2 schools had not put soap in hand washing places; however, soaps were found in school office rooms.

Table 12: Schools with hand washing facility and soap

SN	Hand Washing Facility	Baseline	End line
1	Schools with hand washing facility	69.7%	100.0%
2	Schools with hand washing facility and soap	31.3%	100.0%
3	Estimated number of additional students access to hand washing facility and soap in 18 schools		5,556

Head teachers interviewed by the study team said that they always kept soap in their office, but they were unable to put soap daily at hand washing place for students. They also said that they put soap at hand washing place once or twice week, which was not sufficient for all the time.

2.3.5 Outcome 5: Increased Equitable Access to and Use of Sustainable Improved Sanitation Facilities

The prime focus of the project was on the promotion of equitable access to and use of improved sanitation facilities through ODF campaigns and construction of toilets in community and promote child, gender and disable friendly toilets in school.

KPI 5.2: Number of additional people using an improved sanitation facility

Household survey showed that almost all households had their own toilet (99.6%). About 37 percent additional people or 9,637 additional people in the project areas were found using an improved toilet (Table 13). This number exceeds the targeted number (4,004). Most of households visited by the study team had their own improved toilet nearby house. It indicated that the project successfully promoted the use of improved toilet among targeted households.

Table 13: Number of additional people using an improved sanitation facility

KPI	Toilet Facility and its condition	Baseline	End-line	Additional people using improved toilet
	Access to Toilet Facility	71.6	99.6	
	Types of Toilet/Latrine			
KPI 5.2	Improved Latrine with water seal pan	61.2	97.8	36.6 (9,637)
	Pit latrine without water seal pan	10.4	2.2	

All the 39 communities of the project areas were declared as ODF zones within a first of the project period through concentrated and coordinated efforts of the project with active involvement of local WASH actors and community. During Post ODF/total sanitation phase, many temporary latrines were upgraded to improved ones. As a result, almost all people of the project areas are using an improved sanitation facility (flash/pour flash latrine with slab/water seal pan connected to closed pit). It is the great achievement of the project in sanitation sector at the community level.

KPI 5.3: Number of additional people using a shared sanitation facility

Household survey pointed out that only 0.4 percent who did not have access to their own toilet were using shared toilet. It also suggests that only 114 people in the project area are using shared toilet. Interaction with members of women groups and water user committees also revealed that the number of people using shared toilet was a very few in their locality.

KPI 5.4: Number of people in communities that have become ODF as a result of project activities

During group discussion with the project staff and NRC chairperson, Bajhang, it was reported that only Deulekh VDC was already declared as ODF village before initiating the SHWM project in the district. The project organized ODF campaign only in four project sites. All stakeholders including V-WASH CCs, W-WASH-CCs, WUCs, Mother Groups, Child Clubs, and Junior Red Cross Circles, youths, women, children, students, teachers and community people were successfully mobilized for achieving ODF status in targeted communities. All the 39 communities of the project areas were declared as ODF zones within a first of the project period through the concentrated and coordinated efforts of the project with active involvement of local WASH actors and community. Human shit was not observed by the study team during field visit and walking across the some village of the project area.

KPI 5.5: Number of communities participating in sanitation interventions

The project intended to engage 39 communities of the project areas in sanitation programme including ODF and Post-ODF total sanitation activities. According to local people, all 39 communities actively participated in the sanitation programme implemented by the project. Local people and members of WASH committees and water user committees visited by the study team also reported that women, men, youths and children including PLWD

and marginalized people enthusiastically participated in the sanitation campaigns in order to eliminate ODF and improve the sanitation status of the households and community.

KPI 5.7: Number of additional schools with adequate student: toilet ratios

Project supported 10 schools for construction and upgrading sanitation facility including child, girl and disable friendly toilets. According to the education regulation and Child Friendly School Framework of Nepal a toilet has to serve at most 50 students. Out of 10 intervention schools, only 7 schools had adequate toilet facility.

Table 14: Achievement of Outcome 5: Increased Equitable Access to and Use of Sustainable Improved Sanitation Facilities

KPI	Project Indicator/activities	Targets	Achievement
5.7	Number of schools with adequate student toilet ratio (one toilet per 50 or less students)	8	7 (87.5%)
	Percentage of 10 survey schools with adequate student toilet ration		7 (70.0%)

The project could not achieve the target set in the project document. One of the reported reasons was that old toilets were destroyed to construct new one with supports from the government. New toilets were found under construction at the time field visit.

KPI 5.8: Number of additional students with access to improved school latrines

End line school survey revealed that all 2914 students in 10 intervention schools were using improved toilet facility. The number of students is less than estimated number because data were collected at the beginning of the academic year and some students were yet to be enrolled. Head teachers also reported that all students had access to improved toilet, but the number of improved toilets was still not sufficient as per the student number.

KPI 5.11: Number of additional universally-accessible sanitation facilities in in schools/public building

By the end of the project, all 10 intervention schools had child and girl friendly toilet facilities. It was also found that 90 percent of interventions schools had established disable friendly toilet with financial and technical supports of the project.

Table 15: Number of additional universally-accessible sanitation facilities in in schools

SN	Child, girl, disable and universally accessible	End-line
1	Child friendly toilet	100% (10)
2	Girl friendly toilet	100% (10)
3	Universally accessible toilet (Disable friendly toilet)	90% (9)

Access to Washing and Drying facility, and Public Bathroom

During the discussion with project staffs and beneficiaries, it was reported that the project had made a considerable efforts to household sanitation including establishment and use of dish washing and drying facility, and proper management of animal excreta and household wastes. About 71 percent households had access to dish washing and drying platform. About 18065 additional people were estimated to be using dish washing and drying facility promoted by the project (Table 16).

Table 16: Access to dish washing and drying facility, and public bathroom

Access to dish washing and drying facility	2.2	70.8	68.6 (18,065 people)
Existence of managed manure heap/waste	4.8%	48.0	

collection pits		
Access to public bathroom	-	11.1 (61)
Use of public bathroom during menstruation	-	57.0 (34)

Source: *Baseline and End-line Survey*

The project also advocated for establishment of managed manure collection pits. This activity was not very successful because sociocultural practice of keeping cattle in the ground floor of the house and lack of sufficient land for construction of manure pit nearby houses. By the end of the project, about half (48%) of the total households in the communities of the project areas found having constructed the manure collection pits.

Only 11 percent households had access to public bathroom established by the project, targeting women for their privacy while taking bath in public taps. Out of those who had access to public bathroom, 57 households reported that especially women used the public bathroom during their monthly period. During discussion with members of women groups, it was said that bathroom was good for privacy and it should be established nearby all public taps.

Fecal Sludge Management

Fecal sludge management is the collection, transport, and treatment of fecal sludge from pit or septic tank of toilet. It is part of human excreta management. In household survey, respondents were asked about existing practice and awareness of fecal sludge management. Only 4 percent household reported that their toilet pits were filled up and 67 percent of them emptied and reused the pit. Most of the households emptied the pit by themselves by hands using bucket (100%).

Table 17: Awareness and Practice of fecal sludge management

SN	Descriptions	Number	Percent
1	Ever filled up latrine pit	24	4.4
2	What did you do when the pit/septic tank filled up last time?		
	Emptied and reused the pit	16	66.7
	Abandoned and pit unsealed	2	8.3
	Covered and used another pit	6	25.0
	Total	24	100
3	Who did emptying pit?		
	Members of households	13	81.3
	Wage labour	3	18.8
	Total	16	100
4	How was the pit emptied?		
	By hand using bucket	16	100
5	Where was it emptied into		
	Directly into ditch, stream/river and kholsa	1	6.3
	Into a pit nearby houses and then is covered	5	31.3
	Reuse of fecal matters as fertilizer	10	62.5
	Total	16	100.0
6	What do you intend to do when latrine pit fills up?		
	Empty by household members	395	73.1
	Empty by individual wage labourer	30	5.6
	Cover and seal the pit and use another pit	86	15.9

Abandon the latrine without cover and seal	1	.2
No idea	28	5.2
Total	540	100.0

Source: End line survey

Surprisingly, majority of them who emptied toilet pit used the fecal sludge as fertilizer. Households were interested to use fecal sludge as manure in the field. It would be very positive impact if the project had included fecal management in their activities and would have taught about using fecal matter and urine as fertilizer in the field. Most of households said that they would empty themselves and reuse the pit when their toilet pits get filled up.

2.3.6 Outcome 6: Increased Equitable Access to Improved Drinking Water

One of the outcomes of the SHWM Project was to increase equitable access of beneficiary communities living in 39 Wards of the project sites to improved drinking water from sustainable sources. The project targeted to construct 36 water supply schemes through demand driven, participator and need based approach. A total of 36 water supply schemes including 10 rehabilitation schemes were constructed as per the community demand by the end of the project. A total of 8,468 people benefitted from the drinking water facilities constructed and rehabilitated by the project.

KPI 6.1 Number of additional people using an improved drinking-water source

One of the major components of the project was to construct water supply schemes and provide the additional number of peoples with improved drinking water source. Household survey data revealed that 90.6 percent of households and 7,900 additional people had access to improved drinking water by the end of the project (Table 18). This is below the targeted number (8468). The differences relate the fact that the household sampling was not purposefully design to reflect the households that benefitted directly from the new water schemes. Moreover, in some villages of the project areas were still deprived of improved source of drinking water because the project could not support them due to lack of reliable sources of water nearby the village for the construction of water supply schemes. Discussion with the members of V-WASH-CC in Rayal revealed that a considerable proportion of households in Rayal VDC still lack access to improved sources of drinking water.

Table 18: Number of additional people using an Improved Drinking Water Source

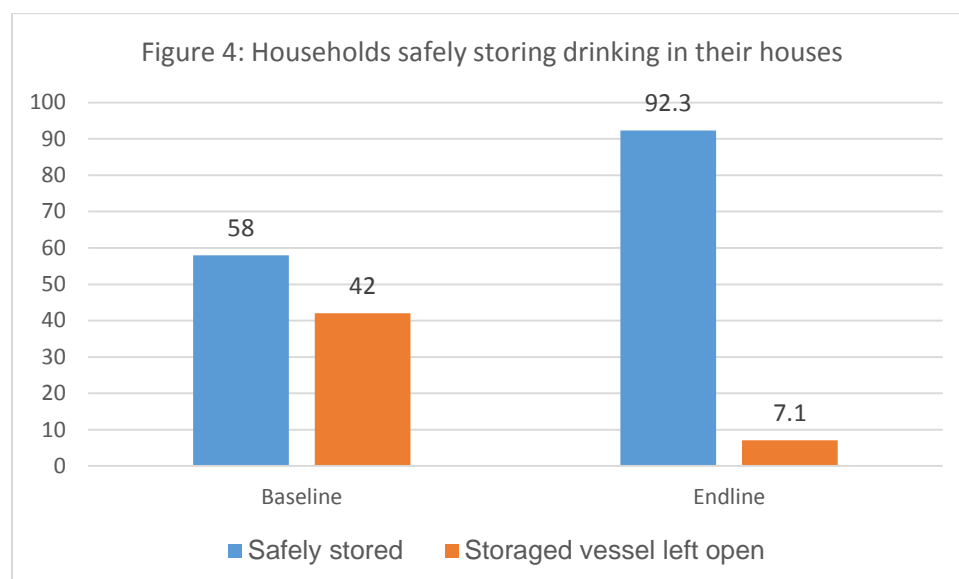
SN	Source of drinking water and sufficiency	Baseline n=1171	End-line n=548	Additional people
KPI 6.1	Source of water			
	<i>Access to improved source of water (pipel water)</i>	61.1	90.6	29.5 (7,900)
	<i>Stream/river</i>	6.7	0.4	
	<i>Traditional public tap and spring water</i>	13.0	7.1	
	<i>Well</i>	18.2	4.8	
	Access and consumption	33.3	79.2	
	<i>Average time to fetch water in minutes</i>	16.5	11.1	
	<i>Average water consumption per day in liter</i>	147	198	
	Sufficiency of water for your family's daily need (mention here drinking water, cooking, hand washing, bathing, washing of clothes, animal use)?	33.0	79.2	
	Household using alternative source of drinking water	48.1	23.0	

Well/Naulo	43.5	51.6
Stream	33.6	20.5
Traditional tap/spring water	10.5	26.2
Other including river and rain water	12.	1.6

Access of households to improve source of water (piped water) has significantly increased from 61 percent in the baseline to 90.6 percent in the end line survey. About 12 percent of households who are still deprived of the piped water depend on traditional public tap (7.1%) and well 4.8%). Most of household can access to and fetch water from the improved sources within 11 minutes because most tap stands are nearby beneficiary houses. Average water consumption per day per household increased from 147 liters before and 198 after the project. Likewise, before the project intervention about half of the total households reported to be using water from alternative sources such as Well/Naulo, stream and traditional public tap and spring water. At present only 23 percent households use drinking water from alternative sources.

KPI 6.2: Number of additional people living in households where water is safely treated and stored

The project also focused on promoting practice of safety stored and treated drinking water at household level. All people living projected areas had started to safely store/treat drinking water in their houses. Proportion of households storing drinking water safely increased from 58 percent in the baseline to 92 percent in the end line (Figure 4). Before the project implementation it was estimated that less than 40 percent households used to store drinking water safely. About 52 percent or 13,694 additional people found following safe handling and storing practice, which is 92 percent achievement of the target (14,800). It can be said that the project successfully promoted the safe storage and handling practice among almost all households of the project areas.



One of the project indicators was to improve water handling and treatment practices. Forty-four percent households store drinking water in traditional jar, Gagri and one-third in Jerkin which is popular for collecting and storing drinking water. More than 92 percent households safely store water in Jar and different vessels. Likewise, drinking water handling practice such keeping mug/jug in clean and safe place, keeping drinking glass clean and safely transferring water from Jar to mug and glass were found good while observing such practices in household at the time data collection.

