RECOVERY AND RECONSTRUCTION AFTER THE 2015 EARTHQUAKE

Public Health Services in Makwanpur

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Front cover: Chandika Higher Secondary School in Makwanpurgadhi.
Back cover: Bin placed outside the girls' toilet for used sanitary pads. The students are, however, embarrased to use it and throw their pads out of the window on the other side of the toilet.

All photos by Anisha Bhattarai.

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Acronyms and Abbreviations

ACF	Action Contre la Faim
ANC	Antenatal Care
ANM	Auxiliary Nursing Midwife
BNMT	Birat Nepal Medical Trust
DRR	Disaster Risk Reduction
DRRM	Disaster Risk Reduction Management
FCHV	Female Community Health Volunteer
FGD	Focus Group Discussion
GoN	Government of Nepal
HFOMC	Health Facility Operations and Management Committee
IEC	Information, Education and Communication
KII	Key Informant Interview
NPR	Nepali Rupee
MHPSP	Mental Health and Psychosocial Problem
MHPSSP	Mental Health and Psychosocial Support Programme
MoHP	Ministry of Health and Population
NDRRM	National Disaster Risk Reduction and Management
NGO	Non-Governmental Organisation
PDNA	Post-Disaster Needs Assessment
PDRF	Post-Disaster Recovery Framework
PNC	Postnatal Care
RADO	Rural Awareness and Development Organization
SSB	Social Science Baha
UN	United Nations
USD	United States Dollar
VDC	Village Development Committee
WASH	Water, Sanitation and Hygiene

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Executive Summary

This report is based on the evaluation of an 18-month-long public health intervention programme implemented in the-then two village development committees (VDCs) of Makwanpur District— Makwanpurgadhi and Tistung—by Birat Nepal Medical Trust (BNMT) with the support of the global humanitarian organisation, Americares. The evaluation looked at support provided to activities related to the reconstruction of health facilities; water, sanitation and hygiene (WASH); Mental Health and Psychosocial Support Programme (MHPSSP); and the Disaster Risk Reduction (DRR) Programme. It attempted to examine the processes, impacts, effectiveness, and strengths and limitations of the programme. It is expected that lessons can be learnt from the experiences in Makwanpur for future post-disaster interventions by Americares and other like-minded organisations.

The study was conducted in two phases—baseline and endline—using a mixed-method approach consisting of surveys (384 respondents in the baseline and 371 in the endline), key informant interviews, focus group discussions, and observations. Participants of this study in both the phases comprised direct beneficiaries, female community health volunteers (FCHVs), health workers, members of the Health Facility Operations and Management Committees (HFOMCs), and students. All participants of the study, including the indirect beneficiaries (i.e., members of the community), were from the BNMT programme implementation areas.

The findings from the baseline study suggested that the earthquake had severely affected health facilities in both places, leaving them unsafe even though the buildings had not collapsed. Since the buildings were unsafe, many important services such as the birthing centre, antenatal care (ANC) and postnatal care (PNC) were not being provided. The endline showed much improvement in health facilities, with these services having resumed in both research sites, particularly after the reconstruction of the new buildings by BNMT. Moreover, the installation of birthing and sterilisation equipment such as autoclave was found to have made service provisions easier and safer. Nonetheless, there were complaints from some participants, particularly in Makwanpurgadhi, about congestion in the new buildings.

While the scarcity of water was reported during the baseline, the endline study revealed that Makwanpurgadhi had new sources available. People in Tistung though still had to spend half an hour to fetch water for their daily needs, indicating additional workload and burden for people and affecting maintenance of their personal hygiene.

The perceptions and practices of the people about WASH was found unchanged between the baseline and the endline. For instance, although the drinking water was considered safe by the majority of the people in communities, many HFOMC members, teachers, and community leaders insisted that the situation of unhygienic drinking water persisted. Strikingly, no significant change was observed in the use of water purification techniques despite the training provided, especially among the indirect beneficiaries. The survey results demonstrated that compared to the direct beneficiaries who reported that they had been using the water purification techniques at home, the majority of the indirect beneficiaries began using purification methods only during the monsoon when the water turned muddy.

Another noticeable and concerning observation from the endline survey results was that despite receiving hand-washing trainings, the majority of the participants of the training could recall only three critical hand-washing times as opposed to the five they had been trained on. Results from both baseline and endline surveys also demonstrated that knowledge among

students about the five critical hand-washing times had neither increased nor decreased while it had gone down by 5 per cent among other people in the community.

As for awareness on menstrual hygiene, although male students' awareness level was found to have remained low in comparison to female students, their overall awareness level had increased by the time of the endline study. Both the baseline and endline studies found that absenteeism among female students during their menstrual period had decreased after the schools started providing sanitary pads.

The level of knowledge about mental health and psychosocial problems (MHPSP) had increased among direct beneficiaries, especially those who had attended the trainings, namely, the HFOMC members. Though BNMT had provided training only to some groups of direct beneficiaries, the findings of the endline study demonstrated no change among students (one of the direct beneficiary groups) regarding awareness about MHPSP. At the same time, a major finding was that lack of adequate access to the training on MHPSP for community members had led to lower levels of understanding about it among the general population. However, people did report that the post-earthquake rise in cases of MHPSP has made society more tolerant and sympathetic towards those suffering from such problems.

The two- and three-day training sessions on DRRM provided to health workers, HFOMC members and others reported the trannings to have been useful. However, without proper and adequate equipment needed to carry out rescue work, many of them were sceptical about how they could make use of what they had learnt. There was also a need for the training to be provided to the broader public to make it relevant for society at large as well.

In terms of the waste management system, burning was the common method of waste management in both study sites. Although there was talk of installing an incinerator during the baseline, that had not happened by the time of the endline study. Schools had received training on waste management but had not brought it into practice. Though sanitation and waste management departments had been formed in the schools, nothing more had been done by the time of the endline.

In the case of waste management in the health posts, it was observed during the baseline that the waste disposal sites needed to be rehabilitated. By the time of the endline study, training on waste management for health posts had been provided as were dustbins and mops. While the equipment was not being used properly, the practice of disposal of waste had not changed.

Based on the findings of the evaluation, the study draws attention to the following issues for consideration in future post-disaster response and assistance situations.

- To ensure local ownership and sustainability of the interventions, participation of and consultation with local people and the community in planning, implementation, and evaluation of disaster response activities is required.
- For effectiveness of the responses, plans and programmes (training and assistance) should be designed in advance based on a proper and objective assessment of needs.
- To ensure accountability and to gain legitimacy and public trust, planning and implementation processes along with activities and incurred costs should be made transparent and public.
- In order to improve the quality of the programmes and maximise their effectiveness, the content, language, methods, and framework of the trainings should be made flexible and adaptable to the context of the community and the target population.
- Use of innovative and practical methods could be more effective in raising awareness on safe drinking water, proper WASH techniques, waste management, and DRR.
- There is a need to identify and work through the most relevant actors and agencies at the

local level, such as local leaders, community members, FCHVs, social mobilisers, heads and members of cooperatives and social groups/organisations, in order to improve awareness in the community and to make such interventions more sustainable.

- Attention needs to be paid to improve the general public's access to assistance and training by conducting these at a time and place convenient to the target population while also increasing the number of such interventions.
- There is a need for greater and more effective coordination and strengthened cooperation among government bodies at all levels, community-based organisations, and related stakeholders to mitigate the risks of the impacts of disasters, including on public health.
- The design of interventions and methods of evaluation need to be developed and implemented considering the specific nature, volume, and contexts of the interventions. Any changes in the project's objectives, beneficiaries or goals should be documented and evaluation methods modified accordingly to allow for the latter to be of relevance for future programmatic purposes.

1. Introduction

The catastrophic 7.8 magnitude earthquake of 25 April 2015 and its aftershocks that shook Nepal killed nearly 9000 people, injured more than 22,500, and displaced over 2.8 million. The earthquake severely affected 14 districts of Nepal, causing extensive structural damage. Over 900,000 private houses and nearly 9,000 public buildings were completely or partially damaged.[1] more than 250,000 private houses and 3600 government buildings. It also damaged a total of 1,197 health facilities.[2] The estimated damage in monetary terms was calculated at USD 7 billion.[3]

Makwanpur district, lying south of the earthquake's epicentre in Gorkha district, is one of the 14 severely affected districts in Nepal.[4] The district saw 33 people killed and 229 injured while 45 health facilities were destroyed or damaged.[5] Parts of the district witnessed an increased level of diarrhoeal and related diseases in the post-earthquake period. Further, school dropout, which had always been comparatively higher among adolescent girls in the district, was believed to have increased due to the destruction of schools and school sanitary facilities. It was also presumed that the impacts of the earthquake had increased incidences of mental health problems among the earthquake-affected, exacerbated by the disruption in the delivery of services due to health facilities being either damaged or destroyed.

Globally and nationally, there is recognition that impacts of disasters are multi-faceted and have adverse effects on sustainable development and economic growth. Hence, priorities have been placed on national and international frameworks for comprehensive and integrated approach to risk reduction, preparedness and response as well as to enhance community and national resilience against natural disasters and calamities.[6] The principles and commitments expressed in the Yokohama Strategy and Plan of Action for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation 1994, Hyogo Framework for Action 2005-2015, the Sendai Framework for Disaster Risk Reduction 2015–2030, and the United Nation's Sustainable Development Goals (SDGs) are self-illustrative. The frameworks and instruments also acknowledge a close connection between health and disasters and lay high emphasis on health and livelihood as the two key targets and priorities in the post-disaster context.[7] The priorities also include issues of health facilities and services and recommendations for the need

1 National Reconstruction Authority, *Punanirman Pragati* (in Nepali, Reconstruction Progress, accessed on 1 July 2022. http://www.nra.gov.np/np/mapdistrict/datavisualization.

2 Introduction: National Reconstruction Authority (NRA), ccessed on 1 July 2022. http://www.nra.gov.np/en/pages/view/fk2lRwucsHVwn9q-LAxpTW9mGJgIRz25rUWNDHdbkYk.

3 National Planning Commission, *Nepal Earthquake 2015: Post Disaster Needs Assessment, Executive Summary* (Kathmandu: National Planning Commission, 2015).

4 'District Wise,' *Punarnirman Pragati* (Reconstruction Progress), Nepal Reconstruction Authority, accessed April 12, 2020, http://www.nra.gov.np/en/mapdistrict/datavisualization.

5 The information is based on data collected by BNMT and Americares in consultation with the District Public Health Office, Makwanpur; the Central Regional Health Directorate (CRHD); and the Ministry of Health and Population (MoHP).

6 Eric K. Noji, 'The Public Health Consequences of Disasters,' *Prehospital and Disaster Medicine* 15, no. 4 (2000): 21–31.

7 United Nations International Strategy for Disaster Reduction (UNISDR), *Sendai Framework for Disaster Risk Reduction 2015-2030* (New York: United Nations, 2015), https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf; United Nations International Strategy for Disaster Reduction (UNISDR), *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters* (New York: United Nations, 2007), https://www.preventionweb.net/files/1037_hyogoframeworkforactionenglish.pdf.

to build and promote safe and resilient hospitals so that they remain functional and can provide primary and critical health care services in disaster situations.[8] Similarly, the SDGs have also prioritised making human settlements safe, resilient, and sustainable by promoting disaster preparedness and disaster and risks mitigation, by raising awareness, risk-mapping, and through drills, quick response teams, and dispersed stockpiling of relief supplies.[9] Generally, it is pointed out that casualties and destruction can be avoided through proper knowledge about building earthquake-resistant infrastructures and about disaster risk reduction and response, which also includes providing basic services in and support to public health in emergency situations.[10]

In Nepal, policies and strategies also emphasise disaster preparedness and response planning through strengthening the capacity of institutions involved in disaster risk reduction and management (DRRM). These include health institutions at various levels. The Government of Nepal introduced the National Strategy for Disaster Risk Management in 2008,[11] the Guidance Note: Disaster Preparedness and Response Planning 2011,[12] the National Disaster Response Framework (NDRF) 2013,[13] the National Disaster Risk Reduction Policy, and Strategic Action Plan[14] as well as the more recent Post-Disaster Needs Assessment (PDNA), the Post-Disaster Recovery Framework (PDRF) 2016-2020, and the National Disaster Risk Reduction and Management (NDRRM) Act 2017[15] to provide a roadmap on disaster risk reduction (DRR) with due consideration to health facilities and health care in emergency and disaster contexts. More specifically, the PDNA includes assessments of the impact of the Gorkha Earthquake on health and underscores the need to pay urgent attention to mitigating the impact of disasters, including in the social sector, namely, public health and education.[16] The PDRF that followed the PDNA prioritises several goals and strategies across sectors, including reconstruction, repairing and maintenance of both partially and fully damaged health facilities in the earthquake-affected districts as well as management and distribution of equipment, drugs, and other key supplies required for effective and efficient running of health services. The PDRF also includes plans

8 UNISDR, *Hyogo Framework for Action 2005-2015.*

9 Nepal Planning Commission, *The Sustainable Development Goals 2016-2030* (National [Preliminary] Report)(Kathmandu: National Planning Commission, 2015), https://www.un.org.np/sites/default/files/doc_publication/2018-11/Draft_Report_SDG_Nepal_2016_2030_1.pdf.

