

FINAL REPORT

Pre-crisis market
assessment of WASH
systems in the context
of flooding in Nepal



AUSTRIAN RED CROSS

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LIST OF ABBREVIATIONS

AutRC	Austrian Red Cross
CVA	Cash and Voucher Assistance
DPK	Diarrhoea Prevention Kit
EMMA	Emergency Market Mapping and Analysis
FGD	Focus Group Discussion
HH	Household
IFRC	International Federation of Red Cross and Red Crescent Societies
I/NGO	International & National Non-Governmental Organization
KII	Key Informant Interview
MBP	Market Based Programming
MHM	Menstrual Hygiene Management
NFI	Non-Food Items
NGO	Non-governmental Organization
NPR	Nepalese Rupee
NRCS	Nepal Red Cross Society
ODF	Open Defecation Free
ORS	Oral Rehydration Solution
PCMA	Pre Crisis Market Assessment
PDM	Post Distribution Monitoring
PVC	Polyvinyl chloride
RC/RC	Red Cross Red Crescent
WASH	Water Sanitation and Hygiene
WUC	Water User Committee

EXECUTIVE SUMMARY

This report summarizes the findings from the Nepal Pre-Crises Market Assessment (PCMA) for WASH. This PCMA focused specifically on those markets that are critical for supporting WASH needs of flood affected people in Province 2 of Nepal.

The specific objectives of the PCMA study were:

- To improve readiness of NRCS in considering market-based response.
- To improve market assessment capacities with NRCS, AutRC and possibly other RC/RC partners.

The key finding of this PCMA is that **markets work very well** in the area and are also **resilient** in times of flooding, consequently demand side market-based interventions, such as cash or voucher assistance (CVA) would be highly suitable response options. However, capacity and awareness gaps, especially on the district level, both within NRCS and the government currently pose barriers to the uptake of CVA in WASH responses. Consequently, further advocacy and trainings are recommended.

With respect to the capacity development aspect of this PCMA, this documented exercise can be seen as a good introduction into the topic for the NRCS and AutRC WASH teams, but dedicated CVA trainings as well as further market assessments are recommended as follow up.

The following seven market commodities and services were selected for the assessment, each of which is of critical importance to emergency and recovery need of people affected by flooding:

- Soap (bathing and laundry)** is a key Wash item necessary for personal hygiene management for every individual. The assessment of the soap market system revealed that the market system is functioning and the supply chain linking the factories to retailers and consumers remains essentially intact. The main barrier during flooding is limited access to market due to inundation for few days.
- Female Sanitary Pads** are key materials necessary for females in menstruating age to manage their periods in dignified manner. The assessment of the female sanitary pads market system revealed that the market system is functioning and the supply chain linking the factories to retailers and consumers remain essentially intact. The main issue is lack of purchasing power caused by the economic and financial crisis rather than by the flooding itself. Also, the PCMA identified significant differences in consumer preferences, with older women preferring cotton cloths and younger women preferring disposable pads.
- Oral Rehydration Solution (ORS)** is a common commodity to cope with diarrhoea in Nepal, with increased demand in rainy seasons. It is produced by a number of manufacturers in Nepal, and supply chain linking factories and consumers are well functioning. It is sold in small shops and distributed for free in health institutions. Quality and price are regulated by the government.
- Chlorine Solution:** While various chlorine products exist and are used in different settings (health institutions, schools, urban water supply schemes, swimming pools), there is little demand for chlorine for household level water treatment. Consequently, there is not household level water treatment chlorine market during normal times. This changes during emergencies, when NGOs procure and distribute chlorine for household level water treatment. While 2 local manufacturers exist in Nepal, chlorine is mostly imported from India.
- Handpump sets & services:** Handpump sets are imported by India, either by traders via multi-purpose hardware shops or consumers themselves. As those pumps are not easily damaged, demand for them or supply is not really affected by floods. A key demand driver is support campaigns by the government or NGOs. As most households in the area have their own well with handpumps, they are very common in the area, and people are

familiar with basic maintenance tasks, such as simple well cleaning after floods. Also, plenty of masons offer more difficult repair or installation services. So, in conclusion, the supply chains for handpump sets and services are working well, both in normal times and floods.

- f. **Latrine products and services:** Small local business produce concrete rings and slabs as well as offer services for installing them. These businesses are well available throughout the assessed area. While floods affect supply chains of the materials (e.g., by flooding of production sites or transport routes), the effect on the market is not significant, as installation of latrines is typically a dry-season activity. What does drive the market however, is demand creation campaigns by NGOs or the government. While Nepal is officially announced open-defecation-free (ODF), still not every household owns a private latrine and even those that have one, have to replace them once they are full, as in the rural area's desludging services are absent. In conclusion, the markets for latrine products and services are working well, both in normal times and floods.

सारांश

यस प्रतिवेदनमा खानेपानी, सरसफाइ तथा स्वच्छता (वास) सम्बन्धी **संकट पूर्व बजार मुल्याङ्कन** बाट आएका सुझावहरूलाई सारांश गरिएको छ। प्रतिवेदनले वासका महत्वपूर्ण सामग्री तथा सेवाहरूको बजार प्रणालीका बारेमा अध्ययन गरेको छ। यो प्रतिवेदन साविकको प्रदेश नं.-२ र हालको मधेश प्रदेश का बाढी प्रभावित समुदायहरूको लागि अभूत महत्वपूर्ण छ।

संकट पूर्व बजार मुल्याङ्कन अध्ययनका मुख्य उद्देश्यहरू निम्नानुसार थिए :

- नेपाल रेडक्रस सोसाइटीबाट गरिने बजार-आधारित विपद प्रतिकार्यको तयारीमा सुधार ल्याउने।
- नेपाल रेडक्रस सोसाइटी, अष्ट्रियन रेडक्रस लगायत अन्य रेडक्रस तथा रेडक्रिसेन्ट सोसाइटीहरूको बजार मुल्याङ्कन गर्ने क्षमतामा अभिवृद्धि गर्ने।

यस **संकट पूर्व बजार मुल्याङ्कन** को महत्वपूर्ण निचोड भनेको प्रदेश नं.-२ को वास सामग्री तथा सेवाको बजार, बाढीको समयमा पनि चलायमान र उत्थानशील रहने देखाएको छ। तसर्थ संकटको समयमा ती वास सामग्रीहरूको आपूर्तिको लागि बजारमा आधारित नगद तथा भौचर सहयोग एक उपयुक्त प्रतिकार्य विधिको रूपमा देखिन्छ। यद्यपी वास प्रतिकार्यमा नगद तथा भौचर सहायता विधिको प्रयोगको लागि रेडक्रस तथा सरकारी दुवै निकायका जिल्लास्तरमा क्षमता तथा चेतना अभिवृद्धिमा अभूत धेरै कार्य गर्नुपर्ने देखिन्छ। यसको लागि थप बहस, पैरवी तथा प्रशिक्षणका गतिविधि गर्नुपर्ने अध्ययनले देखाएको छ।

यस अध्ययनले नेपाल रेडक्रस सोसाइटी र अष्ट्रियन रेडक्रसको वास टिमको क्षमता अभिवृद्धि गरी फिल्ड अभ्यासको क्रममा थप नजिकबाट बुझ्न सहयोग गरेको छ। यसको निरन्तरताका लागि नगद तथा भौचर प्रयोग विधि सम्बन्धी थप प्रशिक्षणहरू तथा बजार सर्वेक्षण तथा लेखाजोखा गर्दै जानुपर्ने हुन्छ।

यस अध्ययनका लागि ६ प्रकारका वास सामग्री र सेवाको बजार छनौट गरि विस्तृत लेखाजोखा गरिएको थियो। यी सामग्री तथा सेवाहरू प्रकोप तथा पुनर्लाभको समयमा अत्यावश्यक छन् :

क) सावुन (नुहाउँने र कपडा धुने) :

प्रत्येक व्यक्तिको स्वच्छता व्यवस्थापनका लागि यो (सावुन) एक अत्यावश्यक सामग्री हो। सावुनको बजार प्रणाली बाढीको समयमा पनि सक्रिय रहने र आपूर्ति चक्र उत्पादनदेखि थोकविक्रेता हुदै उपभोक्ता सम्म आइपुग्दा खासै प्रभाव नपर्ने र नियमित आपूर्ति भइरहने अध्ययनले देखाएकोछ। बाढी तथा डुवानका कारण बजारसम्म पुग्ने वाटो केही दिनसम्म अवरुद्ध हुनु एक मुख्य समस्याको रूपमा रहेको यस अध्ययनले देखाएको छ।

ख) स्यानिटरी प्याड :

प्याड महिलाहरूको मर्यादित महिनावारी व्यवस्थापनका लागि एक अत्यावश्यक सामग्री हो। अध्ययनका क्रममा बाढीको समयमा प्याडको बजार प्रणाली उत्पादन देखि उपभोक्तासम्म चलायमान नै भएको पाइयो। उपभोक्ताहरूको प्याड खरिद गर्ने क्रयशक्ति एक महत्वपूर्ण सवालको रूपमा देखिन्छ। यो विशेषतः उनीहरूको आर्थिक तथा वित्तीय संकटको कारणले हुने गरेको पाइयो। यस अध्ययनले उपभोक्ताहरूको फरक फरक प्राथमिकताको बारेमा उजागर गरेकोछ जस्तै: प्रौढ उमेरका महिलाहरूको प्राथमिकतामा कटनको कपडाले बनेको पुनःप्रयोग गर्न मिल्ने घरेलु प्याड रहेको देखियो भने किशोरीहरूको प्राथमिकतामा बजारबाट खरिद गरि एकपटक प्रयोग पश्चात विसर्जन गर्ने प्याड रहेको पाइयो।

ग) पुनर्जलीय भोल :

यो भाडापखाला नियन्त्रणको लागि प्रयोग हुने एक महत्वपूर्ण उपचार सामग्री हो। वर्षायाममा नेपालमा प्रायः भाडापखालाको समस्या देखिने भएकाले उक्त समयमा यसको माग बढ्ने गरेको देखिन्छ। नेपालमा यसको उत्पादन गर्ने विभिन्न उत्पादक कम्पनीहरू रहेकाछन्। अध्ययन अनुसार बाढीको अवस्थामा पनि यसको आपूर्ति प्रणाली उत्पादक देखि उपभोक्तासम्म चलायमान रहेको पाइयो। पुनर्जलीय भोल खुद्रा

पसलमा समेत सुपथ मूल्यमा किन्न पाइने र सरकारी स्वास्थ्य निकायहरूले पनि निःशुल्क वितरण गर्ने गर्दछन् । अध्ययन अनुसार यसको मूल्य र गुणस्तर सरकारी तवरबाटै नियन्त्रण गरिएको पाइयो ।

घ) क्लोरीन भोल :