While asking about water treatment practice before drinking, about 50 households said that they boiled water before drinking during winter, when they felt ill or necessity. Use of other water treatment technique such home filter and SODIS (Solar disinfection technique) was negligible. Regular water treatment practice/boiling was very rare as they perceived water supply from pipe and spring or protected well is safe for drinking. People usually drink without treatment.

KPI 6.3: Number of additional students with access to an improved school drinking-water source

The project had a target to provide an improved drinking water source to 2014 additional students in intervention schools. End line school survey revealed that 2783 students in intervention schools had access to drinking water with improved sources. During field observation, study team also found that students in nine schools were using drinking water from improved sources. Students in only one school found drinking water from old pipe water. However, numerical target set by the project has been achieved by the end of the project.

KPI 6.4: Number of additional universally-accessible water facilities in public buildings and/or institutions

Out of 10 schools observed, six had universally accessible water facilities. In six schools, number of water taps was sufficient for the students and drinking water taps were child friendly and disable friendly. The project was successful to achieve the target, but could not promote universally accessible water facilities in all 10 intervention schools.

KPI 6.6: Number of new water system designs that include an analysis of the sustainable yield of the water resource

Analysis of the sustainable yield of the water resource enables the water user committees to manage water supply system in sustainable manner. According to members of the water user committees visited by the study team reported that attempt was made to calculate amount of water discharge in summer and winter at source, and demand and consumption of drinking water in beneficiary communities. Sustainable water sources nearby the community identified through participatory process. Possible effect and damage of natural disaster, climate change and environmental risks were also analyzed while identifying and designing water supply schemes. All 36 water supply schemes completed by the project were designed and constructed after analysis of sustainable yield of water resources and possible risk of natural disaster.

2.4 The Impact of the Project

It refers to the positive and negative changes produced by the project, directly or indirectly, intended or unintended. The project has brought considerable positive changes on life of beneficiary communities, particularly in equitable access to WASH facilities, sanitation and hygiene behaviour, attitudes, gender and social inclusion. Prominent changes can be seen in improvement in environmental sanitation, equitable access to and use of toilet and water supply facilities as well as gender and social inclusion in WASH sector.

What changes have occurred in WASH services responding to women's needs (e.g. workload, reproductive health issues etc.)?

The study team's field observations and interviews/FGDs with beneficiary women revealed that easy access to improved drinking water supply has certainly improved the quality of life of women including workload and gender roles. Previously, mainly women had to travel far to fetch water in the early morning and in summer they had to wait in queue for 2-3 hours for collecting water from well and spring water. Except 12 percent, all households in the project areas have easy access to the improved source of drinking water and they can collect water from the

tap within a few minutes, in an average 11 minutes. The construction of water schemes has reduced their workload and lowered risk to personal safety as women no longer have to walk in the dark to get water from the source.

Project staff, members of women group and WASH committees perceived that distance and time reduction has given women and girls more time to spend on household sanitation, kitchen garden, agricultural work and children education. Easier access to safe water allows women to maintain a cleaner home environment with less effort. According to women beneficiaries interviewed by the evaluation team, it has been now easier and safer to take bath in public bathroom or public tap, wash clothes and wash their children. In addition men also support to women in collecting water and maintaining household sanitation. During discussion with women, it was said that men were now involved in fetching water from water taps and cleaning courtyard that they did not do before the project activities.

Easy access to piped water taps and awareness of menstrual hygiene manage has contributed to the promotion of women health to some extent. Previously women were not allowed to enter and stay inside their households during monthly period and forced to live in unsafe Chhau hut. They could have negative impact on health of women. Now most of women stay and sleep in a safe room inside their houses. Majority of women change menstrual pads daily (68.4%) and take bath daily (63%). Construction of public bathrooms has been an added value to maintain their personal hygiene, privacy and dignity. Women who have access to public bathroom use it during monthly period. Women and girls began to use sanitary pads and new/clean clothes during monthly period. Now women are being aware of reproductive health and menstrual hygiene management including use of sanitary pads. All these have contributed to the improvement in reproductive health and well-being of women in the project areas.

How has the improved WASH service delivery resulted in better outcomes for poor/remote communities and poor/vulnerable households?

Bajhang is remote district of Nepal where about half of the population are multi-dimensionally poor (GC et al 2015). Incidence of poverty in the district is 0.57, which also indicates majority of households living below the poverty line. WASH project activities were conducted in five areas and 39 communities, focusing on the promotion of equitable access to WASH facilities and better outcomes for poor, Dalit vulnerable communities. The activities of the project have ensured equitable access to WASH facilities and services across different category of people. Both ultra poor (88.3%) and other households (87.2) have equal access to improved and sustainable drinking water source. However, there is still about 6 percent difference in access to improved source of drinking water between Brahman/Chhetri and Dalit households. There is no significant disparity in access to improved sanitation facility across Dalit, Ultra poor and other households.

Table 18: Access to Drinking Water by Castes and Poverty

SN	Access to Drinking water	Caste		Poverty	
		Brahman/ Chhetri	Dalit	Ultra poor	Other
1	Access to improved and sustainable drinking water source	88.7	83.0	88.3	87.2
2	Access to improved toilet facility	98.0%	97.1%	94.6%	99.0%
3	Access to improved dish washing and drying facility	69.5%	76.4%	61.7%	77.9%
4	Access to hand washing facility with soap	75.1%	67.0%	56.4%	79.9%

According to local leaders and WASH actors, only some rich and educated people had access to toilet facility and piped water in their yards. In a FGD, one women from Chhetri caste who has a retail shop in Chainpur said that she was first one constructing toilet 15 years ago in the village. She also mentioned that all Dalit and poor did not have access to toilet as well as improved sources of drinking water before the project implementation. During focus group discussed with women and members of WUCs, it was frequently expressed that open defecation was rampant and many households had collect water from traditional well, locally *naulo*, traditional public stone taps and spring/stream located away from households. Most of villages had separate *naulo* for Dalit people. Dalit people had no access to the *naulo* that used by Brahman/Chhetri people. After establishment of the piped water tap in the village, situation has been changed and Dalit are allowed to touch and use the piped water tap. Discrimination against Dalit people in public water tap has been reduced. Now Dalit people have easy access to the piped water tap, which found constructed in Dalit settlement in front of their houses.

"Before construction of water supply facility in our village, both Dalit and other people used the same traditional public stone tap located outside the settlement. But we Dalit women had to wait more than one hour because we were allowed to use the tap after Brahmin/Chhetri women filled up their jars as well as washing clothes. Now piped water tap has been established in front my house. I can collect water within a few minutes. I can wash my clothes whenever I want". Interview with Dalit women, Deulekh, 8

"Previously we did not allow Dalit people to use Naulo. They had to collect water another source. Now, there are some taps nearby Dalit houses. They can also use the same water taps established in front of Brahman/Chhetri houses. Now there is no discrimination between Dalit and other peoples in the village in drinking water taps." Discuss with members of women group and water user committee, Dilbagar, Luyanta

Because of the intensive ODF campaign and sanitation activities, all households in the project areas constructed toilet facility. At present almost all households in the project areas have access to improved toilet facility. There is no disparity in access to and the use of improved toilet facility and improved source of drinking water between Brahman/Chhetri and Dalit as well as ultra poor and other households. It was possible due to ODF campaign and community based WASH activities focusing on Dalit and vulnerable people. The project provided support 500 poor and vulnerable households including 38 single women and 182 Dalit households to upgrade temporary toilets. Forty five households having members with disability also receive supports from the project to upgrade their toilet facility. Project also provided support to the poor and vulnerable households to construct dish washing and drying facility. All these contributed to bring out positive changes on the life of poor, vulnerable and Dalit households.

What evidence is there of changes in targeted areas of WASH related behaviour, attitudes and practices and whose behaviour has been influenced?

According to the end line survey result, almost all people irrespective of castes and poverty equally wash their hand with soap after using toilet always before eating. Most of people were likely to wash hands with soap after washing baby bottom and before feeding infants. Adult and school going children can also explain critical time and proper hand washing technique. This is the big change brought by the project in hygiene behaviour of local people.

Interactions with women group and WUCs revealed that most of people did not wash their hands with soap before eating and after using toilet or touching dirt before the project implementation. According to them, children, adult and elder people have been habituated to wash hands in critical moment. Evaluation team's field observation also found that households had kept water soap and water at hand washing point/dish washing and

drying platform (proxy indicators of sanitation behaviour). It was also found that many households had kept soap away from the washing place usually inside house for protecting it from damage by animal and rain water. Members of women group also said that all households keep soap in their houses for washing hand. Now children, youth and adult people can explain benefits of the safe drinking water, hand washing with soap, use of toilet and environmental sanitation and they give value on WASH related activities.

Table 19: Access to Drinking Water by Castes and Poverty

SN	Access to Drinking water	Caste		Poverty	
		Brahman/ Chhetri	Dalit	Ultra poor	Other
1	Hand washing with soap after using toilet	99.8%	99.1%	98.7%	100.0%
2	Hand washing with soap before eating	97.7	93.4	94.0	98.0
3	Hand washing with soap before feeding infant/child	83.7	88.6	72.5	89.2
4	Hand washing with soap after washing bay bottom	87.1%	86.7%	85.9%	87.4%

During discussions with students in schools revealed that students were quite aware of needs and importance of hand washing with soap in critical time. Participants of FGD sessions said that they wash hand with soap after defecation and before eating in both schools and home. They also said that child clubs organize school sanitation activities including school compound and classroom cleaning, toilet cleaning and hand washing. Sanitation, bucket and soap provided by the project have encouraged students to wash hands with soap in critical moments. At time of study team's school visit, students found using toilet and washing with soap. Some school children also showed the team proper hand washing technique with soap.

Sanitation and hygiene education, monthly home visit of community motivators, mobilization of children, women, youths, adult, teachers, FCHVs as well as health staff, demonstration of hand washing skills and providing bucket and soap case for establishing hand washing facility at home significantly contributed to the promotion of hand washing with soap. Community engagement and stakeholders' involvement in sanitation and hygiene promotion activities along with circulation of sanitation and hygiene messages through different approaches and media have contributed to the prominent changes in sanitation and hygiene behaviour.

Positive impact on gender equality and social inclusion and gender roles in WASH

One of the prime focuses of the project was on the promotion of gender equality and social inclusion in the WASH sector. Practices of including women, Dalit and Disable people in WASH committee, decision-making, training and orientation activities have brought positive change and conveyed positive messages on gender and social inclusion in the WASH sector. All WASH committees formed by the Project had more than 50 percent women members as well as representative from Dalit and PLWD. Women and Dalit were also elected as chair of some Water User Committees. It has spread positive messages that women and Dalit can successfully lead WASH project in the community.

"The project staff encouraged women to participate in decision-making body and take leading position in the Water User Committee. I said I was interested to be the chair of the committee. I can perform as much as man can do. Local beneficiary people elected me as a chair. I successfully performed my roles and completed water supply scheme. Now people say women have capacity to take leading position in

water supply and sanitation sector. Attitude towards women and participation women in WASH has been changed due to women involvement in the user committee." Interview with woman chair of WUC, Deulekh

"Red cross project provided me an opportunity to be a woman water technician. This is the only project that increased participation of women in each and every aspect of the project activities. I got both mason and water technician training from the project. I can do construction, repair and maintenance work. I worked as technician in the water supply scheme of this village. I also involved another water supply scheme nearby this village. I am responsible for repairing and maintenance work of water supply schemes. I have proved that women can be successful water technician" Interview with woman water technician, Deulekh

"Before implementation of this (SHWM) project Dalit people were usually excluded from decision-making body. Now two Dalit people have been included in W-WASH-CCs and WSUCs. In our user committee of seven members, there are three women including one in treasurer position and two Dalit people. Now Dalit and women participation in WASH activities have been increased"

-Interview with Chair, WSUC Kailash VDC

Awareness and practice of ensuring participation of women, Dalit and Disable people in decision-making as well as implementation process at the community level have been increased due to the influence of GESI activities of the project. Beside these, project also advocated and encouraged participation of men, women, children, Dalit and other people. Both men and women actively engaged in ODF campaigns and sanitation activities at the community. Interaction with women groups and members of WUCs revealed that involvement of men in household sanitation was very low and now men and women are equally involvement in water collection as well as cleaning courtyard in in most of households (87%). However, traditional cooking and washing roles of women have not changed as expected due to deeply rooted sociocultural practice. Based on evidence from project activities, field observation and interactions with beneficiaries, it can be said that the project has conveyed positive message on gender and social inclusion in gender to the local people and contributed to the promotion of gender equity and social inclusion in the WASH sector.

To what extent changes in the health status of the target population can be attributed to the project? Health Impact

Ensuring access to improved and safe drinking water, improved sanitation facility and hygiene behaviour can contribute to the health promotion and quality of life. Lack of access to safe drinking water and sanitation facilities causes diarrheal diseases. Interview and interactions with beneficiary people, groups and health workers revealed that incidence of diarrheal diseases was remarkably declined after declaration of ODF in project areas and implementation of WASH activities at the community level.

Before years open defecation was very common. We did have access to safe drinking water. Children as well adult used to suffer frequently from diarrheal diseases. After declaration of ODF village and regular hand washing and sanitation activities in our community, we and our children rarely suffer from diarrhea. Occurrence of diarrheal diseases has gone down to low level. FGD with Dalit women group, Jadepani Kailash

"Children, men and women used to suffer most frequently before declaring VDC as ODF area and implementation of WASH activities at the community level. During summer and rainy season, around 10-12 persons per came to health post for treatment of diarrheal disease. Now only 1-2 persons per month

visit Health Center with the same problem. Our Health Center data shows decreasing trend in diarrheal disease after the declaration of ODF zones. But in the last and this year, number of diarrheal diseases has not come down, rather stagnated. A considerable number of children still suffer from diarrhea in even winter season. It may due to lack cleanliness in and around houses. Almost all houses keep cattle ground floor." Interview with Doctor/Health service provider, Health Center, Deulekh

Female Community Health Volunteer and School teachers also expressed similar views that after declaration of ODF and implementation water supply, sanitation and activities in the community, likelihood of people suffering from diarrheal diseases has been very low and quality of life of the local people has been improved. It is the positive impact of the WASH project of the Nepal Red Cross Society. Local people also describe a link between the use of toilet and hand washing behaviour and decline in diarrheal diseases. Health Center Data also supports local people views on decline in diarrheal diseases as result of improvement in WASH situation of the community.