10 Yan Chang, Suzanne Wilkinson, Erica Seville, and Regan Potangoroa, 'Resourcing for a Resilient Post-Disaster Reconstruction Environment,' *International Journal of Disaster Resilience in the Built Environment* 1, no. 1 (2010): 65-83; C.I. Malalgoda, R.D.G. Amaratunga, and C.P. Pathirage, *Exploring Disaster Risk Reduction in the Built Environment* (Manchester: University of Salford, 2010), http://usir.salford.ac.uk/9769/; Thomas Tanner, Emma Lovell, Emily Wilkinson, Francis Ghesquiere, Robert Reid, and Sumati Rajput, 'Why All Development Finance Should Be Risk-Informed,' (London: Oversees Development Institute and the Global Facility for Disaster Reduction and Recovery, 2015), https://odi.org/en/publications/why-all-development-finance-should-be-risk-informed/; Katie Oven, David Milledge, Alexander Densmore, Harry Jones, Susanne Sargeant, and Ajoy Datta, *Earthquake Science in DRR Subtitle Policy and Practice in Nepal* (London: Oversees Development Institute, 2016), https://odi.org/en/publications/earthquake-science-in-drr-policy-and-practice-in-nepal/.

11 Government of Nepal, *National Strategy for Disaster Risk Management in 2008* (Kathmandu: Government of Nepal, 2008).

12 Disaster Management Section, Ministry of Home Affairs, *Guidance Note: Disaster Preparedness and Response Planning 2011* (Kathmandu: Ministry of Home Affairs, 2011).

13 Ministry of Home Affairs, *National Disaster Response Framework (NDRF)* (Kathmandu: Ministry of Home Affairs, 2013), http://drrportal.gov.np/uploads/document/113.pdf.

14 Ministry of Home Affairs, National Disaster Risk Reduction Policy and Strategic Action Plan (Kathmandu: Ministry of Home Affairs, 2017).

15 Nepal Law Commission, *Bipad Jokhim Nyunikaran tatha Byawasthapan Ain, 2074 (National Disaster Risk Reduction and Management (NDRRM) Act 2017)* (Kathmandu: Nepal Law Commission, 2017) http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/106076/129931/F1996604288/NPL106076%20Npl.pdf.

16 National Planning Commission, *Nepal Earthquake 2015 Post Disaster Needs Assessment Volume A: Key Findings* (Kathmandu: National Planning Commission, 2015), https://www.npc.gov.np/images/category/PDNA_Volume_A.pdf.

to allocate additional means to strengthen and regulate maternal, neonatal and child health programmes, and reproductive health services in the disaster-hit districts. Furthermore, it also prioritises the capacity enhancement of health facilities and health workers, proper water supply, sanitation facilities, and social services.[17]

The NDRRM Act introduced provisions for mitigating and reducing the impacts of disaster through the formulation of emergency preparedness plans and enabling and assigning to local, district, and provincial levels roles and responsibilities for rapid response during disasters. The major focus of the Act lies in the prevention of loss of life and proper management of a search, rescue, and relief system during disasters, for which it envisages the formation of volunteer teams as well as flying squads. The NDRRM Act further assigns roles to both government and private hospitals in providing emergency first aid and medical treatment to victims of disasters, while also recognising their need in counselling.

In an effort to strengthen the resilience of the people and communities to cope with the impacts of the earthquakes and to restore services, Birat Nepal Medical Trust (BNMT), a Nepali organisation that has been working in the field of health since 1967, with the support of Americares, an international humanitarian organisation, implemented an 18-month-long programme, focusing on reconstruction and providing psychosocial services in the-then seven VDCs of Makwanpur, namely, Tistung, Nibuwatar, Phakhel, Makwanpurgadhi, Basamadi, Dhiyal, and Khairang. With the approval of and the recommendation from the District Public Health Office (DPHO), the BNMT implemented a comprehensive public health programme that consisted of reconstruction of health facilities; a Water, Sanitation and Hygiene (WASH) Programme; a Mental Health and Psychosocial Support Programme (MHPSSP); and a Disaster Risk Reduction Programme.

Specifically, BNMT had the mandate to carry out the following activities:

Construction of health facilities: The project proposed to construct three health posts in Basamadi, Dhiyal, and Khairang VDCs using pre-fabricated material and supply basic medical equipment to the facilities as required with the intention of enhancing the smooth delivery of health services.

Water, Sanitation and Hygiene (WASH): BNMT planned to construct seven gender-friendly toilets in public schools in the seven VDCs. It also planned to provide trainings and orientation to approximately 70 health workers on infection prevention and management at service sites as well as on menstrual hygiene management for adolescent girls in the schools and in the communities. It also proposed to organise awareness-raising activities for hygiene through radio broadcasts; production and distribution of information, education, and communication (IEC) materials; performance of street theatres; taking out rallies and celebration of WASH days; and establishment of WASH-IEC corners in schools and health facilities while enhancing effectiveness and sustainability of such programmes by facilitating the formation of WASH committees in schools. Further, the plan included trainings to Health Facility Operation and Management Committee (HFOMC) members, students, and community members for proper functioning of WASH programme in the communities over the long run. It was estimated that the comprehensive programme would directly and indirectly benefit more than 50,00018 people from more than 15,000 households from all of the seven VDCs.

Mental Health and Psychosocial Support Programme (MHPSSP): BNMT also proposed to provide capacity enhancement trainings to female community health volunteers (FCHVs), health workers, members of the HFOMC, local

17 National Reconstruction Authority, *Nepal Earthquake 2015 Post Disaster Recovery Framework 2016-2020* (Kathmandu: National Reconstruction Authority, 2016), http://nra.gov.np/uploads/docs/wQxngUUy2r160512083450.pdf.

18 If beneficiaries from adjoining areas are to be included, the number is likely to be much higher.

leaders, and teachers, with the objective of enabling them to better identify and deal with people with psychosocial problems. Likewise, it planned to provide psychosocial education as well as individual and group counselling to students from grades 7 to 10. Awareness-raising activities on mental health and psychosocial issues would be carried out through performance art therapy and games, as well as with distribution of IEC materials such as posters, pamphlets, and pictorial booklets to the students.

Disaster Risk Reduction (DRR) Programme: BNMT also proposed to provide training/ orientation to health workers and HFOMC members on DRR measures and preparedness for DRR by supplying health facilities with equipment such as materials for retrofitting, fire extinguishers, bug-out bags, etc.

2. Study Objectives

The overall objectives of the study are as follows:

- Examine the process, impact, effectiveness, and sustainability of the project;
- Inform strategy and approach to inform improvements in the delivery of the project; and
- Study, document, and report lessons learnt, especially in terms of approaches and activities that prove to be effective in order to scale up the project.

The study consisted of baseline and endline studies with separate specific objectives. The baseline study aimed to assess the impacts of the earthquakes on health facilities, WASH and MHPSP, and the needs of the people and communities with regard to the same. It also tried to identify progress on recovery and reconstruction activities in the post-earthquake period. One of the major objectives of the baseline study was to get a sense of service providers' knowledge and understanding on the importance of public health, WASH, MHPSP and DRRM. Similarly, it also sought to identify constraints, challenges as well as opportunities for BNMT's programme intervention to address the needs and challenges facing the earthquake-affected people and community.

The endline, on the other hand, was primarily focused on assessing and evaluating the impacts or contribution of the interventions by BMNT among both direct and indirect beneficiaries. In doing so, it tried to also identify gaps, challenges, limitations, and opportunities for providing assistance to improve health and psychosocial well-being of the communities at large. Last but not least, it aimed at documenting key lessons and experiences learnt in the process, on the basis of which some recommendations have been formulated which could be crucial for related stakeholders for future interventions in post-disaster contexts.

3. Methodology

The baseline study was conducted from 30 November to 5 December 2016, while the endline was undertaken from 11 to 21 March 2018 in the-then VDCs of Makwanpurgadhi and Tistung in Makwanpur district.[1] Both studies utilised mixed methods, with quantitative surveys and semi-structured key informant interviews (KIIs), focus group discussions (FGDs), observations, and informal conversations. Most information regarding the state of the health facilities reconstructed after the earthquake such was collected only in the endline study, especially through qualitative interviews and FGDs.

3.1 Survey

For the baseline study, a quantitative survey was administered among a total of 384 individuals, which consisted of both direct and indirect beneficiaries, while the endline survey covered 371 (Table 3.1). Every effort was made to ensure the participation of the same direct beneficiaries from the baseline study in the endline. However, some of the students who had participated in the baseline were absent during the endline due to exams in both research sites while some had dropped out of the school, primarily in Tistung.[2] In both the baseline and endline, the surveys were filled out by the students themselves, due to the inherent sensitivity of some of the questions.[3]

In order to conduct the surveys with indirect beneficiaries, a total of 269 individuals were selected through the Kish-Grid method, the same as in the baseline study, from the areas where the baseline survey was conducted. The surveys administered with both the direct and indirect beneficiaries are provided in Annexes 1 and 2. As far as possible, attempts were made to include a similar number of direct and indirect beneficiaries in the baseline and endline surveys. However, that could not be accomplished due to reasons described in the section 'Limitations of the Study'.

As stated in the section on objectives, the endline survey aimed at ascertaining the knowledge and awareness of the target population about the various components of the interventions, namely WASH, MHPSP, DRRM, and the service delivery capacity of health facilities.

The surveys with two different categories (direct and indirect beneficiaries) of participants was conducted to develop a better understanding about the interventions and to record any changes in terms of benefits/outcomes of the overall project in the community. The information collected in both the studies was useful for exploring existing and changing situation on the availability of drinking water and its sources in the communities, health posts and schools among others. The surveys with health workers, HFOMC members, and FCHVs in both the studies helped in understanding their perception and knowledge regarding mental health and psychosocial problems and their knowledge in identifying the same, while in the case of the communities, it was largely to understand their perception about these problems and how they have been dealing with them. Additionally, information was collected from all the respondents regarding personal and menstrual hygiene, facilities available at schools and health facilities, sanitation and the situation of WASH in schools and health facilities before and after the interventions.

1 Under the reconfiguration of local governments after 2017, these two VDCs now form Ward 2 of Makwanpurgadhi Rural Municipality, and Wards 11 and 12 of the Thaha Rural Municipality, respectively.

2 Students from Grades 7, 8 and 9 were included in the baseline survey. However, since they had moved to higher grades by the time of the endline, the students were from Grades 8, 9 and 10.

3 This was discussed and agreed upon with Americares at the time of the baseline study.

3.2 Key Informant Interviews (KIIs)

In the baseline study, while four key informant interviews were conducted in Makwanpurgadhi and five in Tistung, that number increased in the endline study, with a total of 20 KIIs with individuals who had knowledge of the BNMT interventions.[4] Of these, six were conducted in Makwanpurgadhi, 13 in Tistung, and one with a former BNMT staff who had served as the community health supervisor.

During these interviews, attempts were made to gauge the experiences of those involved in the implementation of the programmes, allowing for triangulation of the information collected in the baseline. Similarly, interviews with students and teachers provided insights into the effectiveness of MHPSP, WASH, and personal and menstrual hygiene of students and challenges. Given that one of the major objectives of the study was to provide guidance to Americares for future disaster-related interventions, the endline study also conducted interviews with BNMT staff members to learn of their experiences during involvement in various processes of implementation, including their experiences in dealing with various stakeholders and authorities.

3.3 Focus Group Discussions (FGDs)

The baseline study had included a total of three FGDs, two in Makwanpurgadhi VDC with a group of health workers and HFOMC members and one with a group of teachers, community leaders and FCHVs and one in the Tistung VDC which consisted of health workers, local people, and teachers. In the endline study, however, four FGDs were held in each, with a group of health workers and HFOMC members; with a group of teachers, FCHVs and community leaders; with male students; and with female students. These discussions proved useful in terms of getting to know the way the participants perceived and experienced the quality, usefulness, benefits and effectiveness of trainings and other support provided. Interestingly, it also allowed the study team to make sense of their collective experiences, grievances, and dissatisfactions.

Table 3.1: The Respondents

Method	Type of Participant	Total (Baseline)	Total (Endline)
Quantitative			
Survey	**Direct Beneficiaries**		
	Students	70	55
	Health workers	7	6
	FCHVs	17	16
	HFOMC members	16	14
	Community leaders	9	11
	Indirect Beneficiaries		
	Members of the community	265	269
	Total	**384**	**371**
Qualitative			
KIIs	Health workers, HFOMC members, FCHVs, community leaders, students	9	20
FGDs	Health workers, HFOMC members, FCHVs, community leaders, students	3	8

3.4 Field Observations

This study also benefited from observations by researchers in both baseline and endline studies. Field observations were particularly useful in terms understanding the situation of health facilities and waste management system in the health facilities, schools, and the communities. Researchers visited the field sites and observed the situation of the health facilities as well as the WASH situation in two of the public schools in the research sites. In the endline, researchers had the opportunity to also observe sanitation and hygiene practices of people in communities.

3.5 Quality Control Process

Based on the primarily objective of the study and also on the findings of the baseline, the approach and instruments were finalised and

4 See the list of KIIs in Annex 3.

shared with Americares both in English and Nepali. Social Science Baha (SSB) organised a three-day training for the enumerators who were to be involved in the endline study on the methodology and evaluation approaches. The orientation included ethical guidelines to be followed in the study process. For both baseline and endline, permissions were sought and received from the school administrations to conduct surveys and FGDs with the students. Some researchers involved in the baseline study were also involved in the endline. The researchers were given orientation to duly ad here to the ethical guidelines of Social Science Baha throughout the study period. It was also ensured that the data and information collected by the researchers were password-protected and saved on SSB computers. In the protected information and in this report, the names of all research participants have been anonymised to protect their identity with the help of codes.