क्लोरीन विभिन्न प्रयोजनामा संस्थागत, विद्यालय, शहरी खानेपानी योजनाहरू, व्यवसायिक पौडी पोखरीहरू आदिमा विभिन्न अवस्थामा प्रयोग गरिन्छ । यस अध्ययन अनुसार घरेलु तहमा पानी शुद्धिकरणका लागि क्लोरीनको माग बजारमा कम देखिन्छ फलस्वरूप सामान्य अवस्थामा घरेलुस्तरमा पानी शुद्धिकरणका लागि चाहिने क्लोरीनको बजार खासै छैन । तर आपत्कालिन अवस्थामा विभिन्न संघसंस्थाहरूलेनै क्लोरीन खरिद गरि घरेलु स्तरमै वितरण गर्ने गरेको पाइयो । नेपालमा क्लोरीनका २ वटा उत्पादक कम्पनीहरू रहेका छन् । माग बढ्दा क्लोरीन भोल प्रायः भारतबाट आपूर्ति हुने गरेको देखिन्छ ।

ड) हालेकल सामग्री तथा मर्मत सेवा :

हालेकल सेट थोक व्यापारीहरूले भारतबाट आपूर्ति गरि नेपालमा विक्री गर्ने गर्छन् । कहिलेकाहीं बहुउद्देश्यीय हार्डवेयर पसलबाट वा अपभोक्ता आफैले उत्पादकसँग पनि खरिद गर्ने गर्छन् । यस अध्ययन अनुसार हातेकल बाढीका कारणले सजिलै नष्ट नहुने देखाएको छ । यसको माग तथा आपूर्तिमापनि बाढीले खासै ठूलो प्रभाव पार्दैन । संघसंस्था तथा सरकारी निकायहरूले हालेकल जडान सहयोग अभियान संचालन गरी बजारमा यसको माग तथा आपूर्ति चलायमान गर्ने गर्छन् । धेरैजसो घरहरूमा निजी ट्युबवेल हुनु यस क्षेत्रका लागि आम विषय हो । तसर्थ घरायसी स्तरमै हातेकलको सामान्य मर्मतकार्य जस्तोः बाढी पछि कलको सफाई आफैले गर्छन् । आफुले गर्न नसक्ने मर्मतका लागि स्थानिय मिस्त्रीहरूलाई बोलाउने र स्थानिय स्तरमा नभए छिमेकी गाँउबाट बोलाइ काममा लगाउने गरेको देखिन्छ । तसर्थ हातेकल सामग्री आपूर्ति चक्र तथा मर्मत सेवा प्रवाह बाढीका समयमा असर नहुने अध्ययनले देखाएको छ ।

च) शौचालय सामग्री उत्पादन तथा जडान सेवा :

स्थानिय स्तरमा भएका साना उद्यमीहरूले शौचालय रिङ्ग तथा स्ल्यावहरू उत्पादन गर्ने गरेको पाइन्छ र यीनीहरूले शौचालय रिङ्ग तथा स्ल्यावको जडानसेवा पनि दिने गरेको देखिन्छ । बाढी डुवानका कारण शौचालय सामग्रीको डुवानी कार्यमा असर परेको देखिन्छ । जस्तो : बाढीको कारण बाटो अवरुद्ध भई डुवानी नहुनु । निर्माण कार्य सुख्खा समयमा गरिने भएकाले यसले खासै समस्या नपारेको देखिन्छ । संघसंस्था तथा सरकारी निकायहरूले गर्ने शौचालय निर्माण सहयोग अभियानले बजार प्रणालीलाई चलायमान बनाएको देखिन्छ । आधिकारिक रुपमा नेपाल खुला दिशामुक्त देश भइसकेतापनि केही घरहरूमा अझै शौचालय छैनन् । शौचालयको खाडल भरिएपछि यसलाई खाली गरि सफा गर्नुपर्ने हुन्छ । अध्ययन क्षेत्रहरूमा शौचालयको खाल्डो/सेप्टिक ट्याँकी सफा गर्ने सेवा प्रदायकहरू नरहेको पाइयो । अध्ययनले शौचालयको उत्पादन बजार तथा जडान सेवा बाढी तथा सामान्य अवस्थामा पनि सुचारु रहेको देखिन्छ ।

BACKGROUND

Nepal Red Cross Society (NRCS) in partnership with IFRC is implementing a national emergency WASH capacity development project in Nepal with funding from Australian and Austrian Red Cross. The 3-years program (1.1.2019 to 31.12.2021) aims to "Strengthen the WASH capacity, readiness and resilience of the Nepal Red Cross Society to respond to local disasters".

This program includes a pre-crisis market assessment of relevant WASH markets, in order to be better prepared for emergencies with readymade and regularly updated market systems maps that could be rapidly adapted to crisis situations to serve as a basis for professional response options analysis.

Also, market assessment was identified as a topic of strategic interest for the Red Cross, because of a perceived skill gap about market assessment and analysis in the RC/RC WASH community. WASH market analysis is furthermore considered as perfect gateway to promote market-based assistance within the RC/RC and raise awareness about the complexities and the lack of respective skills). Consequently, NRCS and AutRC wanted to use this opportunity for developing its market assessment capacities by conducting a PCMA for WASH markets in Province 2, Nepal in April 2021.

CONTEXT

► Disasters in Nepal

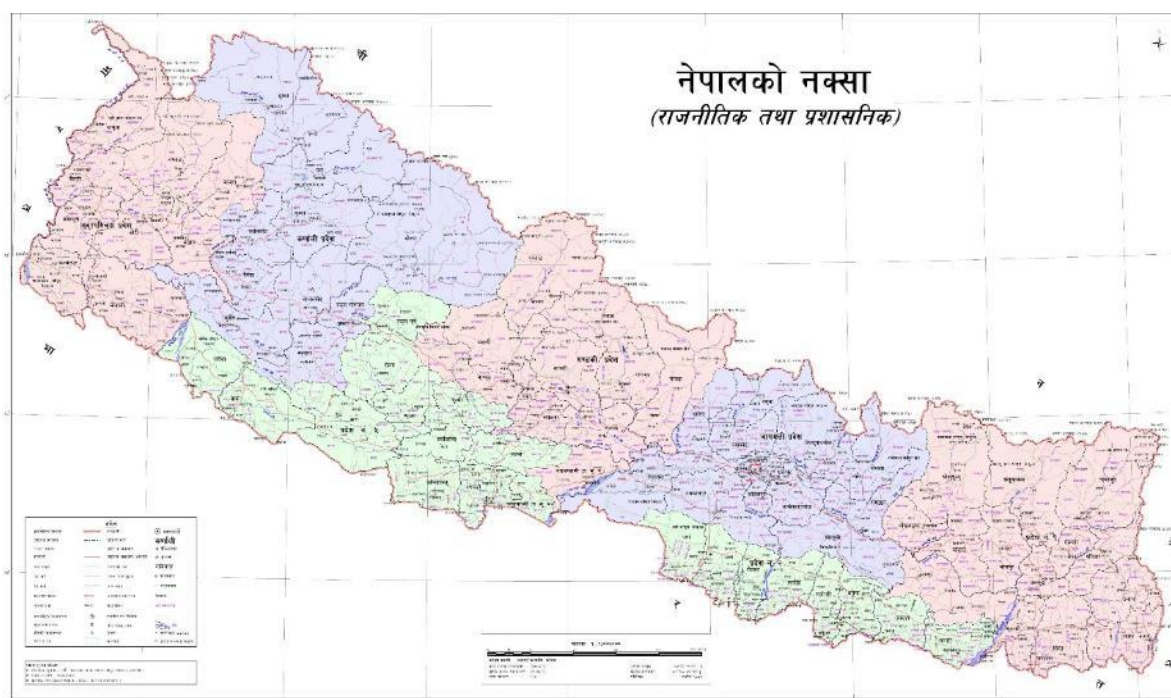


Figure 1 Map of Nepal:

Source: <https://dos.gov.np/downloads/nepal-map>

Nepal is a disaster-prone country. The recurring disaster during monsoon season is severe flooding which affects more than twenty districts in the southern part of Nepal adjoining India. Since the natural flow of water is restricted due to embankments at the border and a shrinkage of outlets, effects are regularly very high and residents need to evacuate their villages and relocate to the highlands and other safe areas. After a few days, people generally return home

and life goes back to normally, even though the damage is huge and houses need to be rebuilt.

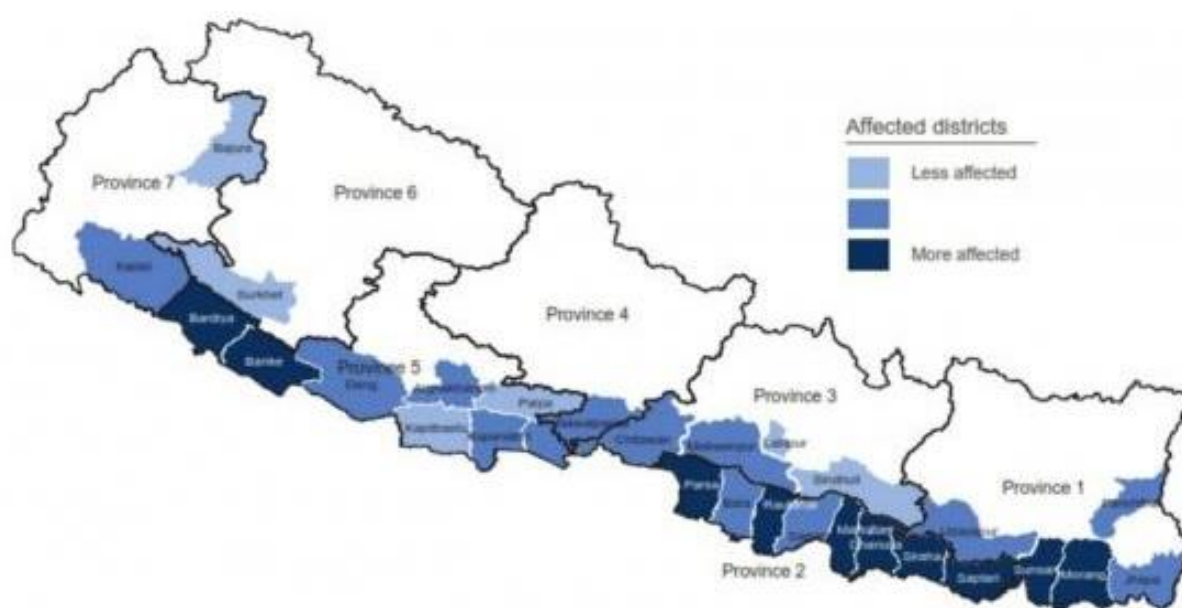


Figure 2 2017 monsoon affected districts

Source: <https://un.org.np/index.php/map/nepal-monsoon-affected-district-20-aug-2017>

Nepal government has a structural wing called District Disaster Risk Committee (DDRC). In coordination with the District Administrative Office (DAO) including District Water Supply and Sanitation Office (DWSSO), Nepal Police, District Education Office (DEO), Federation of Nepal Chamber of Commerce (FNCCI), UNICEF, Red Cross, and other presenting I/NGOs it is officially responsible for any sort of disaster nationwide. Similarly, DDRC is the key organized institution who prepare plans and take action during emergency. Based on the available resources, scope and competencies DDRC decides for any sort of response support in emergency. As a part of the DDRC other members follow the instruction given by DDRC, which help for united effort. In 2017 flood, DDRC played coordination role to mobilize different responding actors to the flood effected communities of this province.