Table 20: Cases of diarrheal diseases recorded before and after implementation of the WASH project

Year	Number Cases	Decreased
2068/69 BS (2012)	1755	
2071/72 BS (2014)	892	49.0%
2072/73 BS (2015)	704	21.1%
2073/74 BS (2016)	612	13.1%

Above data clearly shows that case of diarrheal diseases went down after declaration of ODF village and implementation of the WASH project. Before declaring Deulekh VDC as ODF zone, the number of diarrheal disease recorded in the PHC was 1755 in 2012 which decreased by 49 percent in financial year of 2071/72 BS (2014). PHC data shows that case of diarrheal diseases in decreasing trend from the past to present. This is the direct and noticeable impact of SHWM project diarrheal diseases in the Bajhang.

Did the project have an impact on education (school attendance, children retention and absenteeism in the project areas due to increased access to WASH facilities in the schools)? Impact on Children Education

There are have been considerable studies that have examined the effect of improved water supply, sanitation and hygiene practice on reducing absenteeism (Jasper, Le & Bartram, 2012) and inadequacies in water and sanitation in the school have impact on the health of children and their attendance in schools. According to the World Health Organization, 11% more girls attend school when sanitation is available (WHO, 2012). Attendance is a main factor that influences the academic achievement of students. Study team visited some schools in project areas to see attendance records before and after the WASH intervention in school. But schools did not have attendance records of students before four years. Therefore it was not possible to analyze the effect of WASH intervention on school attendance and absenteeism. We looked at school attendance of both boys and girls in the attendance record of the last year. Attendance of both girls and boys found in similar pattern and seasonal variation.

Interviews/interaction with school head teachers and members of child clubs and JRCs revealed that regular attendance of students has been slightly improved after the WASH intervention in schools. Before the project intervention many students remained absent in school for several days due to illness and household works. It was also reported that many students used to suffer from diarrheal diseases and viral fever seasonally. After

project interventions, the incidence of diarrheal diseases has been reduced to improved WASH situation in both school and community. Head teachers also said that the number of students complaining diarrhea and stomach has been reduced in the recent days; however; some students do not come to school for several days during planting and harvesting season because they have to help their family members when the burden of work increases. Students who participated in the discussion expressed similar views.

We tried to explore the high school girl absenteeism during their monthly period. All the girls who participated in the group discussion said that they do come to school during menstruation, but they do not come to school when they have to be engaged in household chore and agricultural works for whole day as assigned by their parents. Some girls said that their elder sisters used to remain absent in school during their monthly period. School head teachers also agreed that some parents did not allow their daughters to go to school during menstruation, and now all menstruating girls attend school during menstruation. In household survey, respondents were asked about practice of girls' absenteeism in school at menstruation. All households reported that their menstruating girls go to school during their monthly period.

Study team also discussed with women groups about possible effects of improved water supply and sanitation facilities. Previously, some days children missed the school when parents spent long time for fetching water and were unable to prepare meal for school going children in time. They also said that their school going children had to spent time in water fetching in the past. Now both children and parents' time has been saved due to easy access to improved water supply. According to them, now children have time for reading and playing at home.

To what extent have communities and adapted WASH practices in response to identified climate-related risks/hazards? What consultations have been undertaken in the project to reduce the environment and disaster risks and climate change adaptation in water facilities?

Issues of natural disasters, climate change and environmental risks were included in this WASH project with a view to making WASH actors and Committee aware of these issues while planning and implementing water supply schemes. According to the project staff and members of WASH and WUCs who participated in the group discussion, issues of environmental risks, natural disaster and climate changes were well discussed orientation and planning meeting of WASH and WUCs. Project staff and volunteers/motivators were also trained on climate change and disaster risk reduction (DRR). Besides these, the project conducted a Vulnerability and Capacity Assessment (VCA) in collaboration with local governing bodies. Local leaders, WASH committee and CBOs were consulted about issues of disaster, environmental risk and climate change in the process of VCA in each VDC. Situations of vulnerability and risk of disasters in five project areas were identified and mapped out as well as existing capacities of local institutions and communities to address issues and problems of vulnerability and disaster risks were explored and documented in the VCA report. Findings of VCA were discussed with Local Disaster Risk Management Committee (LDRMC) so that they can consider VCA findings in their DRR planning. All these activities helped WASH and Water User Committees to integrate issues of natural disaster and climate change in planning and implementing WASH schemes.

Local people are less likely to be aware of these issues because the project has not conducted community based activities to make local people aware of disasters, disaster preparedness and consequences of climate change on WASH. Therefore, some questions related to these issues were indirectly asked to households. Based on their observation, 60 percent said that intake tank and water reserve tanks were constructed in safe place in term of natural disaster and 80 percent pointed out the public water post/stands that were constructed in safe place.

About 42 percent reported that other DRR methods such as tree plantation and wall/gabion for prevention of landside around water tanks were adopted in the process of implementing water supply schemes.

Table 21: Households' Awareness of Disaster Risk Reduction and Climate Change

SN	Description	Baseline	End-line
1	Natural disaster risk reduction measures adopted in water supply		
	Constructed water reserve tank and supply water pipes through safe place		59.7
	Constructed public water post and taps in safe place		80.3
	Tree plantation	32.5	41.6
	Wall/gabion for prevention of landslide	18.1	42.7
2	Received any training on DDR	2.5	4.2
3	Formation of local DRR committee in the community	1.9	10.8
4	Awareness of climate change/ever heard of climate change	14.2	32.7
5	Have you observed insufficient rainfall, more warm/temperature, drying up spring water and source of water in the last few years?		
	Yes		71.7
	No		4.6
	No idea		23.7
6	Awareness of initiative taken in the community for coping with consequences of climate change among those who were heard of climate change	39.7	57.5
	Forest conservation		40.8
	Conservation of water source		36.0
	Tree plantation		24.3
	Any climate change awareness programme launched in the community	16.3	23.2

Source: Baseline and end line survey

Because of lack of awareness activities on the issue of climate change, most people were not well informed of it. Only 14 percent households in the baseline and 33 percent in the end line found aware of climate change. However, some indication of climate change such as heavy or insufficient rainfall or rising temperature, drying up spring water and reducing amount of water at source reported having observed by the respondents. Those who were aware of climate change said that some initiatives such as forest conservation, conservation of water sources and tree plantation taken in community can help reduce consequences of climate change.

What innovative approaches has the project applied to WASH delivery?

Study team's field observation and interaction/discussion with beneficiaries and WASH committees at local level revealed that construction of child friendly water tap stand, public bathroom and universally accessible sanitation facility in school. All public water post/taps constructed in the communities had two taps: one for adult and another for children as shown in the photograph. This is really innovation of the child friendly water taps construction in the public places. The projected also constructed child friendly drinking water taps in schools. Child and girls friendly toilets have been advocated and promoted in the schools through both governmental and

non-governmental agencies including UNICEF. The SHWM project of the NRCS has promoted universally accessible toilet, which can be easily used by child, girls and children with physical disability. Construction of disable friendly toilet in school has spread positive message about needs of establishment of universally accessible toilet in schools and public institutions.

Rural and remote areas, people including women and children take bath in public tap and stream due to lack of bathroom at their homes. Women have to take bath in public taps which are established in public place facing towards road. According to women, they feel uneasy and shyness while taking bath at public tap. Considering the needs of women, the project constructed public bathroom in some communities. During discussion with women users, it was reported that they feel safe and privacy while bathing in public bathroom. A few households also constructed bathroom themselves using locally available materials at their home. It is really new and best practice promoted by the project in the WASH sector of Nepal.

How has access to water improved for users in terms of reliability of supply; accessibility; equity of access; and water quantity and quality?

The study team discussed with members of water user committees, women group and other beneficiaries about reliability, accessibility, equity, water quantity and quality. Except one water supply scheme, all water supply schemes completed by the project regularly supply water to water tap stands located nearby houses. During the discussion, it was frequently said that they can get drinking water all the time. During the field visit, it was also observed that one water supply facility was interrupted for a few days because there was problem in intake, and repair was not done in time.

In term of accessibility, improved water supply facilities are easily accessed and used by all people including children, adult, poor and Dalit. Water tap stands are located very close to houses and almost all households can collect water from the tap stands within 10 minutes. Water supply facility found to be equitably distributed in the communities. Brahmin, Chhetri, Thakuri, Dalit, poor and marginalized people are equally benefitted from the improved water supply facility. Some tap stands were constructed close to households belong to Dalit and disable people.

Discussion with beneficiaries and members of water user committees revealed that quantity of water supply from water supply system constructed by the project was sufficient for drinking, cooking, bathing, washing, cleaning as well as feeding animals. But water user committees of Bhandara Kailash said that they supply water from reserve tank to water tap stands only in morning and evening because amount of water reduced at resource in the month of May and June.

With regard to quality of water, it was reported that drinking water was periodically tested by the water user committee using water test kit provided by the project. Drinking water supply from water supply schemes constructed by the project found to be safe because trace of coliform was not presence in drinking water. Only one Water User Committee in Deulekh said that water test found fecal contamination in the drinking water though water source is located above the human settlement below the forest. Local people perceived that quality of tap water is good and it can be consumed without any treatment.

How well has the project addressed barriers to inclusion and opportunities for participation for people with disability/reduced mobility and those from Dalit communities? How was this achieved?

Prevailing caste discrimination was main barrier for the participation of Dalit and marginalized people in decision-making process. On other hand, local governing body must be inclusive as per the local government act and regulation. In this context, the project successfully captured the given opportunity and address barriers to inclusion while implementing WASH programme at the community level. Dalit people were in the position of chair in two out of six water user committees visited by the study team. WASH committees and water user committees were found inclusive in terms of caste and gender composition. During discussions with members of water user committees and women groups, it was said that the project successfully addressed the barriers and opportunities and promoted the inclusive culture in the sanitation and water supply sector. It was frequently mentioned that NRCS strongly advocated the inclusion of Dalit and PLWD.

2.5 Effectiveness of the Project

To what extent have the expected results of the programme as identified in project log frames been achieved and what are the main factors that have enabled or impeded this achievement?

Almost all the stated targets under in the project have been achieved by the end of the project. The project activities are highly effective in achieving ODF status, improving access to improved drinking water sources and improved sanitation facilities, changing sanitation and hygiene behaviour, and promoting gender equity and social inclusion in the WASH sectors. The community demand driven, participatory and local stakeholder engagement approach and multi-component activities such as water supply scheme, ODF/sanitation campaigns, sanitation and hygiene education in community and school, found effective to mobilize resources, produce outputs as logical framework and achieve the targeted outcomes within a given timeframe. The project successfully integrated water supply scheme with sanitation and hygiene promotion activities in community and school as well integrated WASH activities with GESI, natural disaster and climate change issues. Women, children and Dalits were actively involved in decision-making process as well as in the implementation of WASH activities at community and school level. All these appear to be main factors that contributed to the achievement of the expected outcomes of the project.

Traditional mindset and external dependency tendency hinder the smooth implementation of the project activities and maintaining the quality of the work. School management committee as well as some local people were reluctant to construct disable friendly toilets in some schools and establish quality water supply tap stands. Local people and decision-making body gave more priority on quantity rather than quality of works and construction.

How and to what extent have beneficiaries participated in decision-making processes informing project design and implementation? For example Dalit communities, children and women. And what impacts has this participation/participation had?

The prime focus of the project was to improve WASH situation of poor, Dalit, women, children and vulnerable peoples through participatory and multi-stakeholders engagement. A total of 39 WASH committees and 33 WUCs were formed in selected communities and settlement in the process of the project implementation. More than fifty percent women members were included in WASH committees formed by the project. All the WASH committees including WUCs have women in leading and managerial position. In a mixed caste group settlement, Committees were formed by including Dalit as well poor and vulnerable people in order to ensure the participation of diverse people with different background in decision-making and implementation process. Several

WASH Committees as well as WUCs were led by women and Dalit people. Child clubs and Junior Red Cross Circles were formed in school in order to ensure the participation of children in decision-making and implementation process.

Interview and discussion with member of the WASH Committees and WUCs revealed that inclusive Committees formed by the project were effective for engaging Dalit, women and vulnerable people in planning, designing and implementing project activities at the community level. It was expressed that voices of Dalit, women and vulnerable people were heard in the decision-making process through their representation in the meeting. According to member of WASH committee and school teachers, people from all sectors and categories were effectively mobilized in ODF campaigns, Post ODF/total sanitation activities and construction of water supply schemes. Practice of GESI approach created opportunities for women, children, Dalit and other peoples to participate in WASH meeting and activities conducted at the community level. Some people from lower strata of the society are likely to be excluded in decision-making and implementation process if such participatory approach and GESI framework were not adopted by the project.

Child clubs in school as well as in community were mobilized in school led/community led total sanitation activities that contributed to the establishing ODF communities and promoting sanitation activities in school as well in the community. However, children were not provided opportunities to participate in planning and designing toilet and water supply schemes in the schools. During the FGD with member of child club, it was reported that they were not consulted adequately about designing layout of school toilets and hand washing facilities. Because of lack of children participation in designing phase, some of toilets and hand washing facilities have not properly addressed some of the child friendly elements such as heights of hand washing tap and basin and size of door and squatting pan.

How actively has the project involved disabled peoples' organization in planning, implementation, and monitoring and evaluation?

There is district level organization of disabled people, called NFDN (National Federation of Disabled Nepal). Study team visited and interviewed to the Chair of NFDN Bajhang about his organization in planning, implementing and monitoring WASH activities in the district. Almost all government offices and schools lack disabled people friendly infrastructure. He said that disabled people organization participated and raised their voices for construction of disabled friendly infrastructure at the district level planning and evaluation meeting. But needs of disabled people are often neglected and given less priority by the decision-maker. According to him, awareness of decision-makers about constructing and creating disabled people friendly structure and environment has been increased through the advocacy of their organization.