3.6 Limitations and Challenges

As settlements and households were scattered, it took more time to complete the study. The dropout of students (in Tistung)[5] and ongoing school exams during the endline study also made it difficult to find the intended number of student participants for the study.

It also proved to be quite a challenge to gather community leaders and stakeholders in one place to hold focus group discussions, especially in Tistung, where despite sustained efforts to ensure a minimum of nine participants, only four community leaders were present. In the case of Makwanpurgadhi, even though it was ensured that the members of both new and old HFOMCs attended the discussion, it was mostly the elderly members engaging in the discussion because the new members lacked adequate information about the impacts and situations in the health facilities in the aftermath of the earthquake and aftershocks.

As BNMT had not implemented any programmes and trainings on diarrhoeal case management, although it had initially been proposed as one of the key interventions, adjustments and amendments had to be made that included removing a set of questions. Also, the questions related to gender-friendly toilets proved to be extraneous in the endline study because the toilets were still under construction during the endline. Likewise, the training and orientation on DRR and DRRM had not been carried out at the community level and were provided only to the HFOMC members and health workers (excluding FCHVs). Thus, the study gathered pertinent information on DRR and DRRM only from those who attended the trainings.

5 In one of the research sites, Tistung, the high rate of student dropouts made it difficult to carry out surveys with the expected 52 students and only 37 students were surveyed. Due to the limited time, resources, and scope, the study, however, did not delve into the reasons behind the high dropout.

4. The Findings

4.1 Demography

A total of 384 individuals were covered in the baseline survey and 371 in the endline one. Table 4.1 below shows the demographic composition of the survey participants. In the endline study, 55 participants were students, while this number was 70 in the baseline. The remaining 316 respondents in the endline consisted of health workers, FCHVs, HFOMC members, and members of the communities. Of the latter group, 64 per cent were female, reflecting an increase of 13 per cent compared to the baseline study.

Table 4.2 shows that age breakdown of the general community revealed that 60 per cent of the respondents in both baseline and endline study belonged to the age group 18-40 years.

Table 4.1: Demography of Respondents (%)

Group	Students (%)		General Community (%)	
	Baseline	Endline	Baseline	Endline
Caste/Ethnicity				
Hill Janajati	95.7	85.5	66.7	66.5
Hill Caste	4.3	12.7	28.1	27.8
Hill Dalit	0.0	1.8	4.5	4.7
Tarai Caste	0.0	0.0	0.7	0.6
Muslim	0.0	0.0	0	0.3
Religion				
Hinduism	54.3	58.2	44.7	55.7
Buddhism	41.4	38.2	50.2	35.4
Christianity	4.3	3.6	5.2	8.5
Islam	0.0	0.0	0.0	0.3
Gender				
Women	54.3	54.5	51.1	64
Men	45.7	45.5	48.9	36

4.2 Impacts of Support in Health Facility Reconstruction

The baseline study had documented that the health facilities in both the VDCs were severely affected due to the earthquake. Even though the buildings had not collapsed and equipment had not been damaged, the health posts were declared unsafe, and many important services such as birthing services in Makwanpurgadhi were discontinued. It had still not resumed at the time of the baseline study, forcing people in the community to rely on services in the district headquarters, Hetauda, and adding further financial burdens as they had to bear transportation and accommodation expenses for people accompanying mothers to stay in the district headquarters for some days. The health post in-charge at Makwanpurgadhi had said, during the baseline study, that two women had delivered their babies at home and were referred to the hospital after their delivery.

It was observed during the baseline study that BNMT had been reconstructing new health post buildings in both the VDCs and was reported to have committed to providing equipment and training and orientation to the staff.

The endline study found much improvement in the facilities and services available at the health posts in both the VDCs, particularly after the construction of the new buildings. Health workers, FCHVs, and HFOMC members confirmed in interviews that there had also been a significant increase in the number of services and facilities provided by the health posts, especially with regard to antenatal and postnatal care and delivery/birthing due to the installation of birthing and sterilisation equipment such as autoclave provided by BNMT.[1] In the case of Makwanpurgadhi, pregnant women were able to receive such services from the health post in

Table 4.2: Age of Respondents (%)

General Community		
Age Group	Baseline	Endline
18-30	30.1	33
31-40	29	28
41-50	17	18
51-60	14	11
61-70	5	8
>71	5	2
Students		
12	**14.3**	**3.6**
13	31.4	7.3
14	20	29.1
15	15.7	30.9
16	14.3	16.4
17	2.9	12.7
18	1.4	0.0

1 Interview no. 2, 15 March 2018, Makwanpurgadhi; Interview no. 3, 13 March 2018, Makwanpurgadhi; FGD no. 2, 15 March 2018, Makwanpurgadhi; Interview no. 19, 12 March 2018, Tistung.

their community after BNMT provided the equipment and the new rural municipality provided the required staff.[2]

In addition to the resumption of services benefiting the community, health workers, and HFOMC members could also provide services more smoothly as well as additional ones. For example, it was widely felt that the availability of separate rooms for delivery in the new building with a separate out-patient department (OPD) facilities had led to significantly improved services. Nonetheless, there was criticism by a few about not being provided with surgical equipment despite repeated requests to BNMT and the district public health office.[3] Further, some FGD participants in Makwanpurgadhi also expressed dissatisfaction that the new building was less spacious than the previous building, with some indicating that this had raised issues regarding privacy, especially for those in need of psychosocial counselling.

The lack of a meeting hall in the new building had also hindered the holding of meetings and all public awareness or training programmes; hence, they had to hold such activities in the hall of the local Red Cross or a neighbouring co-operative's office. The study team too found that the new facility in Makwanpurgadhi was not spacious enough for all the services provided or for the equipment. For example, the weighing machine and equipment for nutrition had been placed in the corridor rather than in a separate room and the corridor also served as the waiting room for patients and visitors. Some community leaders said that had they known about the design in the beginning, they would rather have opted for retrofitting the old building.[4]

The challenges of lack of space in the new health post buildings are illustrated by what a health worker in an FGD said:

> After this building was constructed, we felt it was easier because the rooms were enough, but in spite of these many rooms, we realised the lack of space while conducting training. It is easier for birthing. There is a waiting room and from there we take them to birthing. For family planning, they [the public] ask us to maintain privacy during counselling, but we do not have that. We need separate room for privacy, we need space. We tell sir [the health post in-charge], we need separate room for family planning, but he says do it in ANC [antenatal care room]. It can do it there when there are no patients but when one or two patients at the same time, it becomes difficult for us. There is lack of sufficient rooms, but we are managing.[5]

While one of the major challenges faced during the reconstruction of the new health facilities in Makwanpurgadhi was acquisition of additional land, in the case of Tistung, it was the formation of the HFOMC as there was one already there and the new directives from the government required the formation of a new one. The BNMT coordinator in the district explained that they combined members from both committees for the training.[6] The challenge of land acquisition, however, was not noted in the baseline study; instead, it was said that some land had been donated and also funds were collected through the joint efforts of the community members, HFOMC members, and health workers to buy the land required. In the beginning, decisions on land acquisition for reconstruction and whether or not to demolish the old building damaged by the earthquakes were contested. During the endline study, however, two women from the community expressed their dissatisfaction regarding land acquisition, stating that they had not been paid a fair amount for the land that they had to sell for the building the facility. However, our interviews suggested that the HFOMC members would not give much attention to the issue.

As the land in Tistung was public, no problem of acquisition had appeared during baseline although an existing earthen mound in the facility area had

2 Interview no. 3, 13 March 2018, Makwanpurgadhi.

3 Interview no. 3, 13 March 2018, Makwanpurgadhi; FGD no. 2, 15 March 2018, Makwanpurgadhi.

4 Interview no. 3, 13 March 2018, Makwanpurgadhi; FGD no. 2, 15 March 2018, Makwanpurgadhi; Interview no. 19, 12 March 2018, Tistung; Interview no. 13, 20 March 2018, Tistung.

5 FGD no. 2, 15 March 2018, Makwanpurgadhi.

6 FGD no. 7, 12 March 2018, Tistung.

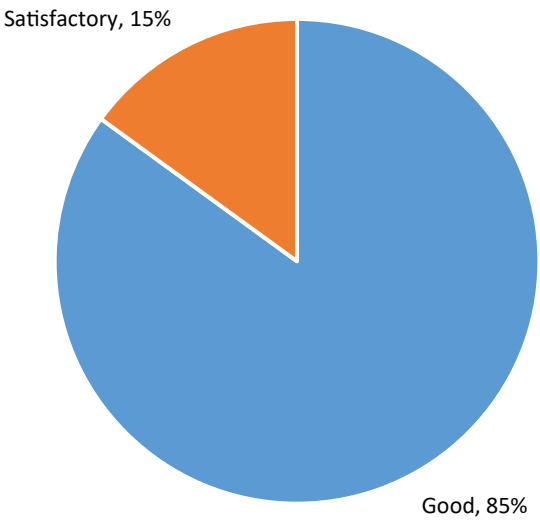
Makwanpurgadhi Health Post. *Clockwise from left:* Toilet with supporting bars for use by pregnant and post-partum women as well as people with disability; the placenta pit; and open drain around the health post.

to be removed. The community had managed a loan at what they considered a reasonable interest rate for the purpose and it, including HFOMC members and health workers, worked in the construction of the road to the newly-built health facility from the main road. However, the new site was initially opposed by a local shaman who said the site included the location of a shrine, while the people in the community who owned land nearby around feared losing their land if the health post had to be expanded in future; it took about a month for them to be convinced before agreeing on the new site. In the case of Makwanpurgadhi, the debate was on whether or not to demolish the old building. By the time the endline study was conducted, new buildings had stood at both the proposed sites.

In Tistung, people regarded that a public toilet with water would be useful, while in Makwanpurgadhi, health workers and committee members were dissatisfied with the fact that the new design did not have a toilet for residential rooms and hence they had requested for a toilet to be constructed in the health post compound for the public, which, however, was rejected by the BNMT since it was not part of the plan and design.[7]

After the reconstruction of the health facilities, a number of orientation and public awareness programmes on WASH, MHPSP, DRR and DRRM was carried out by BNMT among the health workers, HFOMC members, and the community at large.[8] These trainings had not only contributed in raising awareness, but they also helped in resuming services that had been stopped due to lack of human resources. For example, an auxiliary nurse midwife (ANM) in Makwanpurgadhi said that they used to run mental health and psychosocial counselling every Wednesday some five or six years earlier but had to stop because the only person who could provide the service left for a training and then went on an extended leave. The training they received from BNMT, thus, enabled the then lot of health workers to provide basic counselling to the community. The health post in-charge attributed that the training refreshed the knowledge they had acquired while they were studying. However, he also stated that they are only allowed to carry out counselling and refer the patients to other facilities since they cannot prescribe medicines.[9]

FIGURE 4.1
Perception Regarding Reconstructed Health Post (%)



With the constructions and resumption of new and regular services after reconstruction, not only health service providers but also residents of the two communities were pleased with the new health post building (Figure 4.1).

However, some participants in an FGD with HFOMC members and health workers in Makwanpurgadhi expressed reservations regarding lack of space in the new building and inadequacy of toilets. More importantly, they were not happy that the programme implementation had not been transparent. They stated that they were neither familiar with the budget nor design of the building and complained about not being consulted and their suggestions being disregarded by the contractors and others involved.[10]

7 Interview no. 3, 13 March 2018, Makwanpurgadhi; FGD no. 2, 15 March 2018, Makwanpurgadhi.
8 FGD no. 2, 15 March 2018, Makwanpurgadhi.
9 Interview no. 3, 13 March 2018, Makwanpurgadhi.
10 FGD no. 2, 15 March 2018, Makwanpurgadhi.

5. WASH Support and Its Impacts

The baseline study showed access to water to be poor, a condition that continued to persist. However, the situation of sanitation and hygiene, including hand-washing and personal hygiene, were considered relatively better during the endline study, primarily as a result of awareness programmes carried out in schools, health posts, and at the community level.

5.1 Condition and Purification of Drinking Water

The baseline study had found out that water sources in the research areas had dried up and also some of the public taps had been destroyed in the earthquake, severely affecting the drinking water system in the community. This created difficulties by increasing the workload in the everyday lives of the people as people in Tistung had to spend half an hour fetching water for their daily needs. In case of Makwanpurgadhi, drinking water was insufficient even before the earthquake and the situation was reported to have further worsened during the baseline study. Water sources had dried up and the flow of debris had blocked water pipes. The water situation also negatively affected the personal hygiene in both research sites. However, by the time the endline study was conducted, some new sources had been discovered even though water from most of the sources, both new and old, was not fit for consumption, according to respondents in both the sites.