To bring uniformity, IRA has carried out by Nepal Red Cross Society for the rapid need assessment and disseminated all the organization through National Disaster Risk Reduction and Management Authority (NDRRMA), which lies under Ministry of Home Affairs. During this period, relief actors entered the market system and were able to compensate for the loss of their business by creating demand from consumer side. In kind support is most practiced for commodities and cash for services in most of the response.

► **Social Vulnerability**

With regard to natural hazards, social vulnerability in Terai (= which is the low land bordering India, also including Province 2) is moderate to high (see figure 1 below). This is a result of recurring disasters such as flooding and social discrimination due to a still strong caste-based system. Almost 21% of the population live below poverty line and have only little or no financial resources. Many industries and factories are located in this province, so the per capita income is higher than other province on average. However, a big number of poor people are living in this province too. This means, a limited number of people are very rich and there is big gap between rich and poor in these districts. Similarly, most of the people of this region are Hindu which comes to be about 84% and second largest is Islam which come to be 11% and remaining are other religion followers. This means, cultural practices, beliefs and taboos are similar in majority. As in other places, there is the practice of untouchability. Higher castes don't

allow lower caste to touch their taps nor let them enter into their houses. In this area, 'Singh', 'yadav' are known as higher caste and 'Harijan' are known as lower caste.

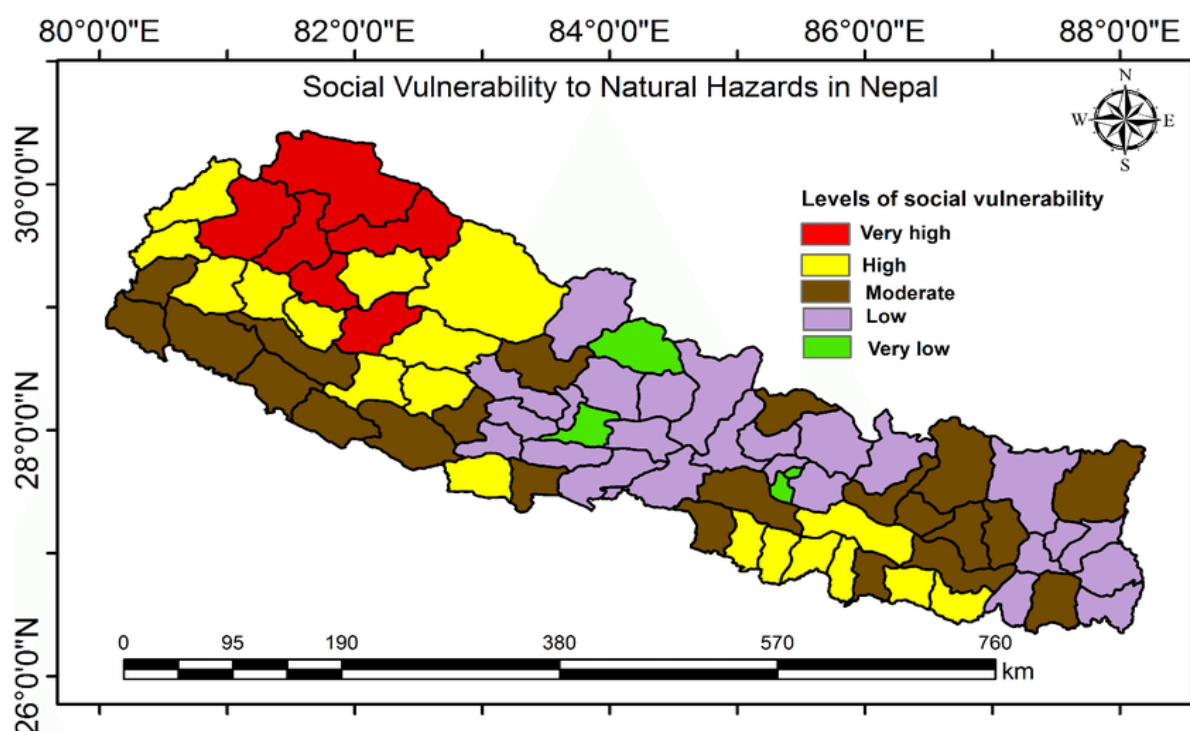


Figure 3 Social Vulnerability to Natural Hazards Map

Source: https://www.researchgate.net/publication/321835471_Assessment_of_social_vulnerability_to_natural_hazards_in_Nepal#fullTextFileContent

► **WASH needs and response**

The main sources of drinking water in the area are tube-wells and dug wells. These are often filled with surface water or mud during flooding, rendering them unsafe or even dysfunctional. In addition, floods have swept away sanitation facilities and essential HH WASH items. Furthermore, people become temporarily displaced by floods until flooding recedes, which typically last for about 1 wee. Due to displacement and lost items, people need of various WASH commodities. Typically, WASH agencies' response focuses on the in-kind distribution of pre-stocked WASH items and are therefore not tailor-made to specific needs.

PCMA APPROACH AND METHODOLOGY

► **Objective of the PCMA**

This PCMA aimed at commodity markets that are essential to serve WASH needs of flood affected people in Nepal's Province 2. The analysis focused on identifying relevant critical market systems in order to inform appropriate program design and targeting, including the feasibility and appropriateness of cash transfers (cash and/or vouchers, market support options) as a means to support the provision of WASH NFI and WASH related services.

The exercise sought to answer two key analytical questions related to the markets of soap (body), soap (laundry), female sanitary pads, ORS, chlorine, handpump materials and mechanics and latrine slab and ring producers.

- Does the market system have the capacity to meet the needs and services people need in sufficient quantities and at reasonable prices?
- Which types of market-based responses are the most cost efficient/effective and feasible?

The target beneficiary groups for the analysis were households (HH) living in flood affected areas and are economically and/or socially vulnerable.

The exercise developed pre- and post-flooding maps for the respective market systems, analysed gaps, and proposed response options.

► **PCMA Methodology**

This analysis follows the PCMA guidance, an approach similar to the Emergency Market Mapping and Analysis (EMMA) toolkit used in a pre-crisis context. The EMMA toolkit is a mixed methods (qualitative and quantitative) approach that is based on 10 logical steps and is designed for non-specialists to rapidly conduct market assessments in a quick and low-cost manner. The approach includes three "strands" of analysis, i.e., a gap analysis to understand the material needs at household level, a market analysis to evaluate the capacity of the market to respond to those needs, and a response analysis to identify appropriate options for programming.

The PCMA training and assessment was carried out in two parts: 1) in Kathmandu at NRCS headquarters and 2) in Banepa, Kavre at the NRCS Training Centre. The majority of participants has a programme background with expertise in WASH (see Annex 1).

To train NRCS staff on the PCMA approach, a workshop was held from 29th – 31st of March 2021



Map of Province No. 2, Nepal

in Kathmandu to introduce team members to market assessment and analysis and prepare fieldwork activities. The workshop was followed by 7 days of intensive field-level data collection in each of the selected districts.

The PCMA was conducted from 1st -8th of April 2021 in Province 2, covering the four districts Parsa, Rautahat, Mahattari and Saptari. The exercise was hosted by the NRCS district chapter offices at district level.

Figure 4 Province 2 district map source: https://en.wikipedia.org/wiki/Province_No._2

The four districts were selected based on the impact of flooding, vulnerability of the population, facing annual flooding and seriously affected by the floods in 2017, as well as limited accessibility during flooding.

In total, 8 NRCS staff with a programme background and WASH expertise, 8 NRCS district volunteers, the Deputy WASH director and the Cash and Markets expert participated in data collection and analysis. Data from key informants and market actors was collected by using semi-structured interview tools and from communities through focus group discussions.

After completion of the fieldwork, a 2-day workshop was held for participants to consolidate the data collected, calculate the gap- and the market capacity analyses, and to perform the response option analysis. Based on the results, recommendations for future emergency response actions, including preparedness, market strengthening, emergency response and early recovery activities were formulated.

The pre-crisis market assessment that followed the training provided additional on-the-job training to all team members in the field, under the overall supervision of the Cash and Markets expert. All data collection tools are included in Annex 2.

► **Critical Market Selection**

Market systems were selected on the basis of WASH priority needs, especially those highlighted by the WASH Working Group. The PCMA team decided to analyse the following critical market systems:

- Soap (body & laundry)
- Female Sanitary pads
- Oral Rehydration Solution (ORS)
- Chlorine Solution

In addition to the assessment of these critical markets, the PCMA teams also assessed the capacity of the following materials and service providers.

- Handpump sets and services
- Latrine slabs and rings and services

► **Development of Questionnaires**

The questionnaire for the assessment was collectively developed by those participating in the PCMA training. The questionnaires had both, closed and open-end questions that could be quantitatively and qualitatively analysed. To avoid data inconsistency, biasness and lack of business-related knowledge, data collectors were requested to speak to the business owner directly, if available, or a representative.

An Information & Communications Technology in Emergencies (ICT4E) solution was used to collect data: KII responses were entered into mobile phones/tablets running Kobo Toolbox. Information provided by KII such as the shelter working group and the logistics cluster were recorded in minutes.

The team held a debrief meeting every day after data collection to compile quantitative and qualitative information from different tools used, and to update the market system mapping.

Secondary sources and desk-based research were used to maximize use of available information prior and after data collection.

► **Field data collection**

In total 116 interviews/ focus group discussions were conducted.

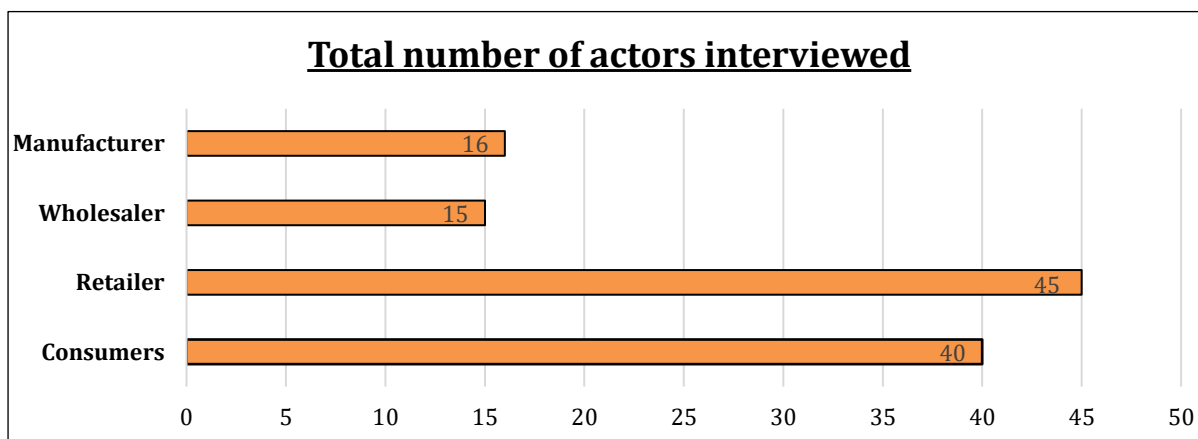


Figure 5 Number of interviewed market actors

The user groups chosen (consumers) for this assessment were the most marginalized communities. NRCs district chapters selected communities who are most severely affected as well as marginalized community in terms of caste group. Thus, most of the selected consumer belonged to Dalits (low caste group).