"I usually participate in the district level on behalf of our disabled people organization as an invitee. But our organization has not been included in decision-making body. We are not member of D-WASH-CC. I got opportunities to participate and express our voices from PLWD in coordination, orientation and planning meetings organized by NRCS at the district level. I have been advocating for construction of disabled friendly toilet, tap and construction of ram at entrance of the public building and school for several years. Our vices are being heard. NRCS is the only in the district to initiate the construction of disabled friendly WASH facility in the public school. I was also involved in field monitoring activity of the project. But most of water tap stands/post constructed in the public places are not disabled friendly".

Interview with chair of District Disable People association.

Interviewed with chair of Disabled People's organization revealed that the project actively engaged them in planning and orientation meeting, as well as field monitoring activity. According to the project staff, voices and views of disabled people organization which were obtained various meeting and field monitoring were useful in

planning and implementing WASH activities at the field level. But local people were less aware of needs of disabled people and students; hence, they did not give priority on the construction of disabled friendly WASH facilities. Recently constructed disabled friendly toilet in school was not appropriate in term of size of room and door. Construction of disabled friendly toilet and water taps in school has raised awareness among school teachers and school management committees as well as parents about the needs of disabled friendly WASH facilities in the public institution.

To what extent are citizens in target areas satisfied, relative to expectations, with the delivery of WASH services?

Before the project implementation, almost all households did not have access to improved toilet, hand washing, dish washing and drying facility and majority households were deprived of safe and sustainable source of drinking water. Expectation and demand of local people for improving WASH services were very high, which were explored at the time need assessment through participatory approach. During discussion, field staff and community motivators reported that local people gave more priority on drinking water and less on toilet construction. After sensitizing and triggering people during ODF campaign, all people felt immediate need of toilet construction.

All communities and households visited by the study team were happy and satisfied with WASH facility and services promoted by the project. During the FGD with women group and WUCs, it was repeatedly said that they were satisfied with improved sanitation facility and water supply services. They also said that their needs and expectation relating to WASH facility have been fulfilled to the great extent. They were making their efforts to improve household environmental sanitation, which is constrained by the traditional and cultural practice of keeping cattle on the ground floor of the houses.

"Now all households of the village use toilet and have easy access to the piped water. We have constructed dish washing and drying facility at our home. We have also made manure/waste collection pits. We have learned to wash hands with soap before eating and after using toilet or touching dirt. We also take bath and wash our clothes more frequently. Even small children have been habituated to wash hands with soap. We are satisfied with the project activities." Discussion with women group, Sainpasela

"We are satisfied with the project activities of NRCS. Previously our Dalit Tol was neglected by government and other agencies. We requested to local governing bodies including DDC to construct water supply facility. But they did not listen to our demand. Before two years, we requested to the NRCS for water supply scheme. Our demand and expectation have been fulfilled by the project." Discussion the Members of WUC, Bhandara, Kailash

"Five years ago, my spinal cord was injured in the bus accident and became a disabled person. I was using portable folding commode chair brought from Dhangadhi in my toilet. I was in dire need of disabled friendly toilet at my home. I constructed disabled friendly toilet with support from NRC project. It has been convenient for me to defecate and pass out urine. I am satisfied with the project support to me." Interview with a PLWD, Deulekh

Field observation and interview/interactions with beneficiaries indicate that project activities conducted at the community level during four years seem to be successful and effective in addressing the WASH needs of local people. Most of people are satisfied with project activities. Local people were complaining about bucket connected with tap, which was distributed for establishing hand washing facility at home. The bucket had water leakage problem at tap joint. Only some people in Rayal who could not get improved water supply service were not satisfied with the project activities.

How effective are the processes in sharing knowledge and learning, within the project team and with partners, and how has that contributed to better WASH delivery?

Learning and sharing of WASH evidence, knowledge and experiences are essential for the successful outcomes of the project. Knowledge sharing and learning events create an opportunity for exchanging idea and innovation among the concerned organizations and people. The project organized various knowledge sharing and learning events such as orientation and planning meetings between project staff, DDC and VDC and other WASH actors in each VDC, participation of D-WASH-CC meeting, WASH campaign in community and schools, circulation of WASH related messages from posters, hoarding board, and Radio FM, publication of bulletin and case story, annual review and reflection meeting, exposure visits to another districts and international visits.

Orientation and planning meetings with the local governing bodies were effective for selecting communities, planning WASH activities on ground reality in line with national policy and district level strategy. It also helped the project mobilize local people and resources. WASH/ODF campaign as reported by the beneficiaries were very effective for triggering people to construct toilet and changing hygiene behaviour. Messages circulated from posters and Radio FM were also useful to raise awareness of WASH activities to some extent. Evidences of WASH project were documented and shared among a larger audience through publication of bulletins and case stories. Local WASH actors of the project areas visited Salyan District to observe and learn something new from others working in the field of WASH sectors. Visitors learned about how to collect water tariff from the water users and sustain WASH after project phase out. The project staff reported that knowledge gained from national and international visits was effective for ensuring participation of women, poor and vulnerable people through GESI framework, planning and implementing sustainability as well project exist strategy. But webinar and e-learning was not conducted effectively due to lack of reliable internet and sever facility in the Bajhang district.

2.6 Sustainability of the Achieved WASH Status

Sustainability refers to the likelihood of the programme activities in some form continuing after technical and financial assistance has been withdrawn. It is the probability of continuing the improved WASH related performance, services, practices and behavior in the future after the project phase out.

Sustainability of improved sanitation facility and hygiene behaviour: Almost all households of the project area have access to improved toilet and hand washing facility. Local people are habituated to use toilet and wash hand with soap. Discussions with women group and members of WUC revealed that local people will upgrade their sanitation facilities and they will continue key hygiene behaviour such as use of toilet and hand washing with soap in critical times for ever. School teachers and community leaders also said that whatever learned about sanitation and hygiene from the project activities will continue in the future because they are well informed of needs and benefits of the sanitation and hygiene from community motivators and WASH campaigns at the community level. During field visit, many households found having constructed dish washing and drying facility and manure/waste collection pit. Furthermore, rural municipalities of the project areas have recently formed W-WASH-CC in each ward. Chairpersons of Rural Municipality (RM) also reported that they were making plan to appoint community motivator/social mobilizer in each ward in order to continue sanitation and hygiene activities in the future

Sustainability of equitable access to improved water supply: Water schemes were successfully completed by mobilizing local people through Water User Committees (WUCs). Interaction with members of WUCs revealed that they are capable to operate and maintain water supply facility in the future. All WUCs have established operation and maintenance fund by collecting minimum water tariff from the users. But collected tariff was not deposited in the account. They are also technically capable to repair and maintain the facility. A total of 74

masons and 70 water technicians were trained by the project. At one member of WUC reported to be skillful and capable to repair water supply facility. Water users in water supply facility complaining that WUC often delay in repairing broken and out of order water supply facility. All WUCs had already recruited a caretaker to look after water supply facility from intake tank to water tap stands/posts. New elected local governing bodies, RMs had allocated budget for construction of additional water supply schemes and rehabilitation of old schemes according to needs of the community. During interview with Chairs of RM and Ward chairs reported that they will make their efforts to increase access of improved water supply to local people in the future. All these have ensured the technical sustainability of the WASH activities in the village.

Sustainability of WASH facilities and activities in School: All Basic Schools have formed and mobilized students for conducting WASH activities in schools. Secondary schools have both Child Club and Junior Red Cross Circle. Interaction with members of child clubs and JRC and interview with head teachers revealed that they organized various activities such as classroom, compound and toilet cleaning, demonstration of hand washing techniques to lower grade students, debate and quiz contest. They also ensured that they would continue such WASH activities in schools. Head teachers said that though there is no WASH maintenance fund, they repair the water taps and toilet using saved amount of stationary purchasing amount received from the government. School water taps are likely to be used and damaged by outsiders in holidays because of lack of fence around school compound. Most of schools have neither established maintenance fund nor WASH plan. Because of lack of maintenance fund and trained technician in schools, repairing work cannot be done in time. Head teachers said that they are seeking supports from RMs and local people to fence school compound as well as to establish WASH maintenance fund in school.

Sustainability of gender equity and social inclusion practice: The project successfully promoted the practice of gender equity and social inclusion in WASH programme by including women, Dalit and vulnerable people in WASH and water users' committees. All WASH committees have more than 50 percent women members and have representative from Dalit and vulnerable community. Traditional mindset of local people excluding women and Dalit in decision-making process has been changed due to the project activities. Now people have positive attitude and perceptions towards leading, managerial and technical capacity of women, Dalit and PLWD. Interactions/interviews with beneficiaries and key informants revealed that practice of including women and Dalit in decision-making and committee formation at the community level has been established due to the GESI focused WASH activities of the project. Now women show interest to serve WASH and other Committees in leading and managerial position. Moreover, inclusion of at least 33 percent women and representatives from Dalit and disadvantage communities while forming committees and local governing bodies has been mandatory as per new federal constitution of Nepal.

Institutional Sustainability: The project activities which have been conducted in the selected areas of the Bajhang under leadership and management of Nepal Red Cross Society, District Chapter. Even after the having ended SHWM project, regular activity and events of the NRCS along with monitoring activity in WASH sector will be continued in the project areas. During interaction with executive member of NRCS, it was assured that they would periodically visit the project areas and observe/monitor the sanitation and water supply facilities and behaviour of people. WASH committees are capable for planning, mobilizing resources and organizing WASH activities in their locality. They are aware of their roles and responsibilities which have been stated in documents including constitutions of the Water and Sanitation User Committee (WSUC). Most of WSUCs are institutionally linked with District FEDWASUN (Federation of drinking water and sanitation user committee).

What factors are now in place to ensure that improved service level can endure or replicated in other areas of Nepal?

We found five factors from community and household survey data that had potential effects on ensuring sustainability and replica ability of the improved WASH services in other countries of Nepal:

1. *The project aligned with the government policy and plan:* The project activities were found having aligned with government sanitation and hygiene plan as well as District Level WASH strategies. Therefore the project got adequate supports and collaboration from the local government. Discussion with Chairs and administrative officers indicated that new local governments are giving priority on WASH sectors.
2. *Formation of inclusive WASH committees and multi-sector engagement:* Data obtained from the project reports revealed that all WASH and Water Users' Committee were composed of men, women, Dalit and vulnerable people. Such inclusive committees can obtain voices from different category of peoples in decision-making process and mobilize local resources and communities/households effectively in the process of implementation. Local people and resources were effectively mobilized and used during ODF and Post ODF sanitation campaign, which resulted in achieved OD status in short period and improved sanitation at household and community level.
Multi-stakeholders such as women group, child club, schools, school teachers, V-WASH-CC, Ward – WASH CC and Water Users' Committees were engaged in planning, implementing and monitoring the activities. This approach found very successful to implement project through participatory approach by mobilizing people in their areas in their capacity.
3. *Capacity and Active Presence of WASH/Users' Committee:* Analysis of WASH/Users' Committees views shows that capacities of the committees found to be adequately enhanced through training and orientation meeting. They can continue sanitation activities and maintaining and repair work of water supply facilities without external supports. All WUCs and majority of WASH committees formed by are active. Most of members of previous WASH committees are also associated with recently formed Ward-WASH-CC and Rural/Municipality-WASH-CC. Further more, Some RMs have already formed Tol Sudhar Committees for the continuation of the improved WASH activities at the community level.
4. *Sanitation and Hygiene Education (SHE) in School and Community:* In order to change knowledge, attitude and behaviour of children, youth, adult and elder population, the project organized SHE in community and schools. Previously school teachers used to teach health education based on contents which appear in the textbook/curriculum. But sanitation and hygiene education including hand washing and waste management techniques were taught in all grade periodically. Community motivators provided SHE to households members by visiting their houses periodically. SHE is the key factor contributing to the sanitation and hygiene behaviour change of children and adult population.
5. *Innovative design and practice in WASH:* The project designing and constructed public water tap, public bathroom and universal accessible toilet in schools, which are really innovative idea and practice in WASH sectors. These innovative practices are well accepted by the community people. Almost all schools have established child and gender friendly toilet facility, but many schools were reluctant to construct and promote disabled friendly toilets. School head teachers argue that there is no student with physical disability who needs wheel chair for movement in school. However, after the construction of such facility, school teachers and management committees were proud of having universally accessible WASH facility in school. All these best innovative design and practice can be replicated and promoted in other WASH project of Nepal

To what extent has the collaboration between the NRCS and its institutional partners such as district WASH Coordination Committee (D-WASH-CC), Municipality WASH Coordination Committee (M-WASH-CC), Village WASH coordination committee (V-WASH-CC), Ward WASH Coordination Committee (W-WASH-CC), School Management Committee (SMC) and other relevant stakeholders?

In the process of project planning and implementation, Nepal Red Cross worked with various stakeholders such as D-WASH-CC, V-WASH-CC, Schools, School Management Committee, civil society, Disabled People's Association/NFDN and community-based organizations including women groups. At the district level, the project staff worked in collaboration and coordination with D-WASH-CC, which is the governing body of WASH sector in the district. D-WASH-CC identified project sites and provided policy guidelines to the SHW Project. The project staff and President of District Chapter of NRC, Bajhang also repeatedly stated that they planned and implemented action plans in coordination with D-WASH-CC and there is good coordination partnership between Nepal Red Cross Society and D-WASH-CC. Divisional Engineer, Member-Secretary of D-WASH-CC appreciated the collaborative works of NRCS and consolidated efforts made by the project in ODF campaigns. District Disabled Association/NDFN was also consulted in order to identify and address issues of people with disabilities in WASH sector. Likewise, to the some extent, there was collaboration between NRCS, Drinking Water Supply and Sanitation Division Office (DWSSD) and Drinking Water District Office (DWDO) in the process of planning water supply schemes in the project areas. Staff of District Women Development Office (WWDO) were also consulted about gender issues and discrimination in the WASH sector of the district.