During the baseline study, while the community had considered the water to be safe, HFOMC members, teachers, and community leaders had said that was not the case. There was not much change in the perception among these people during the endline survey. This study shows the change in access to main sources of water in the

FIGURE 5.1

Major Sources of Water in the Community (multiple responses, %)

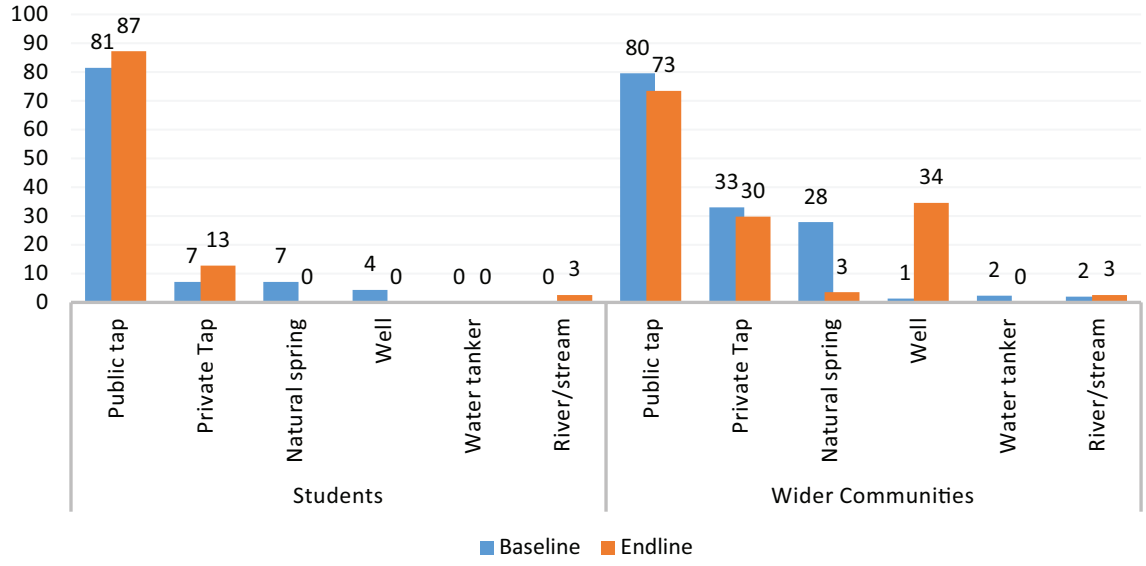
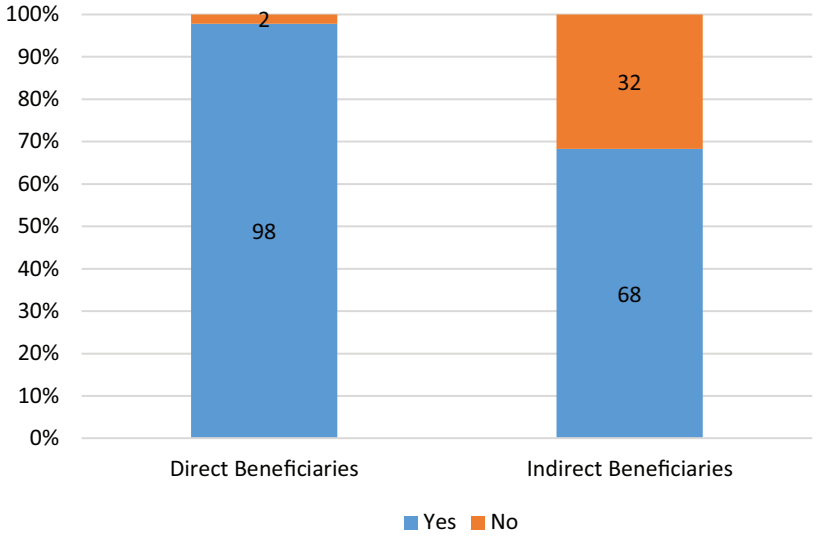


FIGURE 5.2
Use of Water-Purification Techniques at Home

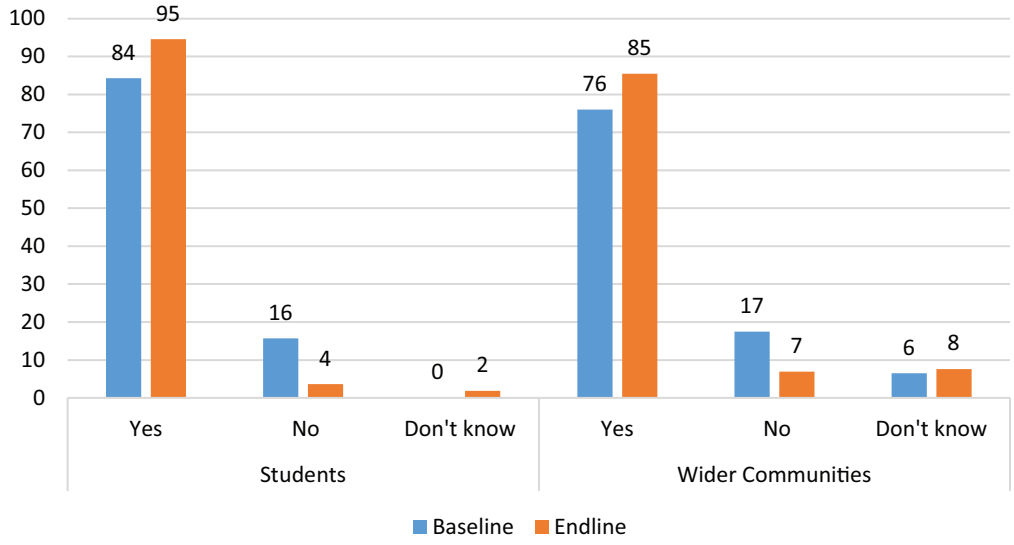


community (Figure 5.1). The number of both public and private taps had decreased slightly as the main sources of water in the community along with a more significant decrease in the number of natural springs. Interestingly, the endline study found that wells as sources of water had increased by 33 per cent. Also, students mentioned increase in the use of private taps in schools.

The endline study demonstrated that the people in the area were aware about water, sanitation and hygiene and understood that water needs to be purified before drinking. They were also familiar with some of the water purification methods, the most common being boiling and filtration. In practice, however, around one third indirect beneficiaries consumed water without any purification most of the time (Figure 5.2). Compared to the baseline survey, awareness regarding water-purifying techniques among the community as well as the students had increased during the endline survey (Figure 5.3).

The rise in awareness about water-purifying techniques among the general public was attributed to trainings provided by various groups such as BNMT, health workers, HFOMC members, FCHVs, as well as to the media (radio and television). When asked about the sources of information about the techniques people had learnt about, in case of half direct beneficiaries, training from BNMT had been instrumental

FIGURE 5.3
Awareness of Water-Purifying Techniques (%)

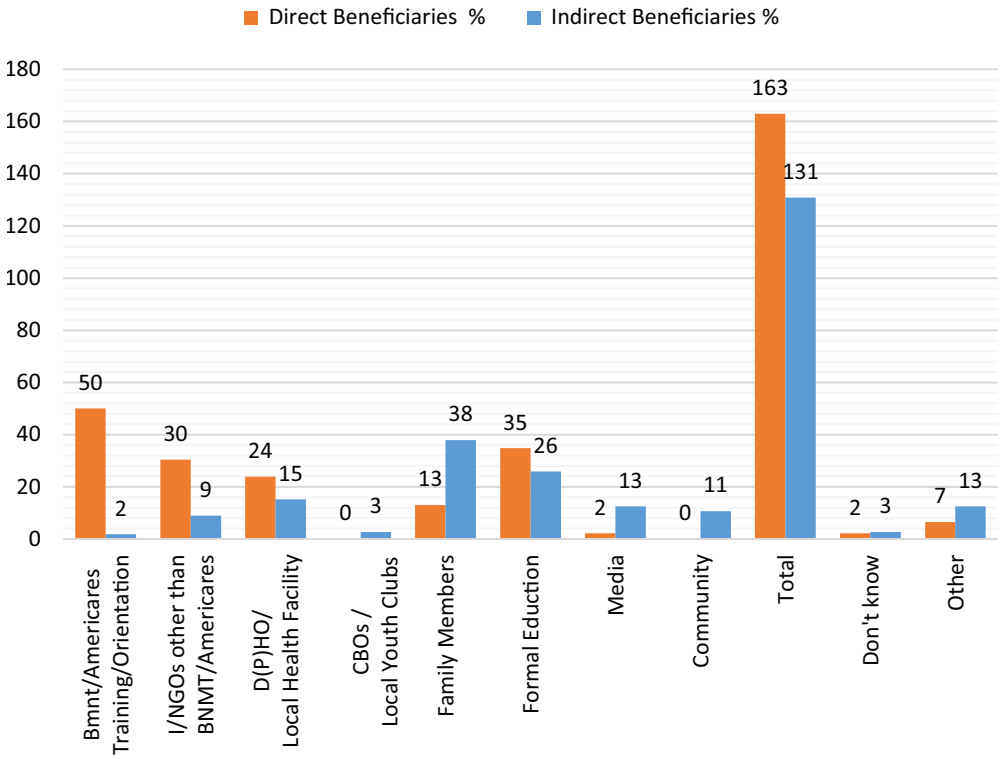


whereas in the case of indirect beneficiaries a significant number received information from their family members. However, there were many other sources as well. Formal education appeared to have played a major role for both direct and indirect beneficiaries.

The survey had also asked if any training on safe drinking water had been conducted in the previous year. Nearly two-thirds of the respondents said such training had not been provided in the larger communities, while an almost similar proportion said they were not aware of such training being provided in schools or health posts.

Many of the respondents were unaware about who had provided the training, either in schools or in the community. However, a significant number, particularly those associated with health facilities pointed out that it was provided by BNMT.

FIGURE 5.4
Source of Information on Water-Purifying Techniques
(multiple responses, %)



Note: The small number of 'Don't know' and 'Other' responses have been removed.

The endline survey showed that the use of water-purification techniques by indirect beneficiaries was found to be far less compared to the direct beneficiaries. It was encouraging that of the direct beneficiaries, only 2 per cent reported not using any water-purification techniques at home.

Informal conversations, interviews, and FGDs with the respondents suggested that people boil water only when they are sick or during winter and filter water during rainy season because the water then turns muddy (*dhamilo*). Some of the key reasons for people not practising waterpurification techniques included: it takes time; nothing had happened so far; village water is pure; it looks clean; and they wanted to avoid children playing with filters.[1] An FCHV[2] from Makwanpurgadhi very perceptively reasoned thus: 'In a place where there is a problem of access to drinking water, who would think about whether the water is clean or not?'

Nevertheless, some households claimed that they used water filter throughout the year. Regardless of whether or

1 FGD no. 2, 15 March 2018, Makwanpurgadhi; FGD no. 5, 15 March 2018, Tistung.
2 Interview no. 4, 16 March 2018, Makwanpurgadhi.

FIGURE 5.5
Awareness about training on safe drinking water in different locations

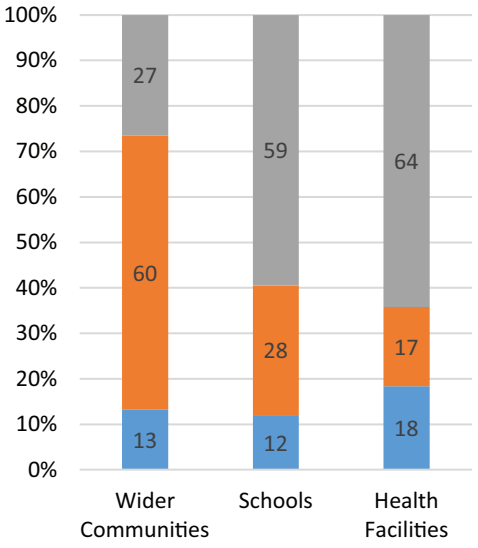
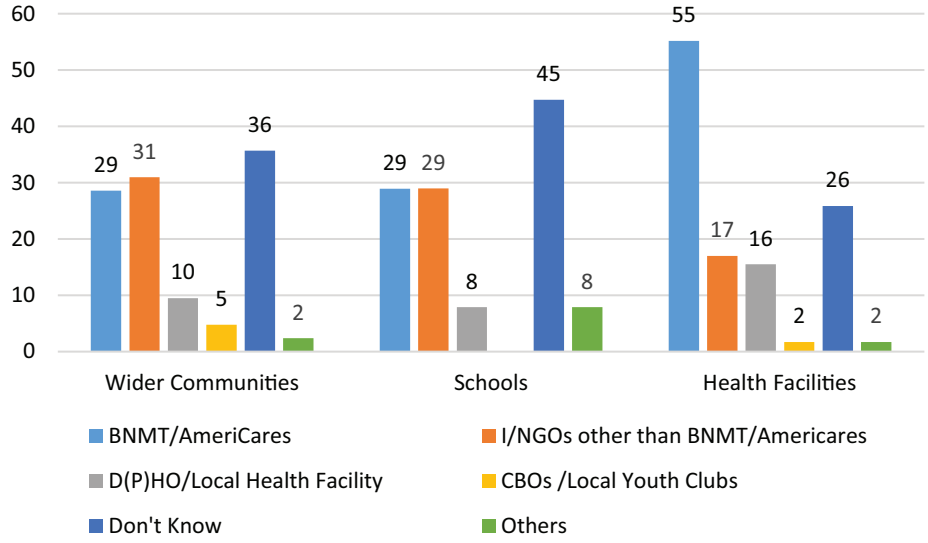


FIGURE 5.6
Training Provider(s) On Safe Drinking Water (multiple responses, %)



not they purified water, people were aware of the need and importance of purifying drinking water. There had also been some efforts made such as collecting a hundred rupees from each household and investing it to clean the water tank.[3]