With respect to WASH markets, the interviews can be broken down according to the figure below:

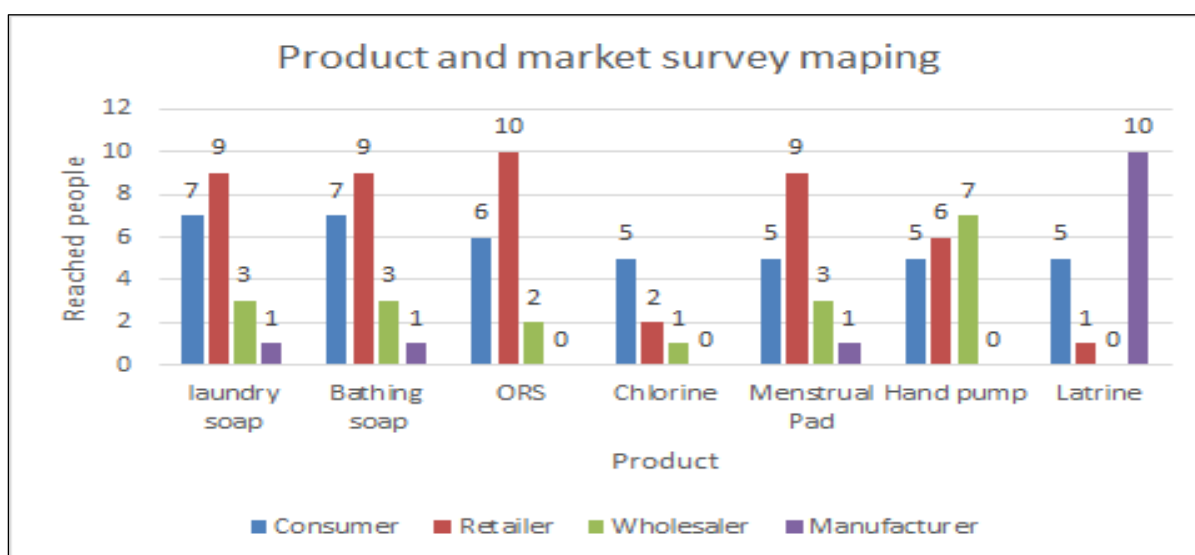


Figure 6 Types and numbers of actors interviewed

► **Limitations**

The market mapping and analysis exercise faced limitations as follows:

- The desk review was limited in terms of availability of secondary information/data for the target markets. Information obtained might be missing details, components or underreporting the specific issue; it is also important to acknowledge that the completeness of data may vary from market to market and between different commodities. In many cases, market/commodity specific information was not available.
- Traders were not categorized into low, medium and large-scale traders. Inadequate definition of these categories resulted in wide ranges.
- The coverage of geographies and traders was limited because the available time was not adequate for comprehensive field work and sometimes the traders did not provide all the information requested.

- To some extent, a few the business owners did not want or couldn't reveal prices and stock volumes.
- The scope of this exercise, in terms of geographical coverage, the number of team members and the number of critical market systems studied were quite ambitious. On the one hand this breadth was extremely positive as it reflected a strong interest in market assessments within NRCS. On the other hand, it made it difficult to allocate sufficient time to each of the study's objectives.
- In addition, few of the team members, team leaders included, had any prior market analysis experience, which meant that leaders were learning key concepts and the methodology alongside the people they were leading.
- Finally, the assessment leader was not always able to provide in-person support to the field teams because of the geographical spread of the study (i.e., 1 assessment leader for 4 districts. Though a good effort was made to discuss outstanding questions and clarify key findings with the field teams, all these factors had implications on the quality of data and the resulting analysis.

RESULTS

A. Soap Market Analysis

◆ Current market situation

The map below is a visual depiction of the market system during the normal period market system. There are several actors involved in the laundry and bathing soap market system:

- **Soap Manufacturers:** There are several large manufacturers in Nepal (the largest being Unilever, with the largest market share nationally and manufacturing industry in Makwanpur district, Bagmati Province). These manufacturers employ distributors, whose role is to collect regular orders of retailers and wholesalers in their working area (district, municipal level and wards) and consolidate them into large orders to the manufacturer itself. Unilever has a software operated which depicts the decrease of stock with its dealers, so the soaps are directly restocked at the warehouse of Parsa central dealer in Adarsanagar, Birgunj, Parsa district. Upon delivery of goods from the Hetauda warehouse, the distributor organizes delivery of the orders to the wholesalers and retailers. The distributor delivers the soap to individual shops at the district and municipal level. The Parsa central dealer supply stocks to its long-term, ongoing wholesalers on credit (up to 21 days on credit) but retailers on cash. Wholesalers submit payment to the distributor (typically via bank cheque), who consolidates payments received and sends onward to the manufacturer. Typically maintain stock levels of 5000 – 8500 bars of bathing soap and 1000 – 2000 bars of laundry soap. Price of laundry soap (200 g) = NPR 28¹. One of the manufacturers stated that they stock raw materials for soap production which is actually enough for six months. If there is any crisis and a very large demand, then within 8 hours of the crisis, if the factory remains unharmed, then they have the capacity to produce soaps within 8 hours which can reach to 8% of the total population of the nation.
- **Soap Importers:** There are few importers who import different brand of soaps from other part of the world such as India. When interviewed one of the soap manufacturers, they even import some brand of soaps and is doing marketing for those soaps although they produce soaps by themselves. They didn't prefer to give many details on the imported soaps.
- **Wholesalers:** These are typically grocery shops which stock several items. They serve as both retail outlets and wholesalers for small shops located at the municipal and village level. Typically maintain stock levels of 700 – 3000 bars of bathing soap and 300 – 2000 bars of laundry soap. Price of bathing soap (100 g) = NPR 32. Price of laundry soap (200 g) = NPR 36.
- **Urban Retailers:** These are typically grocery shops which stock several items and serve solely as retail outlets. Typically maintain stocks of 700 – 3000 bars of bathing soap and 300 – 2000 bars of laundry soap. Price of bathing soap (100 g) = NPR 35. Price of laundry soap (200 g) = NPR 40.
- **Rural (Village) Retailers:** These are very small shops, located in all most all villages, maintaining very small stocks of a limited number of items; typically stock less than 20 units each of bathing soap and laundry soap. Typically maintain stock levels of 10-24 bars of

¹ 100 NPR ~ 0,72 EUR (Apr'21)

bathing soap and 15 – 30 bars of laundry soap. Price of bathing soap (100 g) = NPR 35. Price of laundry soap (200 g) = NPR 40.

- **Target population access:** All residents of the targeted communities purchased bathing and laundry soap on a regular basis. All groups prefer to purchase soap either in local shop or on the Indian market as it is more accessible in terms of distance and as the price is slightly cheaper, though access to these markets is limited in the monsoon season, when land is inundated. During the dry season, the majority of people purchase soap at small village shops (who they typically visit on a daily basis) or from Indian market if they need to purchase in a bulk quantity. The target groups reported no barriers to the purchase of soap during the dry season. Some women also believe that purchasing sanitary items in the market is more of a female responsibility, as they are the direct users of laundry soap as well as they purchase soaps while purchasing their grocery. They usually prefer to buy Lifebuoy for hand washing as it comes in different sizes and prices. They can choose the size based on their current spending capacity.

♦ Crisis situation - Extreme Flood (2017)

During an extreme flooding event, new actors enter the market chain while others become inactive for certain time. Increased levels of flooding typically reduce or eliminate the operation of the small village shops as many of these shops become inundated with flood water and are forced to close. These shops suspend operations until flood waters recede, typically a period of a week or sometimes even more depending on the rainfall. Some retail shops may suspend operations for 7 – 15 days if they become inundated with water, though they can typically repair any damages and begin operating again within 7 days. Supplies from wholesalers and soap distributors are not interrupted during this time. The rural (village) retailers' market experienced seasonal flooding every year and some shops received minor damage, but in this PCMA it was found that those repairs were made within 2 – 3 days and they did not lose functionality. Supply lines remained uninterrupted. The manufacturers continue to supply soap to wholesalers and retailers at district as well as throughout the nation based on the demand, though trucks as the means of transportation during this period. Few communities lose their access to big markets due to disruption of road access as well as damage of bridges during exceptional flooding. During this period, relief actors (such as government line agencies, cluster, humanitarian agencies and NGOs) enter the market system. They purchase bathing and laundry soap directly from manufacturers and or wholesalers at the central (Kathmandu) level or sometimes from respective district level wholesalers (district-based NGOs tend to do this). Nepal Red Cross Society pre-stocks bathing soap as contingency in its regional warehouses situated in Biratnagar (Province 1), Birgunj (Province 2), Kathmandu- central warehouse (Bagmati Province), Nepalgunj (Province 5), Mahendranagar (Sudurpaschim Province). In some cases, Nepal Red Cross Society also has a provision to do stand-by-agreement so as to procure the items during the emergency period. These are then distributed to the target groups as a free, one-time, in-kind distribution of goods (part of a larger hygiene kit). These kits are distributed at locations of higher elevation nearby to communities – the target groups must travel to these locations to receive their allocation. These relief actors typically distribute 200g of bathing soap (usually anti-bacterial) person per month, and 250g of laundry soap per person per month. PDMs from previous responses showed no complaints about the type of soap distributed (usually Lifebuoy brand)

Soap Market System Map (baseline situation)

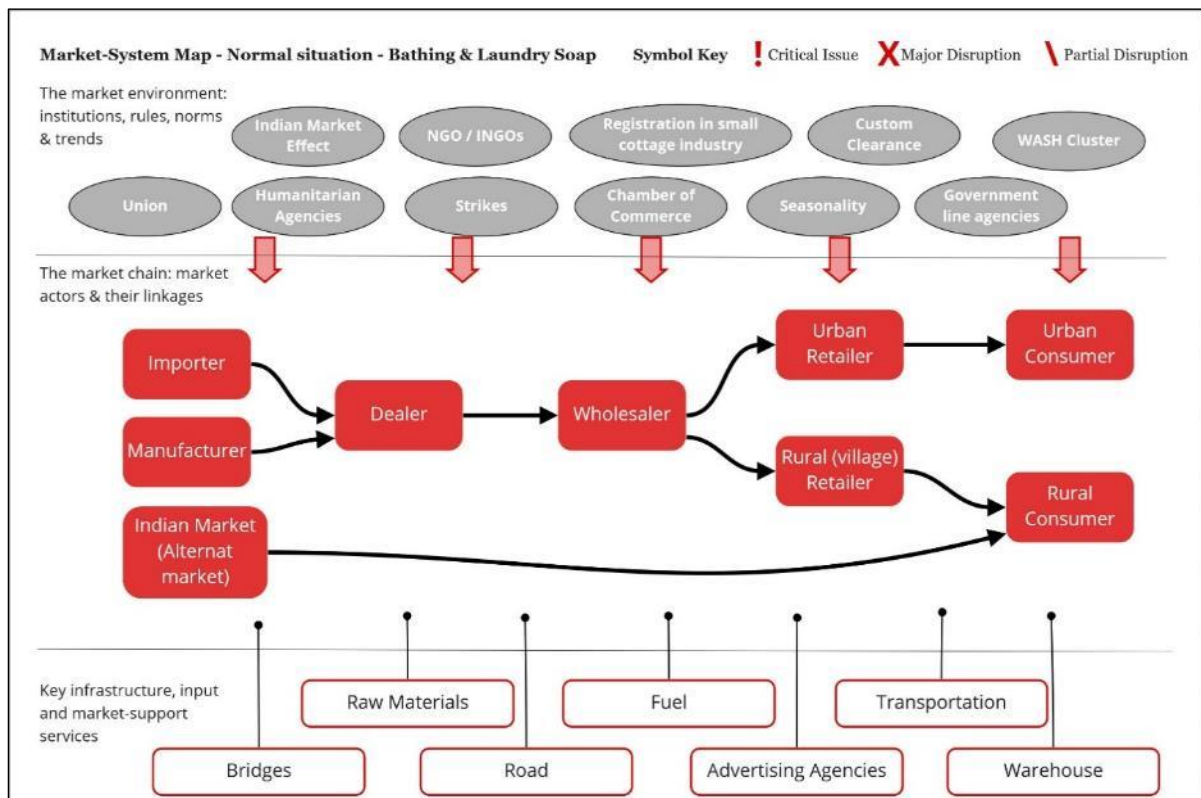


Figure 7 Market systems map -baseline situation: Soap

Soap Market System Map (crisis situation)