V/W-WASH-CC and School Management Committees (SMCs) were key stakeholders of the project. In each and every step and aspect of the WASH activities, they were engaged and consulted while planning and implementing programmes at the community and school level. The project would not have completed successfully if there was no collaboration and coordination between the project staff and local WASH actors/Stakeholders.

There was good coordination and collaboration between NRCS project staff and Female Community Health Volunteers (FCHVs) in the process of sanitation and hygiene promotion activities at the community level through women groups. FCHVs are grassroots level health workers/volunteers of the Ministry of Health, who are responsible for providing knowledge and information, oral rehydration solution, packet, vitamin A, Iron table, contraceptive devices and deworming tablets to the needy members of the community through mothers' group meeting and household visit. FCHVs facilitated the community motivators to organize and conduct women's group meeting in each settlement of the project.

District level stakeholders including D-WASH-CC and Drinking Water Supply and Sanitation Division Office (DWSSD), and Municipality/Rural Municipalities have taken ownership of the WASH activities conducted by the NRCS in the project areas. They are likely to support the local WASH actors to continue similar activities in the future. Municipality and Rural Municipalities have already reformed the R/M-WASH-CC in order to plan and implement WASH activities in their areas. Tol Sudhar Organizations (Settlement/tol improvement org.) are being formed by Municipality and Rural Municipality with a view to improving sanitation and environmental situation of each settlement. FCHVs have been continuing sanitation and hygiene promotion activities in the mothers' group activities. Ongoing activities of D-WASH-CC, DWSSD, Municipality/Rural Municipality and FCHVs will contribute to the sustainability of improved WASH situation in the project areas.

2.7 Challenge Encountered

The main challenges faced by the Programme since its commencement are described as follows:

- *Maintaining quality and standard of the schemes:* Local people and WASH actors found to be more concerned with quantity rather quality of work as reported by the project staff. Some of water supply schemes in community and toilets in schools found to be below the minimum standards during the field observation. According to project staff, mason and technicians involved in the work were reluctant to complete the construction work as per technical design and estimate provided by the project. Rather they wanted to work their preoccupied mindset in the construction work.
- *Lack of sustainable source of drinking water:* In some areas, it was difficult for the project staff to find out sustainable source of drinking water nearby the village. In Rayal VDC, community demand for drinking water was very high. But lack of sustainable sources, the project could not implement water supply schemes in a few communities in the Ward 4 and 5. In these areas, community demand can be addressed by big scale scheme, which was beyond the scope of the project. Some water schemes were shifted from one needy community to another one.
- *Animal excreta and waste management as big challenge:* There is common cultural practice of keeping livestock (buffalos and cows) on ground floor of the house and dumping animal wastes in the courtyards. Many households do not have adequate space for making large pits for the collection of animal dung. Local people do not have capacity for constructing separate cattle shed away from home. Despite the continued efforts of the project in improving the management of animal waste by making manure pits, majority households could not construct manure collection pit and improve cleanliness around the houses. It is big challenge for achieving total sanitation at home and community.
- *Menstrual restriction and Chhaupadi culture:* Initially it was big challenge for promoting hygiene, sanitation and use of toilet during menstruation period. At the beginning of the project, about half the women did not use toilet during their monthly period, rather went for open defecation. By the end of the project, it was found that 20 percent of the women did not use toilet during their monthly period. Prevailing Chhaupadi culture and social value have led to invisible form of open defecation, water and environmental pollution of the locality.

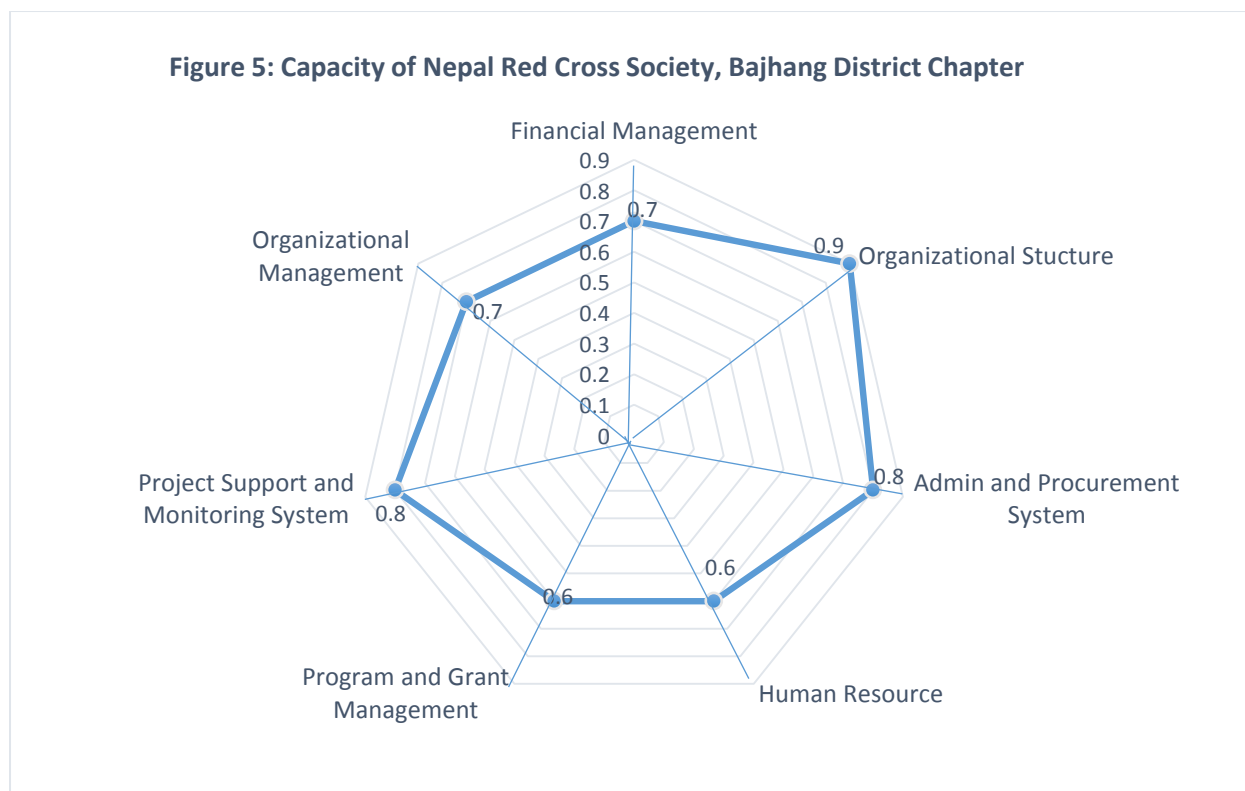
2.8 Capacity Building

Capacity building is integral part of project implementation process. The project intended to improve and performance of WASH Committees and stakeholders at the local level. Six GESI trainings were organized with a view to improving capacity of 26 staff/motivators and 140 volunteers. A total of 74 persons invited from communities and WASH/Water Users' Committee were trained as mason and 70 persons trained as water technicians. Various orientation and planning meetings were organized for members of WASH Committees and executive member of NRCS, Bajhang. Regional, national and international exposure visits were also organized for local WASH actors, leaders and members of governing body of NRCS in order to sharing knowledge and experience. All these activities have contributed to enhance the capacity of members of WUCs and WASH committees well as NRCS, Bajhang. In this end line study, capacity of Red Cross Society, Bajhang Chapter, WASH Committee and WUCs were assessed through participatory techniques.

Institutional Capacity of NRCS, District Chapter

Study team organized a meeting with members of executive board and staff of Nepal Red Cross Society to assess institutional capacity of the District Chapter. Discussion was focused on organizational structure, financial

management, administration and procurement system, programme and grant management, project performance and organizational management system. Participants were asked to rate each of the above mentioned components on five point scale based on criteria mentioned in institutional capacity assessment tool. Later, five point scale was converted to 10 point scale for better presentation in chart.

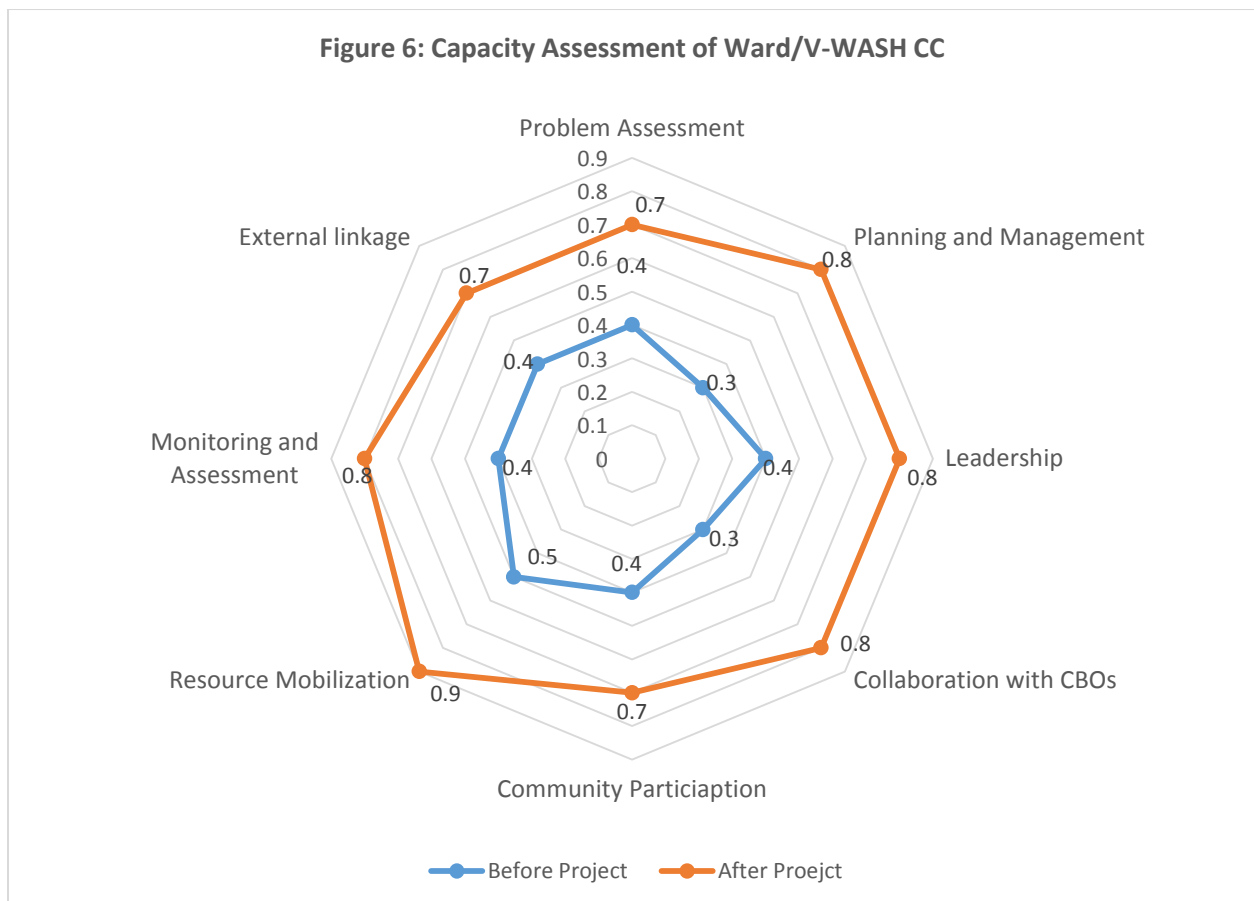


In the process of participatory assessment of institutional capacity, those who participated on behalf of the NRCS showed the supporting documents such as chart of organizational structure, accounting and financial management, documents of financial policy, administration and procurement system. There were records and documents about procurement process and travel of the staff and executive boards as well as project managing and operating policy and procedure. They also showed annual plan and budget of the NRCS. Based their experiences, documents and performance of the past activities, executive members and staff assessed their institutional capacity through participatory technique.

As shown in above figure 5, institutional capacity of the NRCs, District chapter has been rated as moderate capacity (0.6-0.8). All components of institutional capacity found above fifty percent. Organizational structure is very good. Administration and procurement system, project support and monitoring capacities are also very good. Only human resources and programme including grant management capacities were rated 60 percent. They had not developed and adopted standard procedure for human resource management. Likewise, grant seeking and grant management capacity is at satisfactory level. Human resource, programme, grant and financial management capacity needs to be strengthened in the future.