In the case of schools, cracks in the intake tank used to cause shortage of water in Makwanpurgadhi. Since water was supplied either in the morning or the afternoon, schools and offices operating in the afternoon faced water shortages due to lack of proper storage facilities. In Tistung, the situation of drinking water had been good before the earthquake, but the sources drying up had an adverse impact on the students, forcing them to bring drinking water from home. The situation was not very different during the endline study as water was being supplied from the same source. The school in Makwanpurgadhi had constructed a cemented water tank, but it, according to a teacher, had started leaking. The schools have water filters in each class, but both teachers and students complained of the water not being clean. Some students even complained about insufficiency of water to wash hands and being compelled to bring water themselves. A male student in an FGD said: 'There is lack of water in school for washing hands with soap. You can't wash hands without water. Sometimes we have to bring water from home as sometimes there is no supply for two to three weeks.' In Tistung, the school used chlorination for water purification after an organisation called the Prem Sagar Foundation began providing snacks to the students. However, it was only during snacktime that chlorine was poured into the water; students drank water from the tap directly without any purification at other times.[4]

There had been some campaigns at the community level on safe drinking water, and plans on taking initiatives to clean water sources had been made but no action was taken. There were several factors contributing to this state of affairs. Part of it was due to the unavailability or limited availability of water, ignorance on part of the community, lack of awareness about maintaining sanitation and hygiene among people living near water sources, and lack of financial resources.[5] The ward chairperson claimed that they had allocated NPR 1.5 million (c. USD 15,000) for the maintenance of water resources at Makwanpurgadhi and said that the District Drinking Water and Sanitation Division Office had constructed a filter tank at the cost of NPR 10 million that would come into use within the then Nepali calendar year.[6]

5.2 Hand-Washing and Sanitation

The baseline study identified that although 90 per cent of the survey participants said they knew when to wash hands, only 34 per cent could actually recall all the five critical times mentioned during

3 The local mothers' group and another community organisation had cleaned the water tank and they had plans to do that again. FGD no. 1, 15 March 2018, Makwanpurgadhi.

4 Interview no. 9, 16 March 2018, Tistung.

5 Interview 1, 13 March 2018, Makwanpurgadhi; Interview no. 2, 15 March 2018, Makwanpurgadhi; FGD no. 1, 15 March 2018, Makwanpurgadhi; FGD no. 2, 15 March 2018, Makwanpurgadhi.

6 Interview no. 1, 13 March 2018, Makwanpurgadhi.

the training by BNMT. Strikingly, the situation had not changed much between the baseline and endline surveys. Schools also taught hand-washing techniques and the critical times. However, some teachers raised concern over whether the students adopted it in their everyday lives.

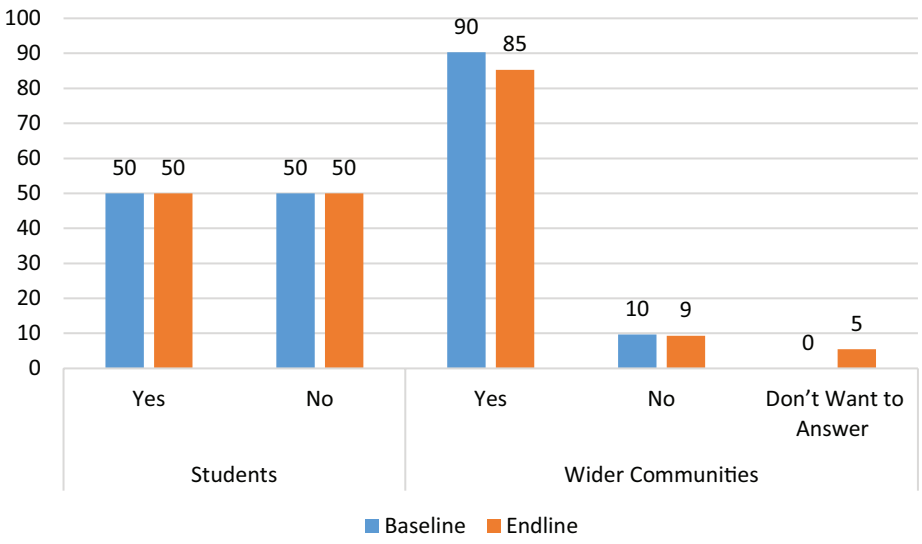
Health workers, FCHVs, and HFOMC members in Makwanpurgadhi said that they had been providing hand-washing training every month, based on training they had received from BNMT and through community groups. In the case of Tistung, the health post had organised handwashing competition with prizes with support from RADO Nepal to encourage people to wash hands.[7] Interestingly, instead of teaching people about hand-washing after changing diapers directly, health workers and FCHVs were using the euphemistic phrases like 'after touching *fohor kura* [dirty things]'. Also, the various steps had been reduced to rubbing soap forcefully on the hands (*sabun panile michchi haath dhune*), which was reported to have been quite useful because people consider following all the steps too time-consuming, and the idea of following the exact guidelines was not possible.

In the period between the baseline and the endline studies, knowledge among students about the five-critical hand-washing times had remained constant even though they had been provided training. The endline study pointed out that knowledge about the five hand-washing times among people in the larger community seems to have gone down by 5 per cent compared to the baseline study. It can only be assumed that this decline could have been different if the same indirect beneficiaries had been interviewed both in the baseline and the endline.

Interviews with health workers and community leaders in both research sites made it clear there had been WASH training at health posts and schools with support from BNMT and these had then been expanded to the community level. Other organisations such as Action Contre la Faim (ACF) in Makwanpurgadhi, and Tear Fund and RADO Nepal (in Tistung) had also provided WASH training, including on hand-washing.[8] In the trainings provided primarily to health workers and HFOMC members at the health posts,[9] practical sessions of handwashing, checking each other's hands, plumbing and water management for sanitation, and management of different types of waste were included. In response to the question about whether any trainings on hand-washing had been conducted in their community within the previous one year, only 22 per cent of the total respondents said they had taken place while 57 per cent said there had been no training. When asked the same question about schools and health facilities, nearly 60 per cent in both cases said they did not know about it.

Some people in communities had, however, received trainings on hand-washing, especially

FIGURE 5.7
Awareness of Five Critical Hand-Washing Times (%)



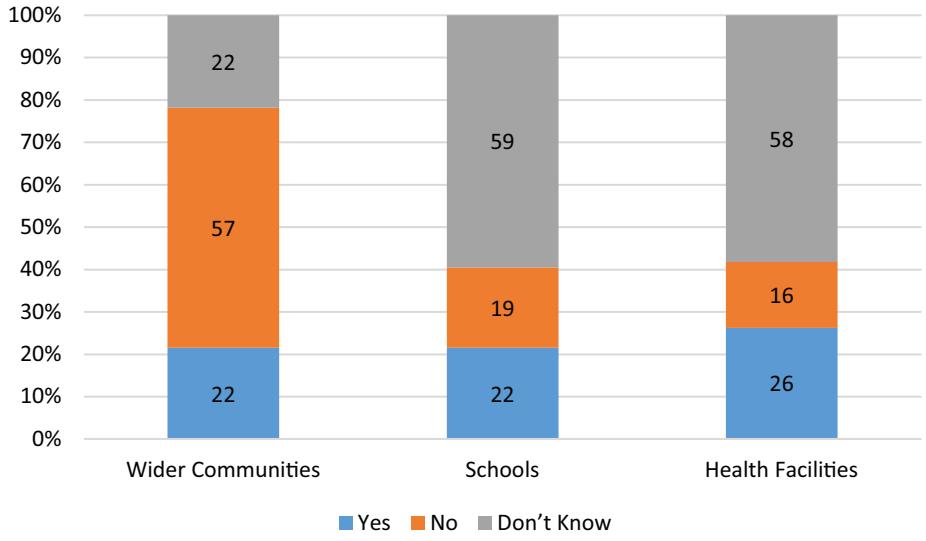
7 Interview no. 4, 16 March 2018, Makwanpurgadhi; FGD no. 5, 15 March 2018, Tistung.

8 Interview no. 3, 13 March 2018, Makwanpurgadhi; Interview no. 4, 16 March 2018, Makwanpurgadhi; FGD no. 1, 15 March 2018, Makwanpurgadhi; Interview no. 10, 13 March 2018, Tistung.

9 FGD no. 2, 15 March 2018, Makwanpurgadhi; Interview no. 1, 13 March 2018, Makwanpurgadhi.

Chandika Higher Secondary School, Makwanpurgadhi. *Clockwise from left:* Water filter and dustbin in a classroom; slogans in the girls' toilet exhorting them to use the soap while washing hands (and also not to take the soap home); and separate bins for biodegradable and non-biodegradable waste outside the headteacher's office.

FIGURE 5.8
Awareness about Training on Hand-Washing

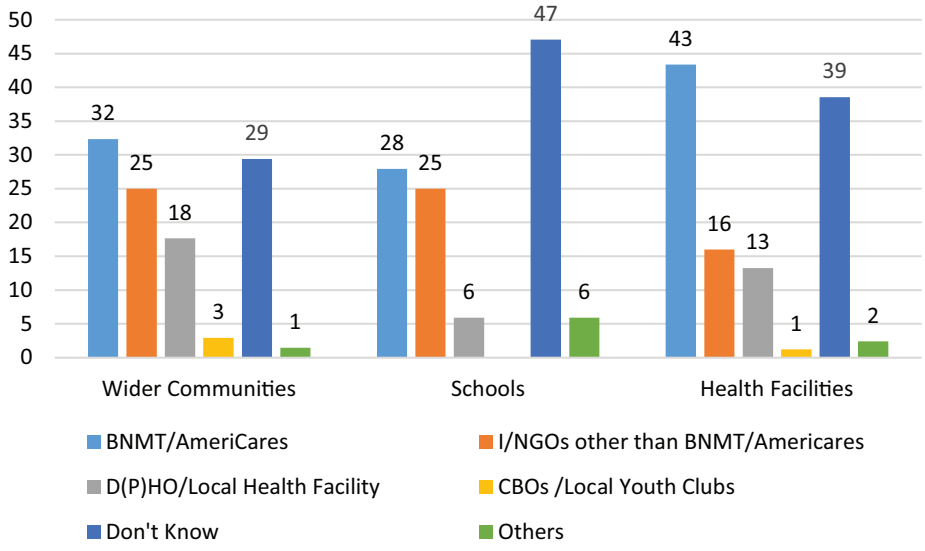


pregnant women, women with children below six months of age, and members of mothers' groups who were given training during their monthly group meetings.[10] Trainings on WASH were conducted at schools, in which the focus was on raising awareness about safe drinking water, hand-washing techniques, and critical hand-washing times as well as the importance of sanitation. A schoolteacher in Makwanpurgadhi said that despite these sessions, due to lack of sufficient water and not having a proper place to keep the soap for washing hands, it has not been easy for them to follow and make students follow the hand-washing techniques properly. The survey results show that more people were aware of the trainings provided by BNMT at health facilities rather than in schools and community (Figure 5.9).

Participation in the training also varied among both direct and indirect beneficiaries.

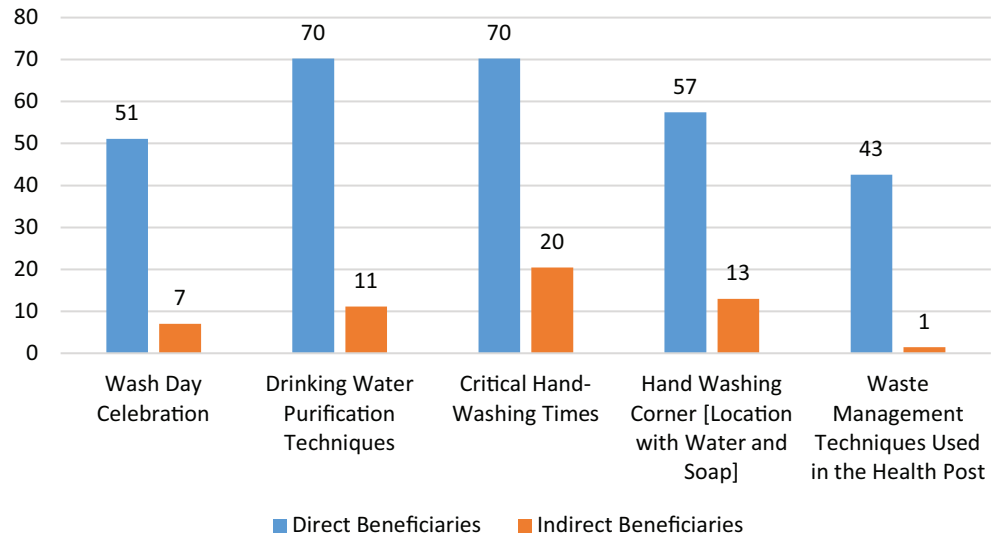
On being asked about the benefits and usefulness of the training sessions, many of the participants in those trainings spoke about positive benefits, stating that these helped raise knowledge and awareness. There were, however, some challenges and limitations in making the trainings effective. According to interviews with trainers and FCHVs, the effectiveness of the training was affected because the trainees would find the techniques time-consuming to learn and follow and were concerned whether they would receive materials such a soap to use; communities lacked proper awareness and were careless about WASH; and training providers did not use visual demonstrations (about water purification). Some informants were also found to be critical of the trainings being provided only to health workers and educated groups, who are supposed to be relatively aware of these issues to begin with. Hence,

FIGURE 5.9
Training Provider on Hand-Washing (multiple responses, %)



10 Interview no. 4, 16 March 2018, Makwanpurgadhi; FGD no. 2, 15 March 2018, Makwanpurgadhi.

FIGURE 5.10
Participation in Training/Programmes (%)



they were of the opinion that proper consultations were required before the plans and activities for such training are planned and implemented.