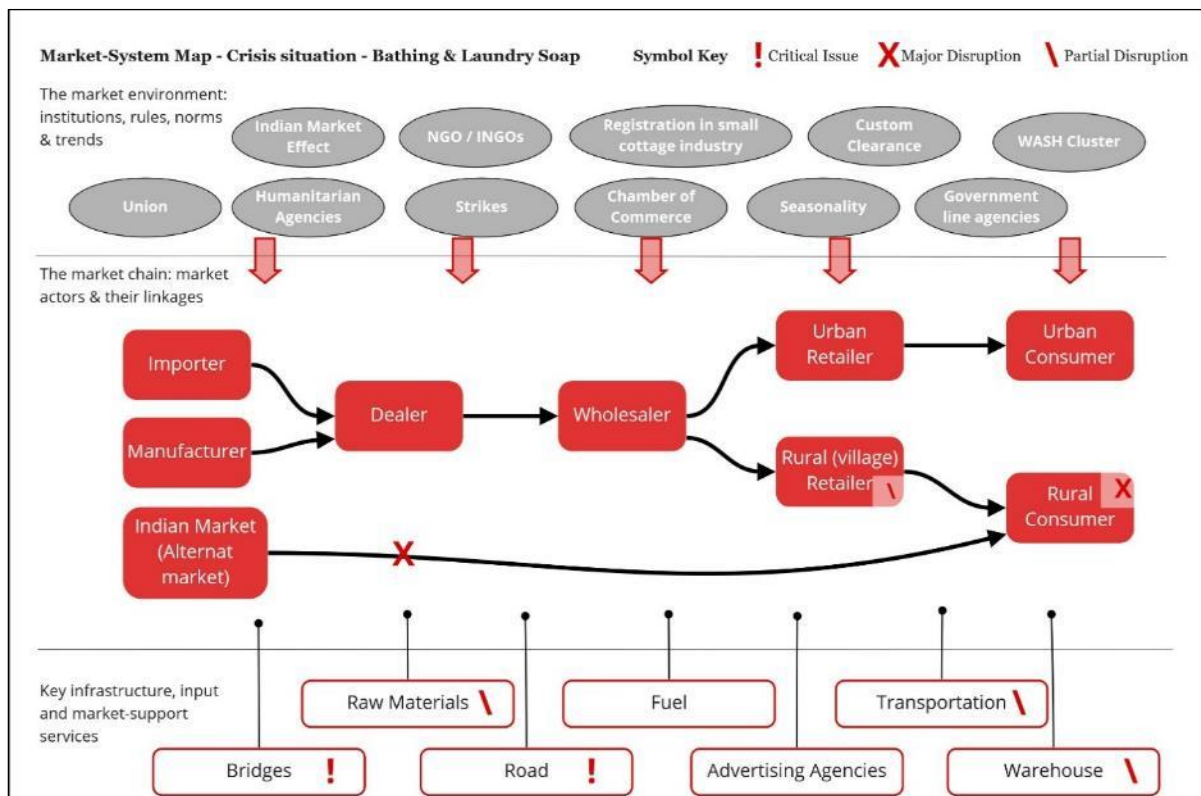


Figure 8 Market systems map - crisis situation: Soap

Soap Value Chain (Laundry Soap)				
	Manufacturer	Dealer	Wholesaler	Retailer
Baseline Price (NPR)	NPR 28	NPR 32	NPR 36	NPR 40
Crisis Price (NPR)				NPPR 42-45

Figure 9 Laundry Soap Value Chain

Soap Value Chain (Bathing Soap)				
	Manufacturer	Dealer	Wholesaler	Retailer
Baseline Price (NPR)		NPR 30	NPR 32	NPR 35
Crisis Price (NPR)				NPR 35-40

Figure 10 Bathing Soap Value Chain

♦ Current Response Practice

NRCS has incorporated soaps (bathing and laundry) in hygiene kit which is distributed during the acute phase of the emergency. These items are top-up as per the emergency situation and need. Generally, in acute phase, NRCS has not implemented CVA for soap distribution and has been adapting in-kind support for soap distribution. The calculation for soap to be included in the hygiene kit is based on sphere standard. The hygiene kits designed by NRCS is normally for one to three months. NRCS pre-positions hygiene kits in its warehouses.

B. Female Sanitary Pads Market Analysis

♦ Current market situation

- **Sanitary Pad Manufacturers:** There are very few manufacturers in the nation, located in different parts of the nation. The most popular Nepali brand for sanitary pad is named as Safety which is produced in Biratnagar, Province 1. The largest share of the sanitary napkins is usually imported from India. Private manufacturers employ 'distributors' on a regional level, whose role is to oversee stocks of sanitary pads in the region and manage all sales to pharmacies at the district, adjoining district and also some products in national level based on the popularity of the items. The distributor delivers the sanitary pads to individual shops at the district and adjoining district. The manufacturers immediately process orders upon receipt of payment from retailers and wholesalers, typically done in cash or via cheque.
- **District Pharmacy:** These are shops which stock a wide variety of pharmaceutical products. They serve as both retail outlets and wholesalers for grocery shops and pharmacies located at the rural municipal and village level. Typically maintain stock levels of 500 packets (usually 8 pads per packet). Price = NPR 60 per pack and above based on types and sizes.
- **Village Pharmacy:** These are shops which stock a wide variety of pharmaceutical products. They typically maintain small stock levels of 10 packets (usually 8 pads per packet), as there is little demand for sanitary napkins at this level. Adolescent girls in menstruating age prefer to use sanitary pads in village level. Price = NPR 60 per pack.
- **Village level Cloth Shops:** These are small shops which stock a variety of cloths/saris. They act strictly as a retailer. Cloth is sold by area (typically square meter), at a varying price based upon quality, colour, etc. As most of the women above the age of 40 prefers to use cotton cloth as sanitary napkins, many retailers are available in district level who sell cotton cloths. When interviewed the female group using cloth as sanitary napkins, they stated that

they use used cotton cloths as sanitary napkins as they are softer as well as they don't cause irritation while being used.

- **Target Population Access:** The user groups chosen for this assessment is the marginalized communities which are severely affected as well as marginalized community in terms of caste group. Thus, the people living in the communities where we conducted the assessment, most of them belongs to Dalits (low caste group) as well as with very low income. During the assessment, it was also noticed in some of the communities that the young men of the family go to Gulf countries for income generation.

The trend of using sanitary pads is increasing in Nepal. However, female above the age of 40 still prefer to use cotton cloth as an alternative to one time use sanitary pads as they are easily available in home and also economic. The majority of women interviewed at the age above 40 in the PCMA stated that they use old cloths/saris for menstrual hygiene management, and also stated that they were satisfied with this option. They do not purchase new cloth for this purpose, and when they receive new cloth from relief actors as part of a hygiene kit distribution, they typically use this cloth as sanitary napkins as at the time of emergency they do not find the old cloths. A huge group of females also stated that they use sanitary pads available in the market as it is easier to use and they don't have to wash it. It is usually their daughters who buy the sanitary pads from the market and have motivated the mothers to shift from using old cloth to sanitary pads. Unique factors in the market environment which affect the MHM market include: · Preference – the preference among older women is to use old cloth/saris for MHM; among younger adolescent girls, there is increasing preference for sanitary napkins. In some of the communities, daughters purchase sanitary napkins from the market and teaches their mother and other female relatives in the household to use the sanitary pads. Adult women are mostly reluctant to purchase sanitary pads from the market in rural context.

Although menstruation being a taboo in context of Nepal, Province 2 barely have discrimination to menstruating female during their period. When asked in FGDs, what the restrictions during menstruation are, women responded they avoid cultural and religious events during their period and normally take bath everyday as they have to cook before entering the kitchen. They also should get involved in highly physical energy required activity such as working in fields.

During the FGD with women, it has been stated that they hide their sanitary pads from male in the household. They wash the pads and dry them where male of the household usually doesn't go and also sometimes store them in the animal shed. If the space is not available, then they dry the sanitary cloth pad beneath their clothes so that others can't see it directly.

Similarly, female in the age group of above 40 prefer to use cloth as sanitary pads. But the adolescent girls mostly prefer sanitary pads. Indeed, there are some cultural barriers during menstruation even in terai but they don't practice Chhaupadi. Chhaupadi (the practice of banning women from houses during menstruation) is practiced in hilly regions especially in Karnali Province and Sudurpaschim Province. People in Tterai are more liberal when it comes to menstruation.

♦ Crisis situation - Extreme Flood (2017)

During an extreme flooding event, new actors enter the market chain while others become inactive for certain time. Increased levels of flooding typically reduce or eliminate the operation of the small village shops as many of these shops become inundated with flood water and are forced to close. Some retail shops may suspend operations for 7 – 15 days if they become inundated with water, though they can typically repair any damages and begin operating again within 7 days. Supplies from wholesalers and sanitary pads distributors are not interrupted during this time. The rural (village) retailers' market experienced seasonal flooding every year and some shops received minor damage, but in the interviews for this market assessment it would find that repairs were made within 2 – 3 days and they did not lose functionality. Supply lines remained uninterrupted. The manufacturers continue to supply sanitary pads to wholesalers and retailers at district as well as throughout the nation based on

the demand, through trucks as the means of transportation during this period. Few communities lose their access to big markets due to disruption of road access as well as damage of bridges during exceptional flooding. During this period, relief actors (such as government line agencies, cluster, humanitarian agencies, INGOs and NGOs) enter the market system. They purchase sanitary pads and cotton cloth directly from manufacturers and or wholesalers at the central (Kathmandu) level or sometimes from respective district level wholesalers (district-based NGOs tend to do this). Nepal Red Cross Society pre-stocks hygiene kits as contingency in its regional warehouses situated in Biratnagar (Province 1), Birgunj (Province 2), Kathmandu- central warehouse (Bagmati Province), Nepalgunj (Province 5), Mahendranagar (Sudurpaschim Province). In some cases, Nepal Red Cross Society also has a provision to do stand-by-agreement so as to procure the items during the emergency period. These are then distributed to the target groups as a free, one-time, in-kind distribution of goods (part of a larger hygiene kit). These kits are distributed at locations of higher elevation nearby to communities – the target groups must travel to these locations to receive their allocation. These relief actors typically distribute 15 pads (2 packets) per person per month and one-meter cotton cloth per person per month.