Capacity of Ward/V-WASH CC

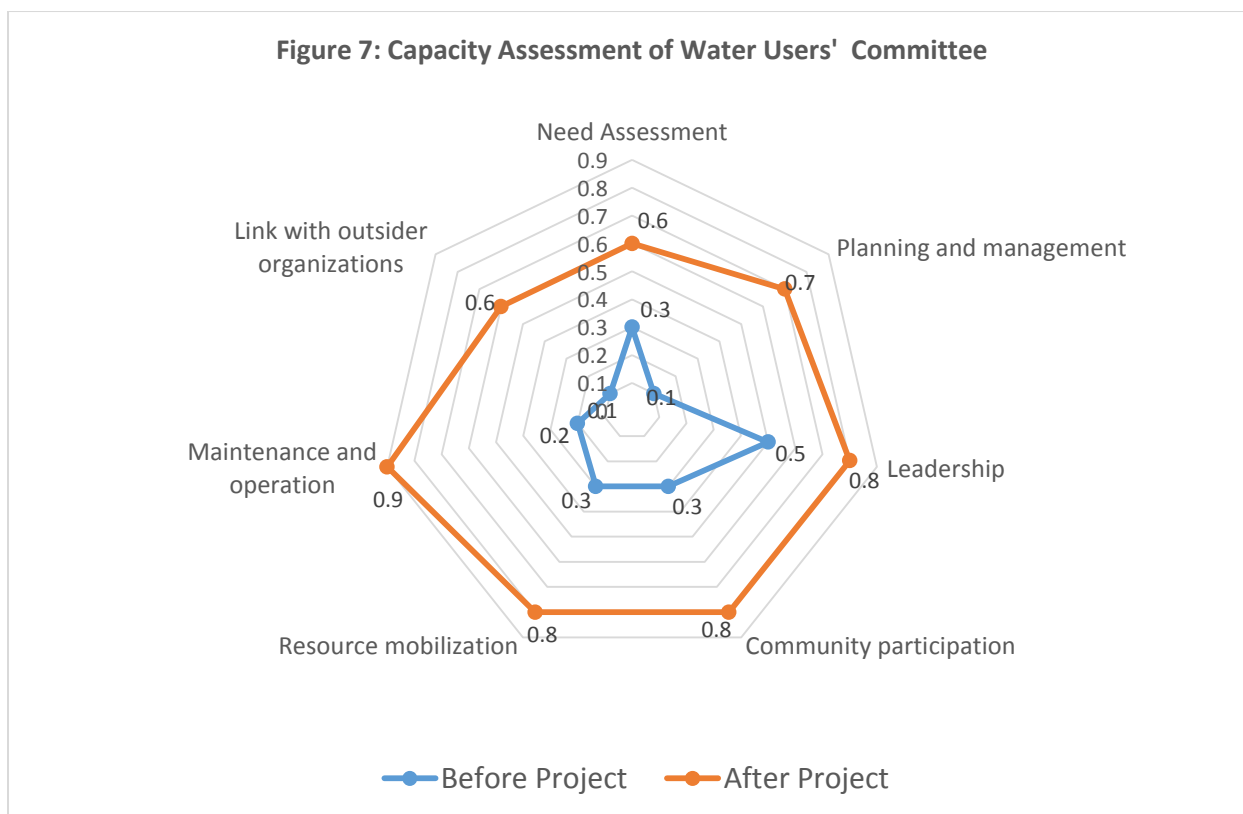
Participatory ranking technique was used to assess the local stakeholders' capacity in terms of need assessment, planning, leadership, community participation, resource mobilization, operation and maintenance, and external linkage. During assessment process, chair and members of WASH Committee were asked to rank their capacity before and after project implementation in ten point scale minimum 0 and maximum 10.



Participatory assessment indicated that the capacity of the WASH committee was below the average before the project implementation. With active engagement in WASH planning, implementation and monitoring activities with support of the project, capacity of the W/V-WASH CC has been enhanced up to strong capacity. While looking back records of WASH committee, there were evidences of water supply and sanitation planning and management in their minute book. They effectively mobilized people and local resource in ODF and sanitation campaigns. During discussion it was said that they did not have idea about planning, managing, monitoring, community participation and resource mobilization. At present they are able to do all these things themselves. Planning and management, resource mobilization, monitoring, collaboration and leadership capacities found to be strong. It indicates that V-WASH-CC which has been changed into Ward-WASH-CC can continue similar WASH activities in the future.

Capacity of Water Users' Committee

Study team met members of Water User's Committee and adopted participatory ranking technique to assess their capacity in terms of need assessment, planning, leadership, community participation, resource mobilization, operation and maintenance, and external linkage. During assessment process, chair and members of the Committee were asked to rank their capacity before and after project implementation in ten point scale minimum 0 and maximum 10 using bean and maize grain. They were asked to put 10 grains for maximum capacity and 1 grain for lowest capacity for the purpose of ranking. One grain/one score is converted into 0.1. And 10 as 1.0, which gives a 0.0, 0.1, 0.2, 0.3.....0.9, 1.0 scale.



Participatory capacity assessment revealed that capacity of the water user groups was very low before the project implementation as they did not have knowledge and skills about different dimensions of WASH user committees. Members of the Water User Committee got opportunity to learn about water supply scheme planning, management, leadership, resource collection and mobilization, repair and maintenance from the training and orientation activities of the project. During discussion, members of the user committee said that they have developed strong capacity for repair and maintenance. Each water users committee has a trained water technician and mason. During discussion with the members of the users committee, it was said that they prepared a plan for construction of water supply scheme as well as sanitation activities. They also showed the record of planning and management, which was prepared in the process of constructing water supply schemes. They also maintained the financial records including water tariff collected from the users. They rated maintenance and operation, resource mobilization, community participation and leadership as strong capacity. Need assessment, planning and management, and external linkages were reported as moderate capacity.

2.9 Case Studies

Case Study of Baneta Water Supply Scheme, Bhandara, Kailash

Baneta water supply scheme was completed in February 2018 by NRCS through the management of Water Users' Committee. This scheme was designed and constructed to meet drinking water demand of 32 households of Bhandara community, which is located in Kailash, three Km in the east of District Headquarter, Chainpur. Bhandara is predominantly Dalits (25 Dalits and 7 Chhetri) settlement. Before construction of the new water supply scheme, there was water scarcity in the village as water supplied from old piped water was neither reliable nor sufficient for all households. Bhandara people requested NRC Bajhang to support them for construction of water supply scheme. There is a reservoir having capacity of 6 square meters and 6 public water

tap stands erected among five households. Except two months (May and June), water from a reservoir is supplied to water taps day and night.



Water supply system is managed by a seven-member WUC, which is composed of 4 women and 3 men, and 5 Dalits and 2 others. The users committee was chaired by a Dalit, Jahare Sarki. In terms of the caste and gender composition, it is truly inclusive water user committee. It is also evidence of participation of Dalit people in decision-making body at local level as well as Dalit and vulnerable people can manage and operate water supply system and organize sanitation activities at the community level.

During discussion with members of the users committee, it was expressed that they discussed and analyzed issue of reliable and sustainable source of water at intake, possible effect and consequence of natural disaster and climate in the process of planning and designing water supply system. Water intake and reservoir were well fenced by metal wires and stone wall. In order to protect water source and water intake, some trees were planted around the source of water.

The water user committee collects twenty rupees from each user per month. They had also received forty thousand rupees from the Municipality for establishing operation and maintenance fund. Care taker has been employed to operate and look after water supply facility. He generally visits the source once in a month, cleans tanks every three months and is involved in connections and fixing problems. There are maintenance tools and spare materials sufficient for basic maintenance. Water tested after completion of the system indicated that water is clean in terms of turbidity and presence of fecal matter/coliform bacteria. The Dalit people are very satisfied with the safe and sufficient water provided at their households.

Sanitation Activities of Betal Mothers Group, Sainpasela

Betal Mothers group was formed by Female Community Health Volunteer (FCHV) about 20 years ago. Before the implementation of NRCS project in Sainpasela, members of the group used to visit occasionally to get oral rehydration, contraceptive and iron pills from FCHV. FCHV used to inform mothers about maternal and child health, diarrheal diseases and family planning. But it was not effective for changing behaviour of women and local people.

With the implementation of the project activities in Sainpasela, community motivator reformed the mothers group and revitalized its activities. They used to meet once a month to collect rupees 10 from each member and participate in discussion on health, sanitation, diarrheal disease facilitated by community volunteer in the presence of FCHV. Members of mother group said that they learned a lot of sanitation, hygiene, hand washing, sanitation related diseases, safe storage of drinking water, household and environmental sanitation.

FCHV said that she used to inform mothers about health, sanitation and hand washing practice, but they did not follow my advices. Regular meeting and discussions of the group meeting, and ODF/sanitation campaign brought many changes in health, sanitation and water handling practices of community people. Members of the group actively participated in sanitation campaign and elimination of open defecation. Now each household in the community has one toilet, improved dish washing and drying platform, and water tap stand is located nearby their households. Drinking water is easily available and sufficient for drinking, cooking, washing and cleaning toilet. Now all household members use toilet and wash their hands with soap after using toilet and before eating. During field observation, water in bucket and soap were found in hand and dish washing place at home. Women said that they habituated wash hand with soap, *"If we do not wash hands with soap, dirt and germs along with food enter into body and we may suffer from diarrheal diseases."*

Women were well informed of importance of environmental sanitation/total sanitation. All households have constructed a pit nearby house for the proper management of household wastes and animal excreta. Women and Tol Improvement Committee jointly participate in sanitation of activities of the community to clean road, Tol, and around water tap stands. Most of women take bath in public bathroom constructed by the project. With continuous involvement of mother groups and Tol Improvement Committee, all aspects of sanitation have remarkably improved. Each household of the community has received a green sticker indicating use of latrine, hand washing practice, safe use of water, safe use of food and cleanliness. All households have received sticker of total sanitation, which found pasted on the wall each house. The community has already achieved status of total sanitation.

Case of Sustainable changes in Hygiene Behaviour

Sustainable behaviour change is possible due to critical awareness of stopping open defecation, using toilet, preventing diarrheal diseases and demonstration of hand washing skills among women, children, students and adult people. Through triggering activities of CLTS, Sanitation and Hygiene Education, Health and Sanitation Messages from Radio/FM and awareness raising activities of child clubs and JRCs, local people learned several things about sanitation and hygiene behaviour. They realized that they would continue to eat their own shits and those of others and suffer diarrheal and other communicable diseases if they could not change their unhygienic behaviour. Such critical awareness has changed the traditional mind set of people and motivated people to adopt new behaviour like use of toilet and hand washing with soap.

Demonstration of hand washing skills followed by individual exercise is the key to change the hand washing behaviour. Community motivators demonstrated hand washing skills using soap and water and then engaged participants to do similar exercise. The study team observed boys and girls washing hands with soap properly. While asking hand skills, any one child at school and home easily shows steps of hand washing. School teachers have realised that practical health education, demonstration and exercise of practical skills are essential for changing behaviour. FCHVs and School teachers also argued that the way they have verbally taught and advised women and students about hand washing for several years could not bring significant and sustainable change in hygiene behaviour. Demonstration of use of toilet and hand washing skills by community motivators as well as school teachers in community, women groups, child clubs, schools and meetings have resulted in bringing out sustainable changes in hygiene behaviour of people.



Sita, illiterate woman, the chair of mother group in Luyanta, Municipality shares her experience of hygiene behaviour:

"Before the implementation of sanitation activities of Nepal Red Cross, I used to pay less attention to environmental sanitation and personal hygiene. My family had already constructed toilet five years before Red Cross coming to my village. But I used to wash hand with mud and ash after using latrine. Now I washes hands with soap after using toile, before eating meal, after touching dirt or working in field. I learned how to wash hand with soap and water from community motivator who demonstrated proper hand washing skill in mother group meeting.

Previously, I used to wash dishes courtyard on traditional dish washing place, called Juthelno and to keep washed dishes on anywhere around Juthelno. I have facility to dishing washing and drying platform." She said showing newly constructed dish washing and drying platform. At present courtyard of Sita's house appears to be cleaner than others' courtyards that lack manure/animal dungs collection pits. She clean courtyard every day and collect animal dungs and waste in manure pit.

Nonetheless, she was reluctant to change Chhaupadi culture, which is highly influenced by traditional beliefs and social values. She argued that women become polluted menstrual blood flow and such polluted women should stay outside house and they should not be allowed to touch drinking water tap and sacred place. She will continue Chhaupadi practice in her family in the future.

Performance of a woman Water Technician/Mason

Kalasha Dhama is a treasure as well as trained water technician of Dolakhola Water Users Committee, Deulekh. She is socially active woman member of the users committee as well as community. She believed that women can do as much as men do. After the formation of the water user committee, she got opportunity to participate in water technician as well as mason training organized by NRCS Bajhang. She also said that NRCS is the only one organization in their locality, which encouraged women to participate all aspect of WASH programme.



She was actively participated in the training and learned a lot about cutting and connecting pipes, mixing cement and sand, plastering, making wall with cement and stones, constructing water tank, repairing and maintaining water supply facility and taps. After having trained in water technician and mason, she worked with male counterpart as Mistry. Quality of her work was equal to the male counterpart. Performance of Mrs. Dhama was appreciated by all community members. She got the same wage given to the men Mistry. Previously women was paid less than men for the same job and work. After completion the water

supply scheme in her community, she also participated in the construction of water supply scheme of another community as Mistry. Now she has been a successful woman water technician/mason in the community. Dhama said that she can do all kind of minor repair of water supply facility. She immediately repairs when some problems occur in water supply system.

Case of Improved household Sanitation

Dhauuli Devi, a residence of Dilkoteli, Municipality was washing dishes on newly constructed improved dish washing and drying platform at the time of home visit. She was happy and seemed to be proud of improved sanitation at household and community level resulted from sanitation and hygiene activities of Red Cross Society. There is a provision of toilet, hand washing facility, dish washing and drying platform, manure pit and waste collection pit. She said that Red Cross volunteer/staff taught and motivated them about construction and use of these sanitation facilities. A few years ago, she was ignorant about sanitation and used to collect animal dungs and waste in courtyard and wash dishes on courtyard in front of house and defecate in open place. She learned a lot of sanitation, hygiene and communicable diseases prevention as she actively engaged in sanitation and hygiene activities of Mother Group in her village.

According to Dhauuli Devi, there has been a big change in sanitation situation and hygiene behaviour of households and community while compared the situation between four years ago and at present. Previously, sanitation ignorant people used to defecate in open places and rarely used soap wash hand before meal and after defecation. Now all households have access to toilet and hand washing facilities, and are aware of washing hand before meal, after defecation, before preparing meal, after touching dirt and working in field. She learned many things about how to improve sanitation condition, proper management of wastes and animal dungs as well as hand washing skills. She also



said that many women like her were using open place for defecation, eating meal and feeding their infants without washing hands with soap and washing dishes on ground and collecting animal dungs and waste on courtyard, if water supply and sanitation programmes were not implemented by the Nepal Red Cross Society.

Now she uses toilet even in her monthly period. She washes dishes and dry them on improved dish washing and drying platform. She had also constructed manure pit for management of animal dungs and wastes. She also realised that sanitation and hygiene behaviour is essential for preventing common illness like diarrhea, dysentery and fever. At present, children and women less frequently suffer from diarrheal disease after declaration of open defecation free village. The improved household and environmental sanitation has raised social prestige of the community.