5.3 Sanitation in the communities

The overall situation of sanitation in the communities was found to be good even though, according to the locals, the areas around water sources were not clean. Since both research sites had been declared 'open defecation free'[11] areas, houses had toilets and so did the schools and health posts. However, toilets in the school were not maintained well because of lack of water and also because the one male toilet and one female toilet in each school were not enough for the needs of more than 700 students in the schools. In Makwanpurgadhi, male students said there is enough water in the toilet, but female students said it was not adequate. The students complained of poor condition of toilets due to lack of water and, in the case of Tistung, male students stated that they had to run home if they had to defecate.[12] New toilets were, however, under construction during the endline study.

Often, students took the responsibility of keeping their classroom and schools clean by collecting waste from classrooms and the school compound and storing them in separate dustbins for degradable and non-degradable waste. They were supposed to clean water filters in groups on particular days though they admitted that such practice has not been duly followed and neither had it been very effective.[13] Some of the informants felt these problems arose due to lack of unity among the students, lack of water, and inadequate number of toilets in the schools.[14]

5.4 Personal and menstrual hygiene

In comparison to the baseline study, overall awareness among students about personal and menstrual hygiene had increased during the endline survey. The survey results indicate that male students' awareness about menstrual hygiene had increased by almost 15 per cent (Figure 5.11). Typically, and understandably though, awareness of menstrual hygiene among the male students was found to be still low compared to that of females. An overwhelming number of female students (93 per cent) reported being aware about menstrual hygiene compared to only 28 per cent male students.

Among the 25 male students surveyed in the

11 This is a campaign run by the Department of Water Supply and Sewerage under the Ministry of Water Supply to ensure people make use of toilets.

12 FGD no. 3, 13 March 2018, Makwanpurgadhi; FGD no. 4, 13 March 2018, Makwanpurgadhi; FGD no. 8, 18 March 2018, Tistung.

13 FGD no. 1, 15 March 2018, Makwanpurgadhi; FGD no. 6, 18 March 2018, Tistung; FGD no. 8, 18 March 2018, Tistung.

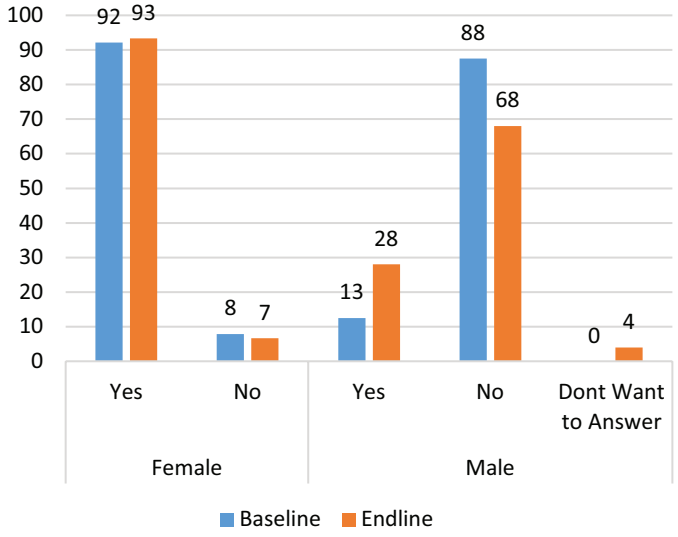
14 Interview no. 1, 20 March 2018, Tistung; Interview no. 7, 15 March 2018, Tistung; FGD no. 5, 12 March 2018, Tistung; FGD no. 3, 13 March 2018, Makwanpurgadhi; FGD no. 1, 15 March 2018, Makwanpurgadhi.

endline study, 14 said that they had not received any kind of orientation training on menstrual hygiene. Of the 11 who said they had, only one stated that BNMT was the training provider, seven mentioned local health facility, and the remaining six said the school. Survey results also suggest that the training alone was not the only factor for the increased awareness among the male students because the majority of the students had not received any orientation training although the level of awareness had increased since the baseline study.

Personal hygiene and Menstrual Hygiene Management (MHM) are two key components implemented in the two communities within the broader WASH programme. The major focus of the programme had been to conduct awareness regarding maintenance, including methods and importance of personal menstrual hygiene. Female students were provided sanitary napkins at school by an NGO and/or school in Makwanpurgadhi. Qualitative interviews revealed that students usually request female teachers as and when they needed sanitary pads. However, lack of adequate running water in the toilets remained a significant challenge in both schools for female students to maintain menstrual hygiene and for personal hygiene. Used sanitary pads are deposited in a dustbin placed outside the toilet in Tistung while in Makwanpurgadhi the dustbin was inside the toilet. The pads were either buried in the pit near the toilets or burnt. One of the students from Tistung said in an FGD that she would be more comfortable if the dustbins had been placed inside the toilet so that they could throw the pads without embarrassment. In terms of disposing the used sanitary napkins, the use of the dustbins at schools had increased a little bit between the baseline and the endline studies (Figure 5.12).

The baseline had found that the absenteeism of female students during menstruation had decreased after the schools started providing sanitary pads, which remains true during the endline study. Nonetheless, it was found particularly in Makwanpurgadhi that girls would take a break and go home to rest when they

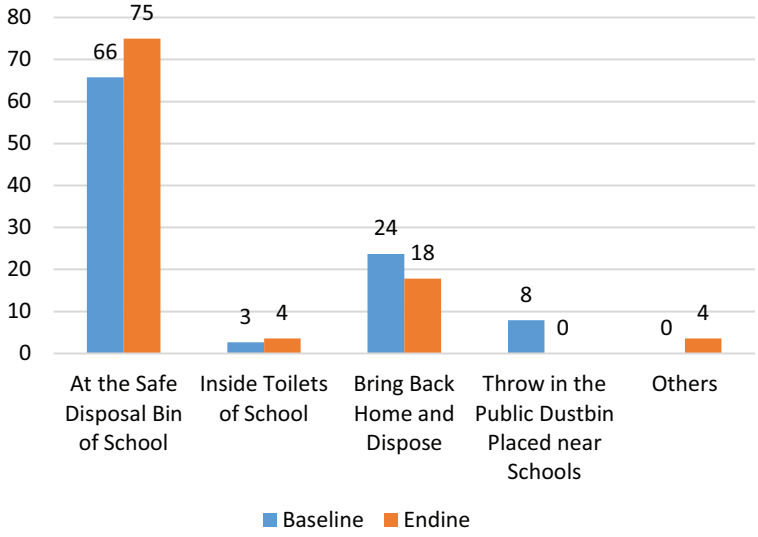
FIGURE 5.11
Awareness among Students about Menstrual Hygiene (%)



suffered menstrual cramps because of the notion of being perceived as impure. On the contrary, according to a teacher from Tistung, since 97 per cent of the population in the community were Tamang, and hence, not being bound by notions of impurity like the Hindu Bahuns and Chhetris, they did not have such problem in school.

Awareness programmes conducted by BNMT at schools also explain about the importance of maintaining personal hygiene and menstrual

FIGURE 5.12
Disposal of Used Sanitary Napkins by Girl Students (%)



hygiene during morning assemblies. But it was learnt in Tistung that students have continued to throw used pads outside the toilets or in the toilet pan, leading to toilet blockage. A participant during an FGD in Tistung said that that could be because the girls do not seem to know about proper disposal methods used in school or the school does not have proper facilities.[15] The case was different in Makwanpurgadhi, primarily because the dustbin is inside the toilet and because students have to pay a fine of NPR 10-20 if they violate the school's waste management rules.[16]

A major aspect of training for school teachers was on personal and menstrual hygiene management for female students. Girls who had reached puberty were provided training in preparing home-made napkins (*sajilo napkins*) in both schools. Students reported that *sajilo napkins* were not only effective and economical to use but also made them feel comfortable and keep them healthy and hygienic. But despite the apparent success of the training, it was found during the endline study that majority of them used market-bought pads.[17]

15 FGD no. 5, 15 March 2018, Tistung.

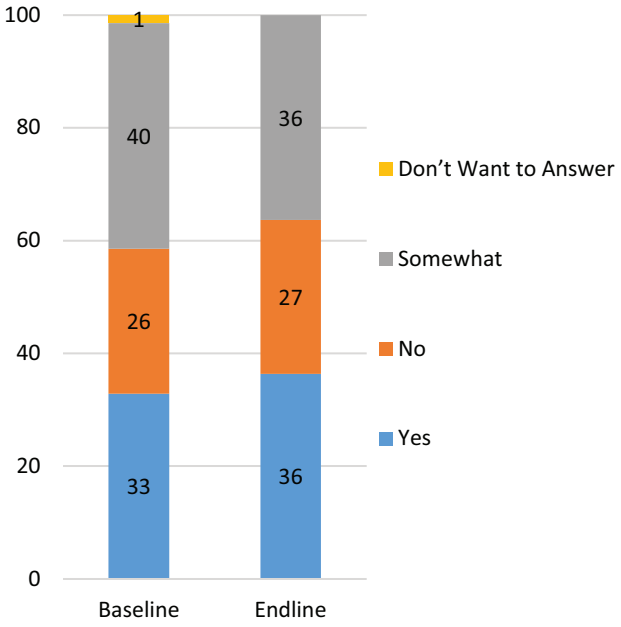
16 Interview no. 14, 19 March 2018, Tistung; Interview no. 9, 16 March 2018, Tistung; FGD no. 1, 15 March 2018, Makwanpurgadhi.

17 Based on FGD with students in Makwanpurgadhi.

6. Mental Health and Psychosocial Problems

Studies have demonstrated that natural disasters such as earthquake not only cause physical injuries and visible damages but also have an impact on the mental and psychosocial health of the affected population.[1] The range of mental health and psychosocial problems include posttraumatic stress disorder (PTSD), anxiety, bipolar disorder, alcohol and drug abuse, and distress. Available literature focusing on mental and social health show that MHPSP are generally stigmatised in Nepali society as they are in many parts of the world, and the people affected also face discrimination.[2]

FIGURE 6.1
Knowledge about Mental Health and Psychosocial Problems (students, %)



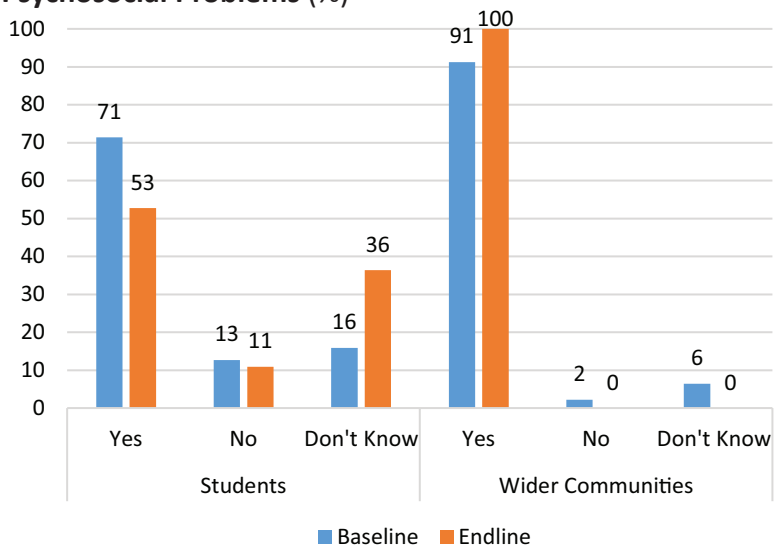
The findings of this study show that even after the intervention, there had been no noticeable change in students' knowledge about MHPSP even though some of the informants said that that children with MHPSP often face practical challenges at schools and there were no proper services and treatment available.

Nonetheless, awareness about MHPSP among total respondents seemed to have noticeably

1 Glorisa Canino, Milagros Bravo, Maritza Rubico-Stipec, and Michael Woodbury, 'The Impact of Disaster on Mental Health: Prospective and Retrospective Analyses,' *International Journal of Mental Health* 19, no. 1 (1990): 51–69; Son Chae Kim, Ruth Plumb, Quynh Nga Gredig, Larry Rankin, and Barbara Taylor, 'Medium-Term Post-Katrina Health Sequelae among New Orleans Residents: Predictors of Poor Mental and Physical Health,' *Journal of Clinical Nursing* 17, no. 17 (2008): 2335-42; North Atlantic Treaty Organization (NATO) Joint Medical Committee, 'Psychosocial Care for People Affected by Disasters and Major Incidents,' (Brussels: North Atlantic Treaty Organization, 2008), https://www.coe.int/t/dg4/majorhazards/ressources/virtuallibrary/materials/Others/NATO_Guidance_Psychosocial_Care_for_People_Affected_by_Disasters_and_Major_Incidents.pdf; Yuval Neria, Anjali Nandi, and Sandro Gaelea, 'Post-Traumatic Stress Disorder Following Disasters: A Systematic Review, *Psychological Medicine* 30 (4), no. 4: 467-80; Alexander C. McFarlane, and Richards Williams, 'Mental Health Services Required after Disasters: Learning from the Last Effects of Disasters,' *Depression Research and Treatment* 2012 (2012), https://downloads.hindawi.com/journals/drt/2012/970194.pdf; K.D. Upadhyaya, 'Mental Health, Mass Media and Stigma Reduction,' *Journal of Psychiatrists' Association of Nepal* 2, no. 2 (2013): 52-53; James I. Gerhart, Daphna Canetti and Stevan E. Hobfoll, 'Traumatic Stress in Overview: Definition, Context, Scope, and Long-Term Outcomes,' in *Traumatic Stress and Long-Term Recovery: Coping with Disasters and Other Negative Life Events*, ed. Katie E. Cherry (Switzerland: Springer International Publishing, 2015).