During the FGD with women group, it has been reported that they were quite happy to receive the cotton cloth incorporated in the hygiene kit along with sanitary pads. The hygiene kits addressed the needs of all age group menstruating female in the household. Some of the female also reported that they used the new cotton cloth to make clothes for their kids rather than using it as sanitary napkin and use the used cotton cloth as reusable sanitary napkins. Although single use sanitary pads were distributed, they could not sustain on using those pads as they are quite expensive for them. The sanitary pads distributed were used only for a month and they had to return back to what they were using i.e., used cotton cloth as sanitary napkin.

Female Sanitary Pads Market System Map (baseline situation)

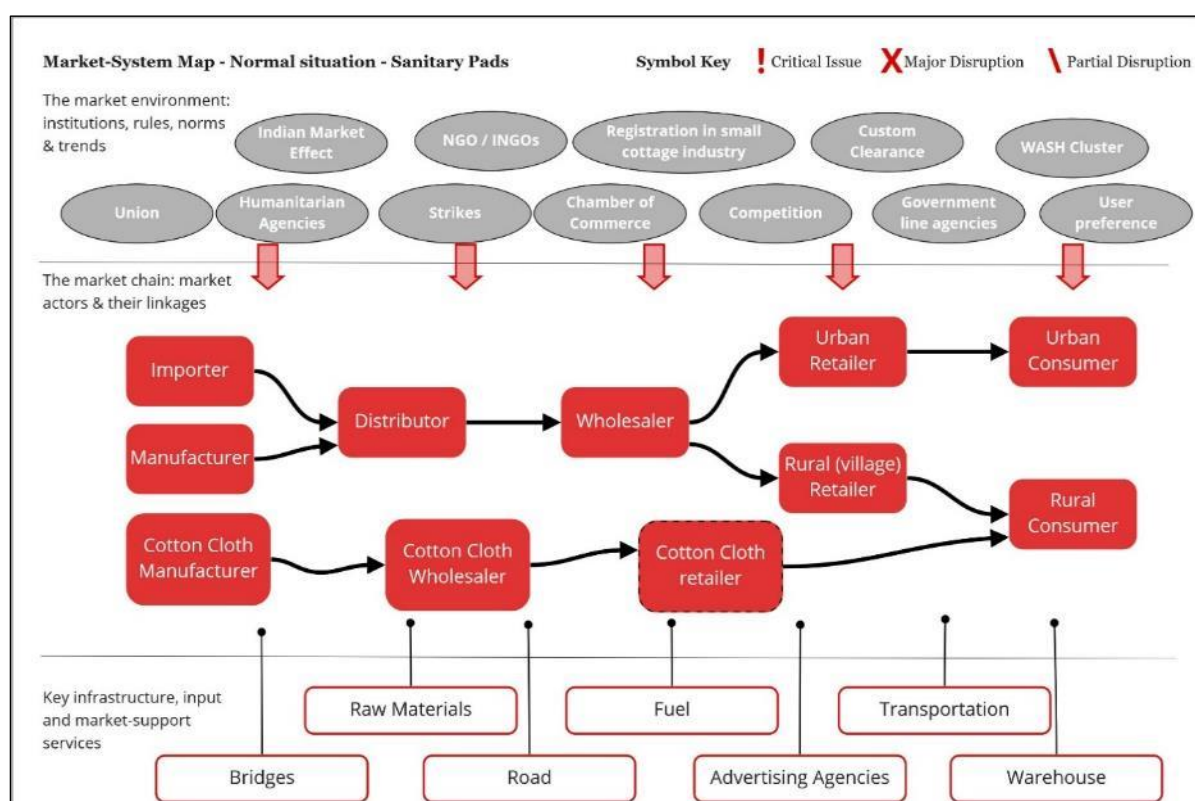


Figure 11 Market systems map -baseline situation: Female sanitary pads

Female Sanitary Pads Market System Map (crisis situation)

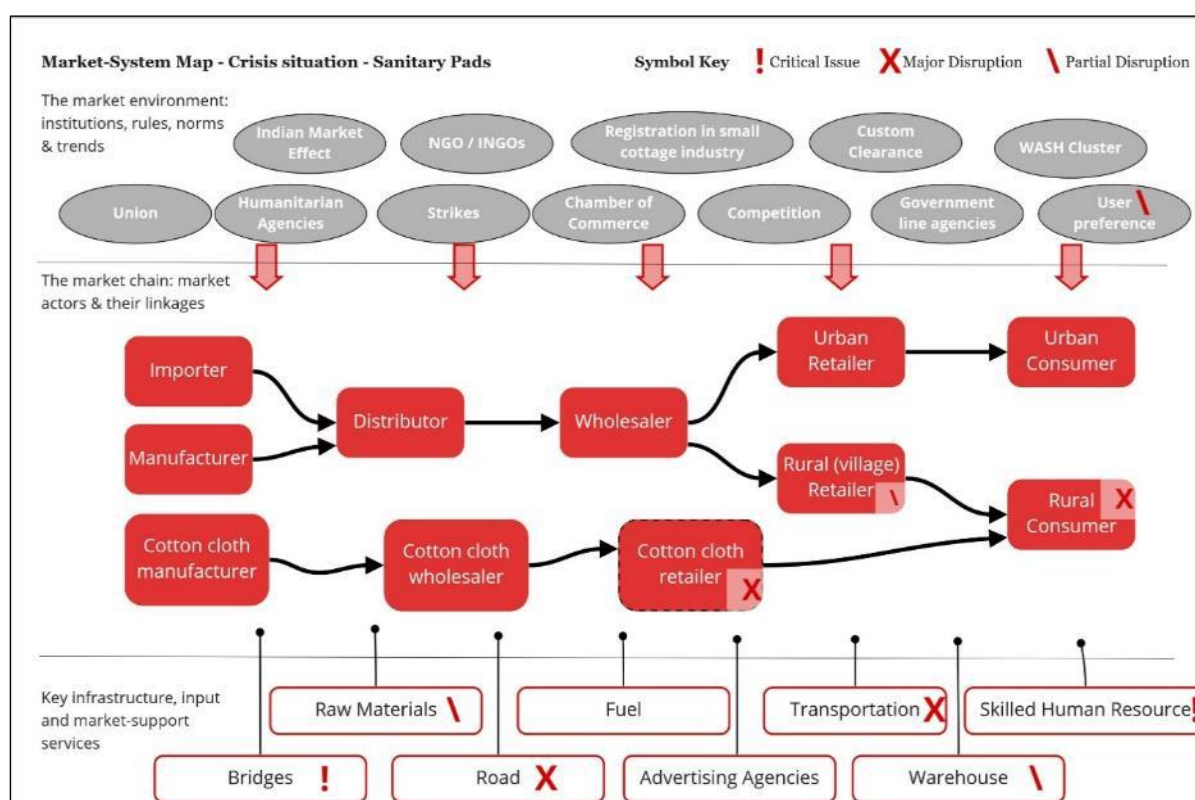


Figure 12 Market systems map - crisis situation: Female sanitary pads

Sanitary Pads Value Chain			
	Manufacturer	Wholesaler	Retailer
Baseline Price (NPR)	NPR 50	NPR 55	NPR 60
Crisis Price (NPR)	NPR 50	NPR 55	NPR 60

Figure 13 Sanitary Pads Value Chain

◆ Current Response Practice

Sanitary pad is one of the items in hygiene kits/ dignity kits. This kit is designed generally for one to three months. NRCS incorporates two types of materials (i.e., re-usable cloth and one time use sanitary pads) within the kits. NRCS is yet to include the reusable prepared pad in the kits. The calculation of the pads is based on the sphere standard. If there are needs during the acute phase or if there is MHM programming in the affected area, top-up of the items is done on need basis. NRCS has not yet practiced to distribute MHM kit solely but is capacitating itself by preparing the standard operating procedure (SoPs) for MHM kits which will standardize the development of the kits within the national society as well as procurement and prepositioning of the kits.

C. ORS Market Analysis

♦ Current market situation

S.N	Manufacture's Name and Address	Website Address	Product's Name	Price (NPR)
1	Nepal Ausadhi Ltd, Babarmahal, Kathmandu, Nepal	https://nal.com.np/product/jeevanjal/	Jeevan Jal	10/sachet
2	Nepal CRS Company, Mahadevtar, Tokha Road, Kathmandu	http://www.crs.org.np	Nava Jeevan	10/sachet
3	Omnic Laboratories Pvt.Ltd, Jeetjung Marg, Thapathali Height, Kathmandu, Nepal.	https://omniclab.com/product/elyte/	Elyte	10/10 tablets
4	LOMUS Pharmaceutical Pvt.Ltd, Lomus House, Kailashchour, Gairidhara,Lazimpat, Kathmandu	http://www.lomuspharma.com	ORS Oralyte	10/sachet
5	CTL Pharmaceuticals Pvt. Ltd., Bag Durbar, Kathmandu	http://www.ctlpharmaceuticals.com/	Shakti Jal	10/sachet
6	Swastha, Anamnagar Kathmandu	https://www.swasthya.com.np/medicine-details/jeevan-bal-205gm	Jeevanbal	10/sachet
7	Nepal Pharmaceuticals Laboratory Pvt. Ltd. Om Ashram-14, Birgunj, Parsa	https://medinepal.com/nawa-jal1-sachet	Nawajal	10/sachet

Figure 14 ORS Manufacturers

The ORS product is simply available and can get in most parts of the country. It is available in medical shops, grocery shops, health institutions. In some households also store some sachets of it for emergency use, etc. It is one of the simple, easily accessible, and most effective diarrhea treatment medicine. Its famous name in the Nepalese community is Jeevan Jal (Jeevan means life and Jal means water: Life water). Other different brands available in markets are Nava Jeevan, Shakti Jal, Jeevanbal, Nawajal, etc. In border areas, like Province-2, Electrobian as an Indian brand is also easily accessible in the Nepali market.

- **ORS Manufacturers:** Nepal is self-dependent in ORS production. Its capacity of production can meet the demand of the country. However, there may be the issue of accessibility in remote mountain areas. There are around 7-8 registered manufacturers. Most of the companies have been established in Kathmandu valley. Out of them, Nepal Ausadhi Ltd. (Nepal Drug Ltd.) is a government-owned company, located in the center of Kathmandu. One company - Nepal Pharmaceuticals Laboratory Pvt.Ltd is located at Birganj, Parsa of Province-2. Nepal Drug Ltd is the main company to supply ORS to governmental health institutions from the local level to the central level.