2.10 Lessons Learned

Increased Equitable access to Improved Sanitation Facilities: Triggering people to construct toilet and hand washing facility along with the use of low cost/improved technologies can enhance acceptatnce of sanitation facility and quickly increase access to and use of improved sanitation facilities. Providing support to ultra poor, single women and vulnerable people for upgrandng temporary facility promotes equitable access to sanitation.

Improved in Hygiene Behaviour: Focused sanitation and hygiene education along with IEC/BCC activities in schools, mother groups, child clubs and regular home visit by community motivators are required to raise critical awareness, cultivate hand washing with soap at critical times, and bring out sustainable behaviour changes among men, women, children, youths and students. Household outreach needs to be strengthened to ensure safe water storage and handling practice and promote the construction and use of toilet, hand washing, dishy washing and drying facilities at home.

Increased Equitable Access to Improved Source of Drinking Water: Community demand driven and community participation through Water User Committee in water supply scheme can ensure equitable distributio of water taps among rich and poor, Dalit and other vulnera households and increase feeling of community ownership. Integration of water supply schemes with sanitation and hygiene and GESI needs to be emphasized in rural areas for promoting equitable access to improved source of drinking water. Integration of DRR, climate change, vulnerability and capacity assessment activities into WASH schemes are essential for better management of water resource and sustainability.

Increased community participation and local stakeholders: Applilication of CLTS approach and tools is essential for triggering and mobilizing people in community wide action. Planning and implementing WASH project in line with the government policy and plan, and using local governing bodies have resulted in better outcomes and an increased sense ownership of WASH initiatives.

Increased capacity and performance of WASH actors: Project activities focusing on capacity development and performance improvement of local WASH committees and actors in addition to service delivery is the best way to ensure the sustainability of WASH activities in the future.

Chapter III

Conclusion and Recommendations

This chapter provides conclusion and recommendations for further actions and policy development.

3.1 Conclusion

The SHWM project has been implemented in remote district, Bajhang with aims to addressing water, supply, sanitation and hygiene needs of poor and vulnerable households and increasing equitable access to and use of WASH facilities among households. The project activities were highly relevant to the target communities as interventions fulfill their urgent sanitation, hygiene and water supply needs. The project activities have been implemented as per action plan and logical framework aligned with the national as well as local sanitation and hygiene strategies through collaborative, demand driven and participatory approach. Almost all numeric targets and stated outcomes of the project have been achieved by the end of the project through efficient mobilization people and resources and effective use of local WASH governing bodies and schools.

Improved enabling environment at local governance: Local WASH governing committees and actors were effectively engaged in the process of planning, implementing and monitoring the project activities. The capacity and performances of local WASH committees and actors were improved as expected through support and facilitation mechanism and coaching through participating in decision-making, planning and monitoring activities. Even after disbanding V-WASH-CC and Ward-WASH-CC, actors and leaders who were members of the Committees found supporting and facilitating WASH activities at the community level. Many of them are in newly formed R/M-WASH-CC and Ward-WASH-CC.

Improved gender equality and social inclusion: The concept of gender equity and social inclusion was effectively incorporated in WASH sector as per the project plan. Share of women in all the WASH committees formed by the project was above the 50 percent and some of them held leading and managerial position in the committee. The project also ensured the participation of women, Dalit, Disable and vulnerable people in decision-making process. As reported by the survey households and beneficiaries, practice of keeping women and menstruating girls outside houses has drastically going down and involvement of men in fetching water and household sanitation, and participation of women in community meeting and action is gradually improving. However, traditional roles of women such as cooking, washing dishes and cleaning courtyard have not been changed.

Improved hygiene behavior: Sanitation campaigns and sanitation and hygiene education along with BCC activities have significantly increased awareness and changed hygiene behaviour of people. Almost all people wash their hands with soap in critical times. Integration of hygiene education with water supply and sanitation is particularly evident in the organizational set up of the programme and implementation of activities on the ground. However, some people do not regularly wash hand with before eating and after touching dirt. Practice of cleaning and maintaining cleanliness found being improved, but proper management of animal dung and solid wastes in below the average. ODF campaigns and post ODF total sanitation activities, sanitation and hygiene education in school and community, and monthly home visit by community motivators, WASH related extra-curricular activities in school and bi-monthly community visits of school child clubs and Junior Red Cross circles for monitoring sanitation situation in communities are key factors contributing to sustainable behavior change.

Increased use of equitable sanitation services: Sanitation campaigns had effectively promoted equitable access to sanitation facilities in the project areas where Brahman/Chhetri, Dalit, ultra poor, single women and vulnerable people are equally using toilet facility including hand washing facility. The construction and use of dish washing and drying facility were being increased equitably among them. The promotion of equitable sanitation services was possible due to the integration of GESI component in the WASH programme and support to the Dalit, poor and vulnerable households.

Increased use of improved and equitable water supply services: Access to improved water supply facility (piped water) has significantly increased from 61 percent in the baseline to 88 percent in end line survey. Dalit, ultra poor and vulnerable households are more or less equally benefited from the equitable distribution of improved water supply facility. Community demand driven, pro-poor/vulnerable focused and GESI framework based approach was effective to the establishment of equitable water supply facility in the communities. Because of lack of sustainable sources of water, construction of new water supply facility was not possible. About 12 percent households were still deprived of improved water supply facility. Beneficiary households and women groups that were visited by the study team were very pleased with new and improved water supply facilities, which can be accessed within a few minutes. There was a perception among women that they benefited most from the water supply interventions both because of the reduction in the amount of time they now have to spend collecting water and because of the improvements in the health of their children.

Integration of DRR and Climate Change: Issues of DRR and Climate change were adequately discussed in planning meeting/orientation and in the process of vulnerability and capacity assessment (VCA) activities. But these issues have scarcely found in implementation process of water supply schemes. Current activities in this field in water projects cannot yield the necessary impact on reducing consequence of DRR and climate change, and on increasing awareness at the community level.

Sustainability: Likelihood of continuing key achievements made in equitable access to the improved WASH facilities is very high as local people, stakeholders and local government are capable for performing sanitation activities, and operation and maintenance of water supply facilities in the future. Newly elected local governments have already formed R/M-WASH-CC, Ward-WASH-CC. They were showing interest to recruit community motivators/hygiene promoters in order to continue community based sanitation and hygiene activities in the future. Improved hygiene behaviour would be continued forever as children, men, women and elder people have been habituated to use toilet and wash hands with soap. But additional efforts and supports to the households from local governments are required to improve the animal dung/waste management facility and achieve total sanitation status at households and community level.

All WUCs had at least two members who are trained as water technician and mason, capable of repairing WASH facilities. They had also recruited a caretaker to look after the water supply facility and undertake minor repairs. Most of WUCs do collect user fees and have bank accounts to save the money for the future operation. Beneficiaries/WUCs were also receiving support from the local governments for rehabilitation and new construction of WASH schemes. Despite these, there is still donor dependent tendency among the local people, which may have negative influence on sustainability of improved water supply facility.

3.2 Recommendations

- WASH related community-driven projects should be implemented through participatory approaches through local government structure, NGOs/CBOs, local health workers and social mobilisers putting local people at the centre of activities to analyze their problems, define their own priorities and decide their water points and sanitation interventions in all phase of the project including monitoring and evaluation. Establish participatory monitoring systems through which target group can evaluate their progress and define priority actions on regular basis.
- WASH project should be design and implement aligned with national WASH plan and local strategy with involvement of local governments and CBOs for effective implementation and sustainability of the project activities.
- Integration of sanitation and hygiene education, GESI framework, cross-cutting issues into WASH project and engaging multiple stakeholders along with multi-layer influence strategies (individual, groups, schools, community, stakeholders at community, VDCs, and district level) appears to be key factors for

increasing equitable access to improved WASH facilities and changing sanitation and hygiene behaviour. Such integrated approach can be replicated in other WASH project in the future.

- Cultural practice of keeping cattle in courtyard and ground floor of houses continuously generate wastes and causes unhygienic environment at household level. Concentrated efforts are required to improve household environmental sanitation by motivating and supporting people to prepare proper manure pits as well as waste collection pits.
- Child friendly taps and public bathroom constructed at community water post is an innovation of the project, which can replicated in all WASH facilities of the country. More attention to harmonized approaches and adoption of best practices, with equal attention to the importance of trying out innovative methodologies, introducing new technologies.
- Mobilization of child clubs and Junior Red Cross Circles are effective strategies for conducting WASH activities in school through participatory approach.
- Universally accessible sanitation facilities in school need to be constructed in all public schools with supports of government and non-government agencies in the future. Such an initiative can convey positive message to the concerned authority and actors to promote disable friendly WASH facilities in public institution.
- School WASH programme can be linked with school garden and ecological sanitation where student can use waste water, compost fertilizer prepared from organic waste as well as urine collected from urinal as fertilizer.

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NEPAL RED CROSS SOCIETY
SANITATION, HYGIENE AND WATER MANAGEMENT PROJECT, BAJHANG

Household Survey Questionnaire

Name of VDC: 1. Kailash 2. Luyanta 3. Rayal 4. Deulekh 5. Sainpasela Ward No..... Name of the household head Sex of household head : 1. Male [] 2. Female [] 3. Transgender []
Name of the interviewer Date of interview ____/____/_____ Time taken in minutes.....

Section 1: Background of the Respondent

Q.No	Questions	Coding category	
1	Name of the respondent..... Sex of the respondent: 1. Male [] 2. Female [] 3. Disabled Female [] 4 Disabled male		
2	How old are you?	Completed age	
3	Completed level of education	Never been to school./Illiterate..... Primary level (1-5)..... Lower secondary level(6-8) Secondary level (9-10)..... S.L.C passed..... Certificate level or grade 12 above Above Grade 12 Non-formal education.....	1 2 3 4 5 6 7 8
4	What is your ethnicity?	Brahmin/Chettri..... Dalit..... Janajati.....	1 2 3
5	What is your marital status ?	Unmarried..... Married..... Divorced/separated..... Widow/widower.....	1 2 3 4
6	How many members do you have in	Male.....	

	your family?	Female..... Third gender PLWD Female..... PLWD Male..... Total.....	
7	Number of children below 5 years	Boys Girls..... Boys with Disability..... Girls with disability	

Section 2: Socio-Economic Condition

101	What is the main source of income of your family?	Agriculture..... Business(wholesale/,retail)..... Traditional business (coal/tailoring)..... Service..... Daily wage..... Income from foreign employment..... Skilled labor..... Others (specify).....	1 2 3 4 5 6 7		
102	How many months does the food-grain produced from your own operated land meet your household's food requirement?	Months..... No land.....88			
103	Types of house	Pakki/permanent Semi-Pakki/Semi-permanent..... Temporary	1 2 3		
	104	Do you have domestic animals?	Yes..... No.....	1 2→	Q106
KAP 5.1	105	Do you have an animal excreta collection place with boundary for the proper management of wastes?	Managed..... Not managed.....	1 2	
	106	Do you have improved kitchen garden?	Yes..... No.....	1 2→	Q108
	107	What is the purpose of managing kitchen garden?	Producing vegetables for own family..... For selling vegetable in market..... For both purpose.....		

Section 4 : Health

108	During the past one month , have any of these illness occurred in your family? (multiple answers)	Diarrhea..... Cholera..... Dysentery..... Skin disease..... Eye infection..... Jaundice..... Respiratory infections Other health problems..... None.....	1 2 3 4 5 6 7 8 88→	Q113
109	Did the person who had the illness	Yes.....	1	

	visit health institution for the treatment ?	No..... ...	2	
110 KAP 4.1	Do you know how one can get diarrhea? (multiple answers)	Through open defecation Through contaminated water..... Through poor sanitation..... Not washing hands properly..... Contaminated food..... Other (specify)..... Don't know.....	1 2 3 4 5 8	
111	In the past one month has any of the under 5 children in your family suffered from diarrhea?	Yes..... No..... No children under 5	1 2 3	
112	If yes, how many children suffered from diarrheal diseases?	Male child Female child.....		

Section 5 : Drinking Water

PII /1, KPQ/6.1 KPI/6.1 indicator 1.2	113	What is the main source of water for your family?	Piped water (private)..... Piped water (public)..... Protected Well Unprotected/open well Stream/river..... Stone tap/Dhunge dhara.....	1 2 3 4 5	
	114	If piped water is source of water, when it was constructed?	Year.... and month....		
	115	What was the source of drinking water before the construction of piped water facility?	Spring water Stream/river..... Unprotected well..... Protected well..... Traditional stone tap away from home		
	116	Who collects/fetch water from its source?	Adult women (above 18 years).... Adult men (above 18 years).... Bothe adult women and men.... Boys..... Girls... Both boys and girls.....		
	117	How do you store drinking water at home?	Bucket..... Jerkin..... Gagri/copper/metal Jar..... Drum..... Other..... No water stored.....	1 2 3 4 5 6	
PII 1 KPQ/6.1 KPQ/2.3 KPQ/2.4	118	How long does it take to fetch one vessel of water? (up and down and waiting time to fetch water etc.)	Minute.....		
PII 1 KPQ/6.1 KPQ/2.3 KPQ/2.4	119	Is the water enough for your family's daily need (mention here drinking water, cooking, hand washing, bathing, washing of clothes, animal use)	Yes..... No.....	1→ 2	

KPI/6.7 Indicator 1.7					
PII 1 KPQ/6.1 KPI/6.7 Indicator 1.7	120	How much water do you currently use for your family in a day?	Liters..... <u>Calculate liters as per number of vessels</u>		
KPI 6.1	121	Do you use an alternative water source in the winter / dry season	Yes..... No.....	1 2→	Q123
KPI 6.1	122	What is your alternative source in dry season?	Well..... Stream/river..... Stone tap/Dhunge dhara..... Rain water harvesting-----	1 2 3 4 5	
KPI/6.2 Indicator1. 3	123	Do you boil you drinking water?	Yes..... No.....	1 2→	Q125
KPI/6.2 Indicator 1.3	124	If yes, when do you boil your drinking water ?	Boil during cold season When feeling sick..... During monsoon..... When necessary.....	1 2 3 4	
KPI 6.2	125	Do you use any other methods of water treatment/purification?	Chlorination/Piyus..... Filtration..... SODIS..... Not treatment.....	1 2 3 4	
KPI 6.2	126	When was the last time you treated drinking water?	Today Yesterday..... In the past one week..... In the past two week..... In the last one month..... More than a month ago..... Never..... Do not now	1 2 3 4 5 6 7 8	
Indicator 5.2	127	What do you do with household waste water?	Throw it in fix place..... Use it in the kitchen garden..... I use it for toilet flushing..... Throw it elsewhere.....	1 2 3 4	