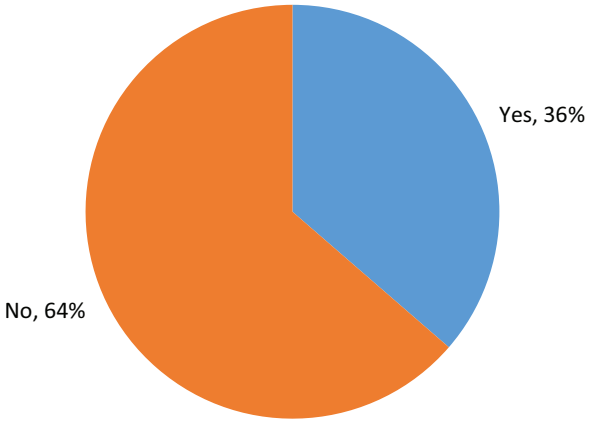
2 Shailendra Raj Adhikari, S.N. Pradhan, and Subhash Chandra Sharma, 'Experiencing Stigma: Nepalese Perspectives,' *Kathmandu University Medical Journal* 6, no. 24 (2008): 458–65. Nagendra P. Luitel, Mark J. D. Jordans, Anup Adhikari, Nawaraj Upadhaya, Charlotte Hanlon, Crick Lund, and Ivan H. Komproe, 'Mental Health Care in Nepal: Current Situation and Challenges for Development of a District Mental Health Care Plan,' *Conflict and Health* 9, no. 1 (2015): 1–11; Padam Simkhada, Edwin Roland van Teijlingen, and Sujan Babu Marahatta. 'Mental Health Services in Nepal: Is It Too Late?' *Journal of Manmohan Memorial Medical College* 1, no. 4 (2015): 1-2; Sudeep Uprety and Bipul Limichhane, *Mental Health in Nepal: Backgrounder* (Kathmandu: Health Research and Social Development Forum, 2016), https://www.herd.org.np/uploads/frontend/Publications/PublicationsAttachments1/1480578193-Mental%20Health%20in%20Nepal%20-%20A%20Backgrounder.pdf.

FIGURE 6.2
Awareness about Mental Health and Psychosocial Problems (%)



increased after implementation of awareness-raising activities in the schools and the larger communities. The survey shows that 100 per cent of the larger communities in the endline study reported to have become aware of MHPSP compared to 91 per cent in the baseline study, while among students, it was 71 per cent in the baseline study as opposed to 53 per cent in the endline study. As it can be seen in the figure above

FIGURE 6.3
Trainings Received on Mental Health and Psychosocial Problems (%)



Note: The above figure represents only the number of people who think MHPSP is curable.

(Figure 6.2), there has been little change in their knowledge about the MHPS issues.

During the endline study, it was learnt that BNMT had provided school students with some counselling classes on mental health after the earthquake. Students felt the classes had been beneficial to them, especially in developing positive attitudes towards the people with MHPSP problems.[3] Similar positive changes appear to have occurred among the general population as well with society becoming more accepting of MHPSP. It was difficult to ascertain whether this was directly correlational to interventions by BNMT or any other organisation, as some people even associated it with higher prevalence of such problems and a collective experience in the community.[4] In this respect, during the baseline survey a local political leader and former HFOMC member in the Tistung VDC had described the situation thus:

> We have not paid a lot of attention to those in the community who have had mental health and psychosocial problems before the earthquakes although I personally think that such problems could be cured if the required treatment and counselling is provided. Contrary to this, people who have developed such problems after the earthquake received special sympathy [*bishesh sahaanubhuti*] because they have been through a disaster and the disaster caused such problems; otherwise, people who have such problems are subject to belittlement [*alikati ghrina nai gardo rahechha]*. This is partly because people lack an understanding about mental health and psychosocial problems.[5]

Orientation and trainings seemed to have played some positive role in terms of rise on awareness

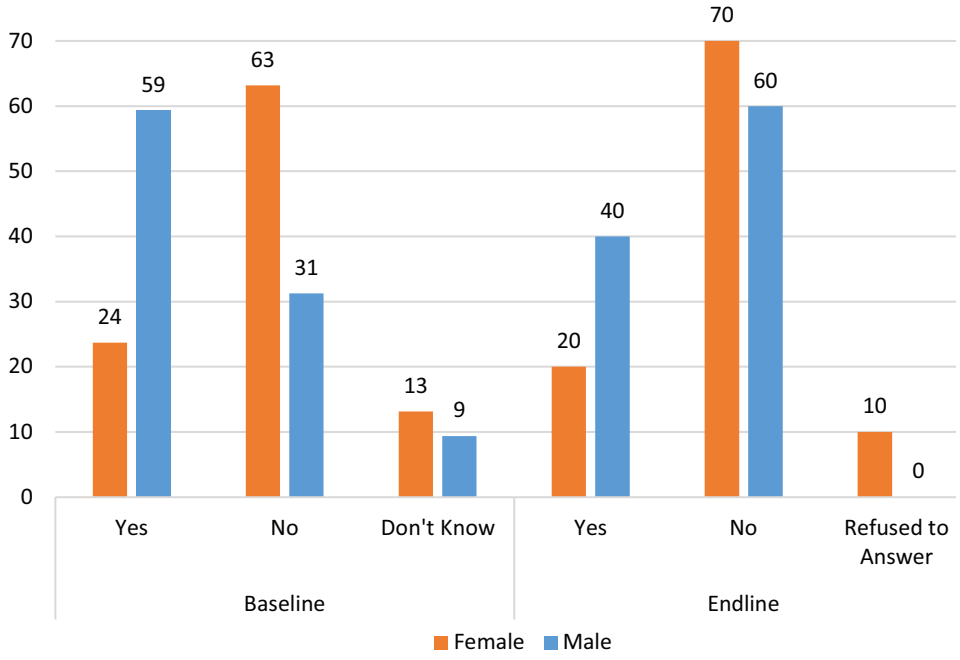
3 Interview no. 15, 14 March 2018, Tistung; FGD no. 3, 13 March 2018, Makwanpurgadhi. However, apart from basic knowledge regarding MHPSSP, they might not have clear understanding about these issues, a teacher from Makwanpurgadhi said.

4 Interview no. 10, 13 March 2018, Tistung; Interview no. 19, 12 March 2018, Tistung.

5 Baseline Report submitted to Americares 2017.

about MHPSP issues although a direct correlation was not established. For instance, of the people who believed MHPSP to be treatable, nearly two-thirds had not received any training on MHPSP. Similarly, the endline results show that the number of students who had participated in the training was lower than in the baseline results (Figure 6.4). This was true for both genders.[6]

FIGURE 6.4
Trainings on Mental Health and Psychosocial Problems (students, %)



Note: There were no responses to 'Refused to Answer' in the basline and to 'Don't Know' in the endline.

The study also tried to assess the quality and effectiveness of the trainings on MHPSP. The majority of the informants spoke positively about the content, relevance of topics discussed, and mode of delivery of training, all of which appeared to be quite easy to understand for the participants. Health workers and FCHVs were able to put the knowledge gained into practice.[7] During the endline study, several informants such as FCHVs, health workers, school teachers, and community leaders claimed that there had been a noticeable increase in the number of MHPSP cases. This was mentioned in both communities,[8] but more so in Tistung where the number of suicide cases was said to have increased in the previous one year. Although it is not certain if the reported higher prevalence of such problems was because people had become more aware about these issues or whether it was a result of the trauma caused by the earthquake, there were indications suggesting greater degree awareness among the people about MHPSP.

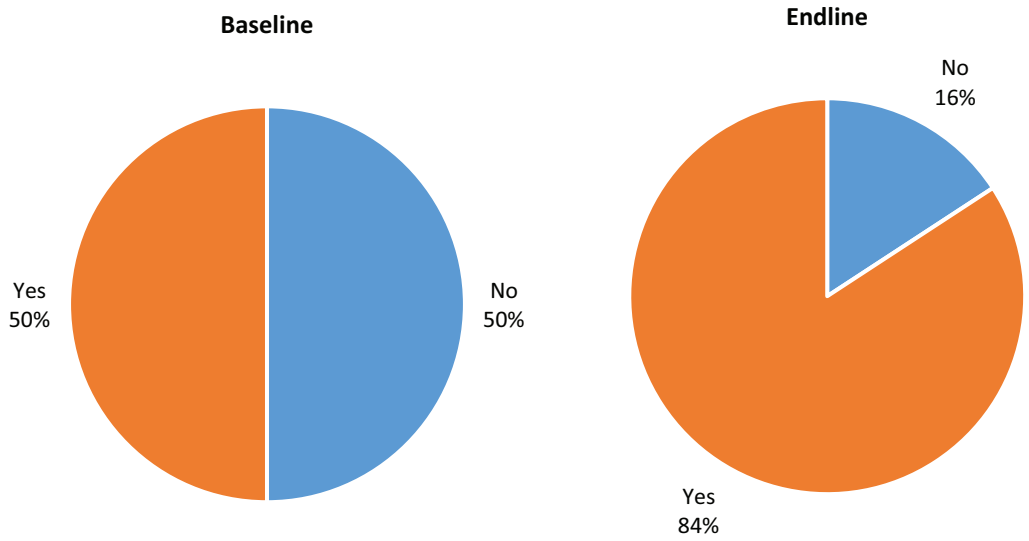
6 This could have resulted partly because of the dropouts and absentees.

7 Interview no. 4, 16 March 2018 Makwanpurgadhi; Interview no. 3, 13 March 2018, Makwanpurgadhi.

8 Interview no. 4, 16 March 2018, Makwanpurgadhi; FGD no. 2, 15 March 2018, Makwanpurgadhi; Interview no. 9, 16 March 2018, Tistung; Interview no. 11, 13 March 2018, Tistung.

7. Disaster Risk Reduction & Disaster Risk Reduction Management

FIGURE 7.1
Participation on DRR/DRRM Training (multiple responses, %)



Disaster risk reduction (DRR) and disaster risk reduction management (DRRM) are regarded important aspects for mitigating and minimising the impacts of natural disasters,[1] as well as for disaster preparedness and protecting people in crises like Nepal's 2015 earthquakes. Following the national guidelines, there are local disaster management committees (LDMCs) in both sites to deal with all kinds of natural hazards and disasters. The baseline study had shown that the number of training/orientations on DRR/DRRM was on the rise in the period after the earthquake and knowledge among health workers and HFOMC members on these matters was found to have increased compared to the pre-earthquake period. It was in this context that BNMT was expected to implement training and awareness programmes on DRR/DRRM for different categories of beneficiaries.[2]

The endline study identified trainings on DRR/DRRM has been completed in both Tistung and Makwanpurgadhi a few weeks earlier. The training had been provided to two different categories of people, namely health workers and HFOMC members and for two and three days respectively. Of the total participants in the baseline study, half had reported having participated in the DRR/DRRM training, while in the endline study, that figure had gone up to 84 per cent (figure 7.1).

1 Sanjaya Bhatia, Tiziana Bonapace, P.G. Dhar Chakrabarti, Vishaka Hidallege, Yuichi Ono, and Guoxiang Wu, *Protecting Development Gains: Reducing Disaster Vulnerability and Building Resilience in Asia and the Pacific, The Asia Pacific Disaster Report, 2010* (Bangkok: The Economic and Social Commission for Asia and the Pacific and United Nations International Strategy for Disaster Reduction, 2010), https://www.unisdr.org/files/16132_asiapacificdisasterreport20101.pdf.

2 BNMT 2016.

Despite the fact that there were more trainings conducted in the communities, access of the general public to the trainings seems to have been limited. This probably had to do with the fact that the trainings involved targeted participants. Or, it could be that, as in the case of Tistung, where the new health post building was reconstructed following the design prescribed by the Ministry of Health, there was no discussion on DRR/DRRM in any of the meetings. Regarding the quality and effectiveness of the training components, findings suggested that those who had undergone the trainings were satisfied since the training had provided them with important information about disaster and emergency situations and ways to respond to them.

8. Waste Management System

Disasters leave behind substantial damage posing challenges in community waste management or public places such as schools and health posts among others. Waste management is considered very important for mitigating potential health risks that might be caused due to waste such as rotten food, pesticides, oils, faecal-contaminated material, industrial waste, and construction and demolition waste. Hence, identification and management of such waste through proper waste management, including in public facilities such as health posts and schools, is regarded as crucial for protecting health of the community people.[1] Makwanpur district in general and the study sites in particular were one of the worsthit communities by the 2015 earthquakes. The findings of both the baseline and endline studies and primarily observation of the sites found that there has been no change in the waste management system of schools, health posts, or communities at large before and after the intervention of BNMT or other organisations. In both phases, burning of the waste was found to be the most commonly practised method for waste management. Waste generated from households, health posts, and schools were separated into two types: degradable and nondegradable. The degradable waste was used as manure while the remaining waste was burnt. Waste such as glass that cannot be burned were disposed of separately.