- **Wholesaler/ Dealer:** There are several dealers of ORS in the country. Most of the dealers are pharmaceutical companies situated in different parts of the country. Nowadays, online trading companies (such as www.daraj.com.np) are also selling ORS in urban areas of Nepal. Most of the dealers are in urban areas. Supply chains up to dealers are not much difficult. Generally, dealers maintain 1,200–5,000 sachets ORS in their stock. Price is NPR 7 per sachet.
- **Retailer:** The main retailer of ORS is medical shops and pharmacy as well as grocery shops. They procure ORS from wholesaler/dealers and sell to consumers. Sometimes, grocery shops buy it from medical shops and sell it to consumers. As there are little medical shops and pharmacies in rural remote villages, grocery shops sell ORS in such places. Retailers buy it and sell it 4-5% more than buying price. They, generally, maintain 500-800 sachets in their stock however grocery shops maintain stock of 12-24 sachets, depending on demand. There is also the practice of purchasing ORS from urban medical shops/pharmacies by rural medical shops. In such a case, they have to buy it with a margin of urban pharmacies. Their stock level is from 50-100 sachets. Thus, the price may be 10-15% raised compared to the manufacturers.
- **Ministry of Health and Population:** The Health and Population Ministry is the apex body to take care of people's health in the country. Ministry makes policies and manages essentials medicines including ORS to all health institutions. Ministry coordinates to Nepal Drug Ltd to supply ORS to health institutions of Province and Local Government. Province and Local government coordinate with Nepal Drug Ltd directly as well. Nepal's Government distributes ORS to people free of cost in normal and emergency times.
- **Local Health Institutions (Health Post and Primary Health Care Centers):** Local health institutions are authorized government entities that give ORS to needy people free of cost. They maintain stock every time. They distribute ORS through their female community health volunteer (FCHV) to patients at the household level. They have good knowledge and skills on ORS preparation and its treatment process and gives education on oral rehydration therapy. FCHV maintains at least 15 to 25 sachets ORS in their bag or household for distribution purposes.
- **Target Population:** Nowadays, some conscious households also maintain stock at least 4-5 sachets ORS in their control so that it works for emergency use for the family member as well as neighbors. Primarily people have knowledge about ORS for use in treatment for diarrhea cases. However few people have more information on other usages of ORS such as it can use in general hydrated conditions and as an energy drink in the dry season. When required, people go to medicine shops or health institutions. In some remote villages, people get ORS in grocery shops at a market price of NPR 10. ORS is free of cost in health institutions.
- **Market Environment:** There is a policy of the government and WHO about its compositions and manufacturing process to manufactures company. Nepal Government-Health and Population ministry regulates quality and market price of ORS. The price of ORS is NPR 10 to 100 per sachet as per composition. This price is fixed for consumers and it is restricted to raise the prices. Prices increase from manufactures to dealers and then to retailers.
- **Inputs, Infrastructure & Services:** The ORS is available everywhere in the country. However, its demand is high in the dry and monsoon season when diarrhea cases may increase in the community. Likewise, sometimes it may scarce because of high demands due to the epidemic of diarrhea/cholera cases. Sometimes, the raw materials market may interrupt due to different causes. Its demand is a bit low in cold seasons. Its supply chain is good in the country.

♦ Crisis situation - Extreme Flood (2017)

Monsoon flood and landslide is a recurrent disaster in Nepal. Every year number of people are displaced and compelled to go to a temporary shelter in camps or the host community. Lack of WASH facilities in those camps and host communities, people suffer from diarrhea. It is being repeated in almost every displacement situation. Thus, its demand increases in disaster time

which is also the hot season in Nepal. Initial demand responds by local government health institutions and retailers. As disasters prolong and diarrhea cases increase, ORS may become scarce in disaster areas. Apart from this, local people are involved in farm works in monsoon seasons and due to rainy conditions, they cannot commute to medicals or health institutions easily. Due to all these reasons retailers in the community increase ORS price from NPR 2 to 5 per sachet.

Side by side, local health institutions raise their stock before rainy seasons. The scarcity raises high and creates a humanitarian situation, relief organizations support the distribution. Some humanitarian organizations such as Nepal Red Cross Society, maintain their stock for a crisis. The National WASH cluster has also designed the Diarrhea Prevention Kit (DP kit) to support affected people in the country.

ORS Market System Map (baseline situation)

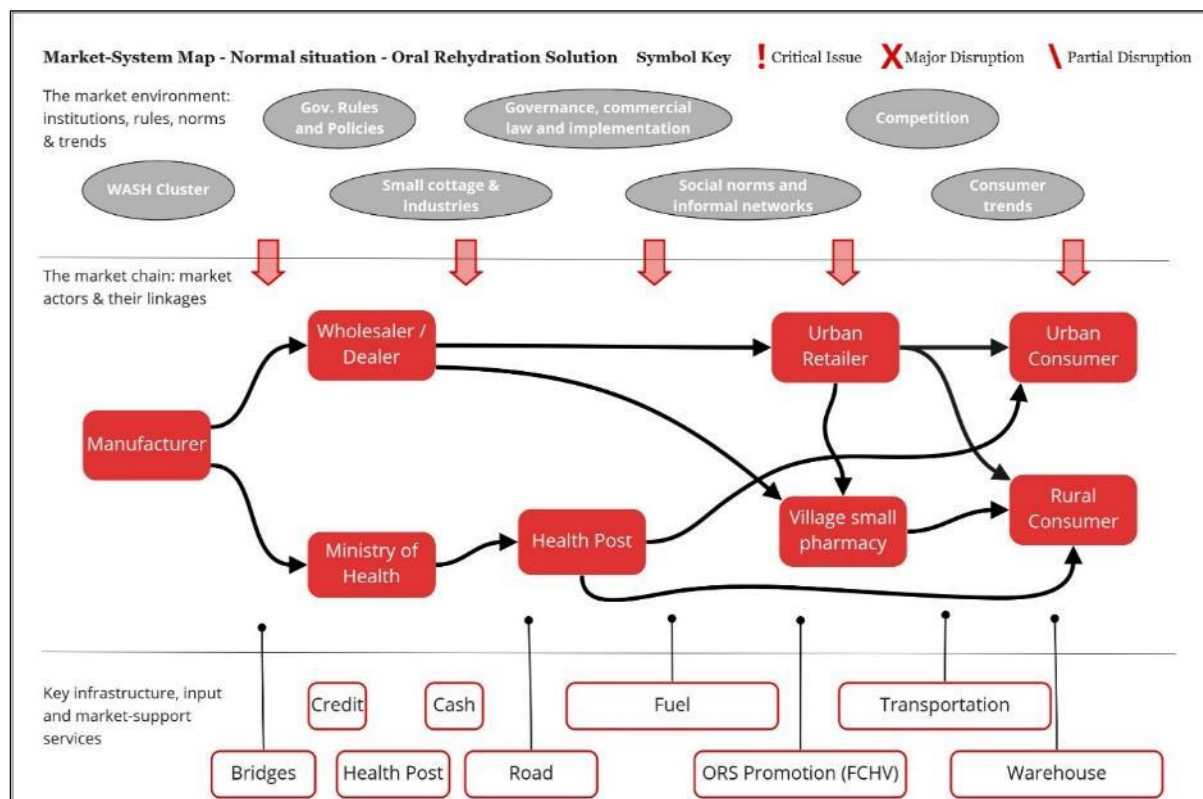


Figure 15 Market systems map -baseline situation: ORS

ORS Market System Map (crisis situation)

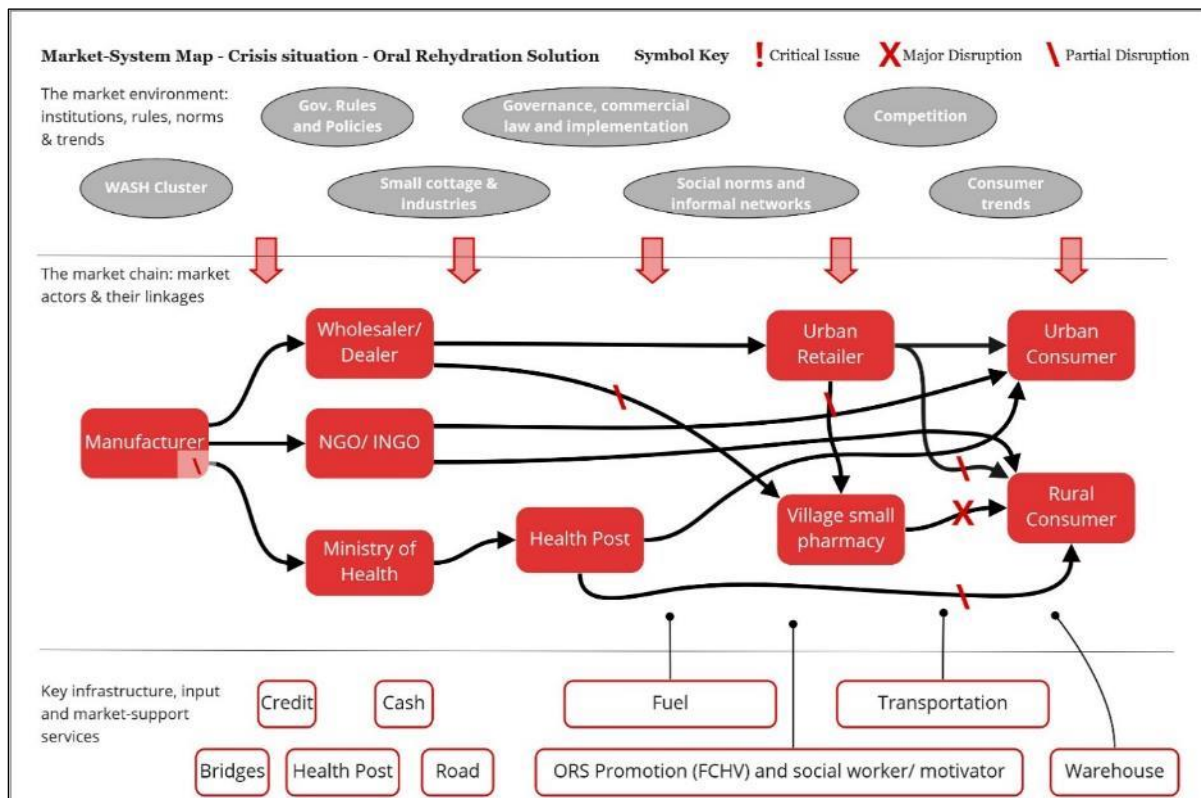


Figure 16Market systems map - crisis situation: ORS

◆ Current Response Practice

NRCS has a provision to incorporate ORS in diarrheal prevention kit (DPK) which is distributed during the diarrheal response operation. DPK kit has been designed as per WASH cluster. Generally, NRCS doesn't distribute ORS separately during flood, earthquake and other responses but distributes as per demand in emergency situation. NRCS adapts two approaches for ORS distribution- (i) Household pre-stocking and (ii) Household diarrheal case treatment.

D. Chlorine Solution Market Analysis

◆ Current market situation

Primarily, Chlorine is imported from neighbouring country, esp.-India to meet the local demand in Nepal. All forms of chlorine such as solution, granular and tablet are available in Nepal. However, two companies are making chlorine solution in Nepal such as Eco Concern Private Ltd (<https://ecoconcern.com.np/>) with brand names of Piyus and Piyus Plus and likewise Population Service International (<https://www.psi.org>) with brand name of WaterGuard. Nowadays, chlorine solution of other different brand names-manufactured in India are available in Nepal.

In normal situation, chlorine solution is available in medical shops. The use of chlorine solution for in household level water treatment is not a general practice in Nepal. Only when expert say that water is contaminated, then people would use it. Therefore, very few people have good knowledge about chlorine use for treatment of water.