Section 6: Hand washing Behavior

PII 5 KPI/4.1 Indicator 3.1	128	When do you normally wash your hands? (multiple answers)	After using toilet / defecating..... Before eating..... Before feeding children/sick people..... Before preparing food..... After cleaning babies bottoms..... After working in dust/field..... Other (specify).....	1 2 3 4 5 6	
PII 5 KPI/4.1 Indicator 3.1	129	What do you normally wash your hands with?	Only water..... With soap and water..... Water and Mud..... Water and Ashes.....	1 2 3 4	

			Other (specify)		
PII 5 KPI/4.1 Indicator 3.1	130	In your opinion, what disease may occur if hands are not washed properly? (multiple answer)	Diarrhea..... Cholera..... Dysentery..... Jaundice..... Typhoid..... Stomachache..... Cough and cold..... Others..... Don't know.....	1 2 3 4 5 6 7 8 9	
PII 5 KPI/4.1 Indicator 3.1	131	Do other family members wash hands with water and soap before eating ?	All members wash hands..... Only some members wash hands..... Don't know (DK)	1 2 3	
PII 5 KPI/4.1 Indicator 3.1	132	Do other family members wash hands with water and soap after using toilet / defecating ?	All family member wash hands..... Only some family members wash hands... DK.....	1 2 3	
PII 5 KPI/4.1 Indicator 3.1	133	Do the care takers of under 5 children wash their hands with water and soap before feeding children ?	Yes..... No..... No under 5 children	1 2 3	
PII 5 KPI/4.1 Indicator 3.1	134	Does the care taker of under 5 children wash her/his hands with water and soap after cleaning baby's bottom	Yes..... No..... No under 5 children	1 2 3	

Section 7: Toilet and Public Bathroom

KPI 5.1	135	Do you have latrine at your home ?	Yes..... No.....	1 2	
KPI 5.1/5.2	136	If yes, What is type of latrine ?	Temporary pit latrine without slab/pan Improved pit latrine with water seal/pour flush... Flush toilet connected to septic tank Dry pit toilet..... composting toilet (separation urine and feces)	1 2	
	137	When did you start using latrine/toilet?	Before the project implementation After the project implementation	1 2	
	138	Who decided about construction of toilet	Men..... Women..... Both men and women.... Boys below the age of 18 year.... Girls below the age of 18 year... Both boys and girls.....	1 2 3 4 5	
PII 3 KPQ/5.1	139	Has your latrine pit/tank ever filled up?	Yes No	1 2	Go to 144
	140	If yes, when was latrine pit	before month		

		filled up?			
	141	What did you do when the pit or septic tank filled up last time?	Emptied and reused pit/tank..... Abandoned and pit/tank unsealed.... Abandoned with sealed covered on pit/tank... Covered and used another pit..... Do not know....	1 2 3 4 5	
	142	If latrine pit/tank has been emptied, who did emptying?	Members of household..... Neighbor..... Wage laborer..... Other.....	1 2 3 4	
	142a	How was the pit emptied?	By hand, using bucket and rope By hand, using mechanical mump By using electric motor pump	1 2 3	
	143	Where was it emptied into?	Directly into ditch, stream/river and kolsa..... Into a pit nearby houses and then is covered... Into open land and field..... Into drum and container..... It was reused after drying up	1 2 3 4	
	143a	How was fecal sludge transported from pit to another place?	Carrying bucket..... Carrying in drum..... Other.....	1 2 3	
	144	What do you intend to do when latrine pit fills up?	Empty by household members..... Empty by individual wage labourer.... Cover and seal the pit and use another pit... Abandon the latrine without cover and seal... No idea.....	1 2 3 4	
	144a	What are risks associated with emptying toilet pit?	Transmission of diarrheal diseases..... Worm infestation..... Skin diseases..... Do not know.....	1 2 3 4	
KPQ/5.1K PQ/2.3	145	Do all menstruating women and girls use toilet during menstruation?	Yes..... No.....	1 2	

Section: Environmental Sanitation

PII 8 KPI/4.1 indicator 3.1	146	Have you constructed improved dish and drying washing platform ?	Yes No.....	1 2	
PII 8 KPI/4.1 indicator 3.1	147	Who decided about the construction of dish washing and drying platform?	Men..... Women..... Both men and women....	1 2 3	
	148	Has public bathroom constructed in your community?	Yes..... No.....	1 2	
	149	How often do women use the public bathroom?	Daily/Always.... Sometimes During monthly period only	1 2 3	

			Never Do not know	4 5	
PII 7 KPI/4.1 Indicator 3.1	150	Have you constructed pit for household solid waste management ?	Yes..... No.....	1→ 2	Q152
	151	If no, where do you usually manage household waste ?	Elsewhere..... In courtyard..... In the field..... Use compost.....	1 2 3 4	
PII 8 PII 13 KPI 4.1 Indicator 3.1	152	Does your household have Improved Cooking Stove (ICS)?	Yes..... No.....	1 2	
PII 8	153	Observe, if there is a separate kitchen ?	Yes..... No.....	1 2	

Section 9: Women Participation / Empowerment

PII 9	154	Is any woman in your family involved in self-help women group?'	Yes..... No.....	1 2		
	155 Has any woman in your family been participating in the following committees?		If yes , in which position ?			
PII 9 KPI/2.1 Indicator 4.1			Yes	No	Leadership	Members only
	1	V-WASH-CC.....	1	2	3	4
	2	Ward -WASH-CC.....	1	2	3	4
	3	School- WASH-CC.....	1	2	3	4
	4	Water Users Committee...	1	2	3	4
	5	Community Forest Group Cooperative.....	1	2	3	4

Section 10 : Gender and social inclusion

KPQ 2.3, KPQ 2.4, KPQ 2.6	156	Who is the main income earner in the household?	Male member..... Female member..... Jointly.....	1 2 3
	157	Who controls household health, water and sanitation expenses in your family?	Male member..... Female member..... Jointly.....	1 2 3
	158	From your household who usually participates in community meeting and activities related to water supply, sanitation and hygiene?	Male member..... Female member..... Jointly.....	
	159	Who usually cook, clean dishes, collect water, clean house and courtyard in your households ?	Male member..... Female member..... Jointly.....	1 2 3
PPI 10 KPQ/6.1 KPQ/5.1 KPQ/2.3 KPQ/2/6	160	Are there any person living with disability in your community	Yes No	
	161	Do you know any form of discrimination to person with disability in your community?	Yes..... No..... Cannot say	1 2 3
PPI 10	162	In your opinion can a person with disability be a chairperson of a WASH committee?	Yes..... No..... Cannot say	1 2 3
PPI 11 KPQ/6.1 KPQ/5.1 KPQ/2.3 KPQ/2/6	163	Has discrimination to Dalit people reduced in your community at present?	Yes No	1 2
	164	How is the participation of Dalit people in community meeting and actions related to water supply and sanitation in your community?	Equal to other peoples' participation..... Less than other people's participation..... I do not know.....	1 2 3

Menstrual Hygiene Management

KPI 2.3	165	Where do women and menstruating girls of your household live during their monthly period (Chhau)?	Outside house in Chhau hut?.... Separate place/room inside house..... Inside house in her sleeping bed/room..... Other.....	1 2 3	
KPI 4.1	166	What material do they (women/girls) use for absorbing blood in period?	Old cloth pieces New cloth pieces Homemade sanitary pad Sanitary pad available in market Other...	1 2 3 4 5	
PI 3.2	167	Has anyone of women in your household learned to make sanitary pad from cotton cloths?	Yes No	1 → 2	Q 169
PI 3.2 KPQ 4.2	168	Do they prepare cotton cloths sanitary pad and use it	Yes No	1 2	
	169	How often do you change absorbent material per day?	Once a day Twice a day Thrice a day None	1 2 3 4	
	170	How often do you reuse pads after washing and drying it?	Always reuse Sometimes reuse No reuse	1 2 3	
	171	Where does she dispose pad/blood absorbent materials?	Bury Dry and burn Wash and dry for reuse Flush in toilet Throw away from home in bush and kholsa Other...	1 2 3 4 5 6	
	172	When does she start taking shower/bath during menstruation?	First day Second day Third day Last day None	1 2 3 4 5	
	173	Does your family have a school-going girl who has already started monthly period?	Yes No	1 2 →	go to 175
	174	Has she ever missed school during monthly period?	Yes No	1 2	
	175	If yes, how many days do she miss school in a normal month? days per monthly period		

Section 11 : Disaster Risk Reduction

	176	Have you ever noticed water source, reserve tank, water supply pipe and tap badly damaged by landslide, rainfall and flood in the last two years?	Yes... No....	1 2	
	177	Has your community done anything to prevent such damage of water supply facilities in future? If yes, what has been done ?	Constructed water tank in and supply water pipes through low risk area Constructed water tap and public post in safe area Flood barriers (gabion boxes) Tree plantation..... Walls to prevent landslide/Tatabanda..... Other specify.....Nothing done.....	1 2 3 4 5 8	
	178	Do you have any relief fund in your community ?	Yes..... No..... Don't Know.....	1 2 8	
	179	Have you ever received any training on DRR ?	Yes..... No.....	1 2	
	180	Do you have local DRR committee in your community?	Yes..... No..... Don't know.....	1 2 8	
	181	Have you received any information regarding disaster risk reduction related to WASH?	Yes..... No..... Not sure...	1 2 3	

Section 12: Climate Change *the below questions support outcome 5*

	182	Do you know about climate change?	Yes No	1 2	
	183	Have you observed insufficient rainfall, more warm/temperature, drying up spring water and source of water in the last few years?	Yes No..... No Idea.....	1 2 3	
Indicator 5.2	184	Is there any initiative in the community towards coping with the effect of climate change?	Yes..... No..... Don't know.....	1 2→ 8→	Q177 Q177
Indicator 5.2	185	If yes, what types of actions are being taken? <i>(multiple answer)</i>	A-forestation/ reforestation..... Conservation of water springs..... Use of less fuel wood for cooking and introduction of ICSs / biogas/ Others.....	1 2 3	
	186	Are there any climate change awareness programme launched in the community?	Yes..... No..... Don't know.....	1 2 8	

Knowledge and Learning

PI 3.2	187	What have you learned from water supply, sanitation and hygiene activities?	Use of toilet and ODF community.... Hand washing with soap in critical moment.. Use of safe water including covering water storage vessels..... Use safe and healthy foods..... Covering food and meal..... Cleaning house and its surrounding..... Proper management of wastes and animal excreta..... Making menstrual pad using cotton cloths.... Protecting source of water..... Equal access of women, children, PLWD and Dalit.....	1 2 3 4 5 6 7 8 9 10	
PI 3.2	188	From where and whom did you learned above mentioned knowledge and skills related to WASH?	Red Cross community motivators/volunteer... Female community health workers Child club members..... School going children..... School teachers..... Health post staff... Radio TV Posters, News Papers..... Neighbors Group/community meeting and discussion...	1 2 3 4 5 6 7 8 9 10	
PI 3.2	189	Did you or your family members teach and communicate to other people what you learned about water, sanitation and hygiene?	Yes No.....	1 2	

Section 13: Information on Red Cross

	190	Do you know about Red Cross	Yes..... No.....	1 2→	192
	191	If yes, what does Red Cross do in your community ? (multiple answer)	Health awareness programme..... Water supply Sanitation activities..... Health camps..... Blood donation camp..... Other awareness programme..... Others.....	1 2 3 4 5 6 7	
	192	In your family is anyone the member of Red Cross?	Yes..... No.....	1 2	

Observation of WASH facilities at Home

Before filling up following information, please meticulously observe drinking water, drinking water handling practice, condition of toilet, waste management, hand washing and dish washing drying facilities.

- 193 Observe, has drinking water vessel/container covered properly? KPQ 6.2
1. Covered
 2. Partially covered
 3. Completely uncovered
 4. Water was not stored in vessel/container
- 194 Ask household member to give you a glass of drinking water and at the same time observe how s/he filled up the glass/jug from container. PI 6.2
1. Was the glass/jug kept in safe and sanitary place (flies cannot access, dirt cannot contaminate it) prior to being filled with water? a) Yes b) No
 2. Did hands come into contact with drinking water? a) Yes b) No
- 195 Observe, has cooked foods covered properly? PI 6.2
1. Covered
 2. Partially covered
 3. Completely uncovered
 4. No cooked foods/meal available at the time of observation
- 196 Observe Condition of toilet? PI/5.1
1. Clean
 2. Dirty
 3. Bad smell
 4. Seen housefly
 5. Visible human excreta
 6. Toilet not used
 7. No toilet
- 197 Observe, Does the latrine provide adequate privacy for the user? PI/5.1/5.2
1. Yes
 2. No
- 198 Observe, is water available in toilet? PI/5.1
1. Yes
 2. No
- 199 Observe, is there hand washing facility nearby toilet? PI 4.2
1. Yes, soap and water
 2. Yes, water only
 3. Nothing

200 Observe, is soap kept in hand washing facility in way that all members including children can easily get and use it? PI 4.2

1. Yes
2. No

201 Observe cleanliness house, courtyard and surrounding? PI 4.1

1. Clean
2. Partially clean
3. Dirty

202 Observe, is there proper management of waste including animal excreta? PI 4.1

1. Yes
2. No

203 Observe, is there dish washing platform? PI 4.1

1. Yes
2. No

204 Observe, is there soap/surf/ash at dish washing platform? PI 4.1

1. Yes
2. No

205 Observe, is there dish drying facility at dish washing platform? PI 4.1

1. Yes
2. No