Waste management in schools was slightly better, with a dustbin in each classroom and separate dustbins in the school compound for collecting degradable and non-degradable waste, but, unfortunately, all of it was burnt. The school had someone responsible for cleaning the school and collecting and disposing the waste. In Makwanpurgadhi, a teacher said that an organisation had provided training about managing degradable and non-degradable waste separately, but it had not been followed.[2] Burning was found to be the most commonly used method of waste management in both schools. Schools and teachers seem to encourage students to maintain sanitary practises, but there were shortcomings in actual practices.[3] While schools have formed sanitation and waste management committees, it was admitted by a teacher in Makwanpurgadhi that it had been limited only to formation of the committees. Some of the teachers also said that for waste management and hygiene, they asked students pick up wrappers, pieces of plastics and paper from the ground and put them in the dustbin or make them clean their classrooms. However, parents expressed dissatisfaction towards the school for making their children work. According to a teacher, parents would say, 'We've sent our children to schools for study, not for picking up waste or to make them work'.[4]

Trainings and orientations, which are project-based, had been provided infrequently and to limited individuals; hence, its effectiveness seemed to have been limited too. It was understood that some organisations like Plan Nepal and Nepal Red Cross had provided dustbins, and some like BNMT had held street drama performances (in Makwanpurgadhi) to raise awareness about waste management. But, some respondents said that they had either not heard about the trainings on waste management nor had they participated in them even if they had come to know about them.[5]

1 Charlotte Brown, 'Waste Management Following Earthquake Disaster,' in Encyclopedia of Earthquake Engineering, ed. Michael Beer et.al. (New York: Springer-Verlag Berlin Heidelberg, 2014).

2 FGD no. 1, 15 March 2018, Makwanpurgadhi.

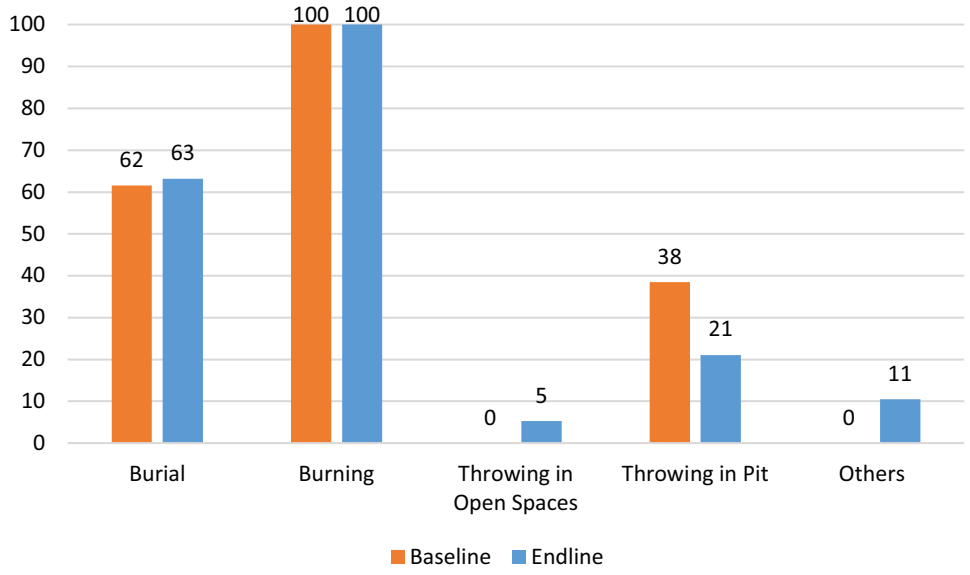
3 Interview no. 5, 14 March 2017, Makwanpurgadhi; FGD no. 1, 15 March 2018, Makwanpurgadhi; Interview no. 12, 20 March 2018, Tistung.

4 FGD no. 1, 15 March 2018, Makwanpurgadhi.

5 FGD no. 3, 13 March 2018, Makwanpurgadhi; FGD no. 4, 13 March 2018, Tistung; Interview no. 12, 20 March 2018, Tistung.

In terms of waste management in health facilities, there did not seem to have been much improvement (Figure 8.1). After the damage caused by the earthquakes, proper waste management was a challenge in both the health facilities due to lack of space and the damaged waste pits and dysfunctional system of waste disposal. The newly constructed health posts had two pits, an open one for burning waste and another for burying placenta. Health workers in both sites admitted that there had been no difference in practice in terms of waste management before and after reconstruction of health facilities.[6]

FIGURE 8.1
Waste Management System at Health Posts (multiple responses, %)



They expressed the need for the incinerator BNMT had promised so that waste management could be more systematic. In fact, it was worrisome that while throwing of waste products in the open was not reported in the baseline study, it made an appearance in the endline study, albeit on a small scale.

During a FGD in Makwanpurgadhi, a health worker said that training on waste management had been carried out at health posts with the help of BNMT and ACF, during which the types of waste and the ways to manage them was discussed. The former had also provided dustbins and mops.[7] But with very few indirect beneficiaries having participated in the training regarding waste management techniques, it had contributed to very limited, if any, awareness at the community level regarding waste management.

6 Interview no. 3, 13 March 2018, Makwanpurgadhi; Informal Conversation no. 1, 15 March 2018, Makwanpurgadhi; Interview no. 19, 12 March 2018, Tistung.

7 FGD no. 2, 15 March 2018, Makwanpurgadhi.

9. Conclusion

This section highlights some of the major findings from the study and points to some issues that require attention for future post-disaster interventions.

***Positive impact of reconstruction of health facilities*:** One of the major and positive changes seen during the endline study was the increase in facilities and services, especially ANC, delivery and birthing, and PNC, after the reconstruction of the health facilities in both study sites. As a result, access of the local residents to these services had not only improved but also led to savings in their time and money since they no longer had to go to the district headquarters. Regardless, since the new buildings are smaller, people were concerned about privacy being compromised.

Dismal progress on WASH: There had been a significant increase in awareness regarding purification of drinking water due to education and the influence of mass media along with the training provided by BNMT. Although the reasons are not fully known, a striking finding was that the general members of the community people perceived the available drinking water to be safe in both the baseline and endline studies, while members of the HFOMC, teachers, and community leaders disagreed. Surprisingly, not many had used safe practices for a variety of reasons. The fact that most of the people could not recall all five-critical hand-washing times indicates the weaknesses and limitations either of the methods of imparting the techniques or the quality or content of the training.

One of the significant changes observed was a rise in awareness regarding menstrual hygiene, both among male and female students, despite more than half the males stating not having received any training on menstrual hygiene. Similarly, there was also a slight decrease in absenteeism among female students during menstrual period during the endline study compared to during the baseline study. The majority of the students and teachers, however, continued using sanitary napkins from the market despite their receiving training on making *sajilo* napkin at home.

Since both research sites had been declared to be 'open defecation-free' areas, private homes, schools, and health posts had toilets. But as far as the schools were concerned, the usefulness and effectiveness of toilets appeared to had been compromised due to the limited number of toilets compared to the number of students as well as lack of water, forcing students to go home for defection while also depriving female students of menstrual and personal hygiene in school.

The practice of dividing waste into degradable and non-degradable could be found in health posts and schools. But the challenge of proper management of the waste remained.

Improved awareness on mental health and psychosocial issues: It was clearly noticed both from qualitative and quantitative studies that trainings on mental health and psychosocial counselling appeared to have helped sensitise and raise awareness among health workers and HFOMC members about MHPSP. Health workers also seemed to have incorporated their understanding of these issues in their work and have been providing basic counselling services.

Increased awareness on DRRM: Most direct beneficiaries who had undergone training provided by BNMT spoke of the positive experience they had had and having become more aware of response measures to adopt during emergencies. But there was no change observed among the indirect beneficiaries who did not receive any training.

Lessons for the Future:

This section, based on the findings of this evaluation, identifies areas requiring the attention

of I/NGOs and related stakeholders to address gaps in their approach and bring changes in the public health sector in future post-disaster situations.

Need for participation of and consultation with stakeholders:

Consultations with stakeholders and community participation can be significantly important in planning, design, management, implementation, and evaluation of post-disaster activities, particularly on an issue as crucial as health services. The participation of local communities is also in line with the AlmaAta Declaration of 1978, which guarantees the rights of the people to individually and collectively participate in the planning, implementation, and evaluation of their healthcare programmes as well as to receive health services.[1] Further, it also provides ownership of post-disaster assistance and reconstruction activities among the affected and also empowers them, while ensuring accountability and facilitating reconstruction activities on the basis of needs.[2] Humanitarian responses, as highlighted by UN General Assembly Resolution 46/182 on 'Strengthening of the coordination of humanitarian emergency assistance of the UN', should work in coordination with the government leadership because it is the state that is mainly responsible for assistance. Meetings, interactions, and consultations on agendas and issues related to intervention plans and strategies could be held with the local community, local political leaders, and religious and traditional leaders on a regular basis to grant greater legitimacy and accountability for humanitarian responses.

Effective training/orientation

Training sessions and guidelines ought to be planned and implemented on the basis of the need of target population and also recognising the local context. This approach would help avoid duplication and waste of resources. Further, the time and venue for such programmes need to be chosen to allow for greater participation by the public.

To assure desired impact from the trainings, rather than being bound within the rigid framework/plan, the sessions should be adaptable and flexible. An example from the study could be instructing people to simply 'wash hands carefully with soap water', rather than making people focus on prescribed steps, which they found complicated to follow as well as timeconsuming.

For sustainability and larger benefits, providing awareness trainings to local leaders, community members, FCHVs, social mobilisers, teachers, and members of cooperative and social groups/ organisations could prove to be significantly effective as they can better communicate with the community and beyond the limited training provided by external agencies.

Using audio-visual media and technologies may perhaps ensure awareness campaigns and training on drinking water, WASH, and waste management lead to effective uptake. Most importantly, as the saying goes, trainings should include sufficient practical activities for greater reiteration of the message.

In the case of menstrual hygiene management, awareness programmes should inculcate the students, parents, and the community in general about the sensitivity and importance of adolescent health. As girl students generally feel shy about disposing used sanitary pads, dustbins must be placed inside the toilet or in a private space. Moreover, training should also prioritise addressing cultural stigma, taboos, and traditional beliefs on menstruation, all of which cause students unnecessary distress and also lead to absenteeism from schools.

Trainings on MHPSP should also be expanded to individuals other than health workers, HFOMC

1 Adnan Enshassi, Tarik Chatat, Jason von Meding, and Giuseppe Forino, 'Factors Influencing Post-disaster Reconstruction Project Management for Housing Provision in the Gaza Strip, Occupied Palestinian Territories,' *International Journal of Disaster Risk Science* 8 (December 2017): 402-441, https://link.springer.com/content/pdf/10.1007/s13753-017-0155-4.pdf.

2 Godfrey M. Mubyazi and Guy Hutton, 'Rhetoric and Reality of Community Participation in Health Planning, Resource Allocation and Service Delivery: a Review of the Reviews, Primary Publications and Grey Literature,' *Rwanda Journal of Health Sciences* 1, no. 1 (2012): 51-65, https://www.ajol.info/index.php/rjhs/article/view/82343.

members, and students and include the general public affected by the disaster, particularly marginalised and vulnerable groups. Local institutions and actors should be capacitated with resources and required technical skills to provide services to the people with MHPSP. Also, development and design of the contents and methods of the training should be done with special consideration to local social, cultural, and psychological conditions. Lastly, such training should be provided on a regular basis.

Health services, system strengthening, and logistics improvement

Provision for adequate equipment and designating personnel responsible for waste management, especially in health facilities, can enable proper waste management and reduce health risks.

The state needs to lay the foundations for sustainable national mental health systems, including at the local level. It is necessary that mental health services are integrated into primary healthcare services in communities and schools to mitigate the adverse mental and psychosocial disorders and to provide access to services and adequate treatment and reduce stigma. Humanitarian actors should provide support to local governments on strengthening the MHPSP support systems.

Communities need to be better equipped with knowledge, skill, capacity, and adequate resources for appropriate responses in disaster and emergency situation at all times. The current practice of just forming the local disaster management committee without adequate support systems in place does not lead to better preparedness. Coordination between local government bodies, community-based organisations, and donor agencies and their implementing partners to improve this situation is required.

Improving evaluation methods and tools

With the use of more scientific evaluation tools such as randomised treatment and control groups as well as sustained long-term evaluation could be helpful in making an objective assessment of the impacts of the interventions. Evaluation methods and tools with special consideration of the comprehensive plans and detailed activities and strategies of both the INGOs and implementing partners need to be devised. In cases of any major changes in the pre-defined plans and activities, evaluators should have updates about the changes, in order to revise evaluation tools and approaches.

One of the transparent and effective strategies of evaluating the impacts and experiences of postdisaster assistance and support could be by conducting a social audit, in which local people from all walks of life are provided opportunities to share their views on the interventions in their communities.

Methods need to be developed in a way that enables an objective evaluation of specific programmes implemented by specific actors and agencies while also being open to counterfactuals. To examine long-term impacts of the interventions, conducting a follow-up study after a gap of some years will provide important insights and evidence that can inform policies and strategies related to humanitarian responses in the future.

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