- **Chlorine Solution Importer:** Nepal's companies have limited production capacity of chlorine solution., as people rarely use chlorine solution in normal times. Apart from this, these companies have not good supply chain all over the country due to less demand and their capacity. Larger quantities, if needed, come from the Indian market to Nepal. This is rarely the case, however, due to Covid-19, large quantity purchases by wholesalers have

increased. Generally, for bulk drinking water treatment purpose, granular/powder chlorine in bags are imported in Nepal from India. Most of those importers are based in big cities such as Kathmandu, Birganj, Biratnagar, Bhairahawa, Nepalganj etc. There are about 8-10 importers.

- **Wholesaler:** Wholesaler on a demand basis. They don't pre-stock chlorine solution., but collect the demand and ask for the supply for importers. Wholesaler from bordering cities can buy themselves from Indian market. Generally, they supply the demand from 3-5 days to clients. Wholesalers near borders without international import and export authorization need to procure from importers of other cities.
- **Retailer:** Nepali products of chlorine solution are available in retail price in medical shops, but with limited supply. Larger supplies would need to be ordered from production companies. There are no dealers most parts of the country, with only some dealers in the Kathmandu valley. Indian products are also available in different quantity and vessel sizes by different companies. Due to Covid-19, chlorine solution availability has increased in retailer shops.
- **Government Water Supply and Sanitation Office:** In most of government led drinking water projects and small-town projects, government offices are coordinating to maintain of chlorine (bleaching powder) supply chain up to projects. Sometime, those offices have pre-stock of chlorine for further use. After hand over the project/schemes, chlorine will be procured by Water User Committees (WUCs).
- **Water User Committee (WUC):** Bigger type of community based or urban water schemes, either use ground water or gravity fed systems. WUC manage chlorine supplies from dealer or importer and stock in their store. The scheme caretaker or technicians have skill to make chlorine solution from bleaching powder or granular chlorine. However, in small systems and at household level, there is little practice of chlorination.
- **Health Institution and School:** Health institutions use chlorine solution for surface disinfection and water treatment as well as general cleaning. Due to Covid-19, schools are using chlorine solution mostly for surface cleaning.
- **Swimming pool owner:** One of the regular users of chlorine in Nepal is swimming pool owner/hotel. They purchase chlorine by dealer/retailer to disinfect the water of the pool.

♦ Crisis situation - Extreme Flood (2017)

Chlorine market is highly activated specially in emergency situations in Nepal. Nepalese companies increase the production in emergencies. Flood/landslides are recurrent emergencies in Nepal and the demand for chlorine increases during these periods. Many humanitarian organizations activate in crisis situation and their response frequently involves distribution of chlorine product for water treatment at household and mass level in camps. In such situation, humanitarian organizations activate supply chains contacting with importers to wholesaler/dealers. The main emergency demand is chlorine tablets and bleaching powder, which is easy to transport and less prone to damage. However, chlorine solution is also used in rural communities but if porters or animal transportation are required there is a risk of damage to the plastic bottles of solution. Chlorine tablets are only used in emergencies in Nepal. This product is imported from India. Therefore, most humanitarian organizations who are working in

WASH sector, preposition this at organizational level, in order to reduce procurement time in emergencies. Generally, 5 and 10 liters capacity tablets are widely used in Nepalese context.

During emergencies, some suppliers/dealers that in normal times are not involved in the chlorine business, temporarily start trading in chlorine, as they see more profit. Most retailers and dealers buy the chlorine from importers due to tax/vat billing provision.

Chlorine Solution Market System Map (baseline situation)

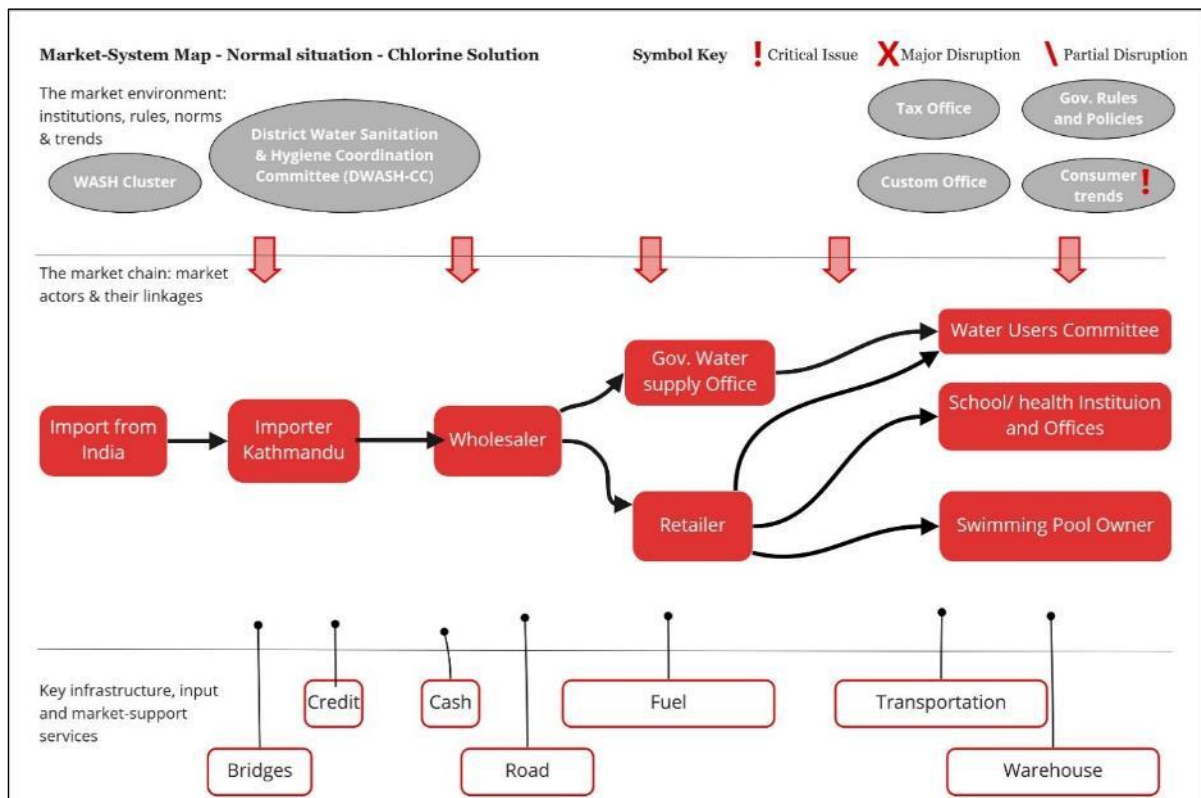


Figure 17 Market systems map -baseline situation: Chlorine

Chlorine Solution Market System Map (crisis situation)

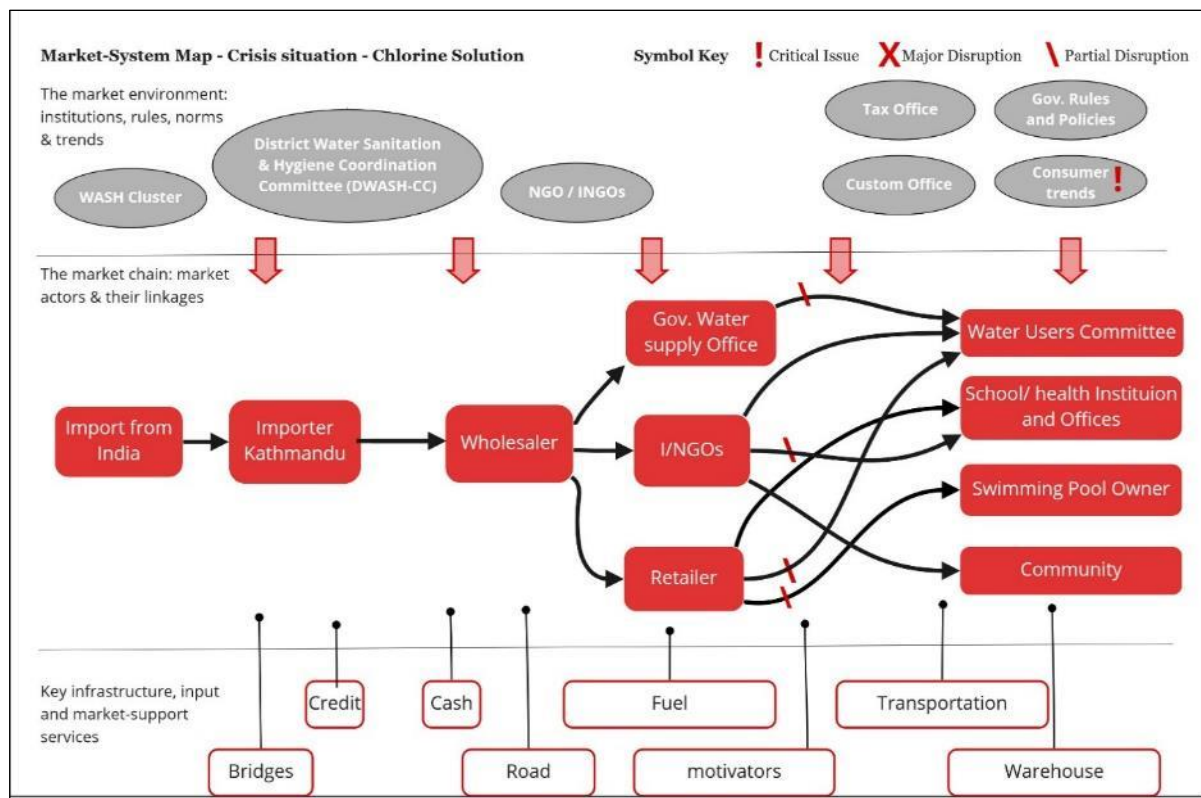


Figure 18 Market systems map - crisis situation: Chlorine

Chlorine solution (Piyus-60 ml, 0.5%)				
Price	Manufacture	Wholesaler/Dealer	Retailer	Consumer
Normal times (NPR)	15-18	-	20-22	25
Crisis times (NPR)	15-18	-	20-22	25
Chlorine Solution (Piyus Plus-240 ml, 0.7% chlorine)				
Price	Manufacture	wholesaler	Retailer	Consumer
Normal time (NPR)	30-35	-	40-45	55
Crisis times (NPR)	30-35	-	40-45	55
Chlorine solution (WaterGuard-240 ml, 0.72% chlorine)				
Price	Manufacture	Wholesaler/Dealer	Retailer	Consumer
Normal times (NPR)	30-33	-	40-43	53
Crisis times (NPR)	30-33	-	40-43	53
Chlorine tablet (Aquatab-33mg, 8-10 litre)				
Price	Manufacture	Wholesaler/Dealer	Retailer	Consumer
Normal times (NPR)	0.75-1.00	-	1.30-1.40	1.50-1.75
Crisis times (NPR)	0.75-1.00	-	1.30-1.40	1.50-1.75

Figure 19 Chlorine Value Chains

♦ Current Response Practice

NRCS distributes three forms of chlorine solution during emergencies i.e. (i) tablet form (Chlorine tabs), (ii) Powder form and (iii) Liquid solution. During emergency, chlorine tablets are the first option for response. Chlorine solution is the second option for the response. Chlorine tablets and liquid solutions (small bottles usually 60 ml) are used during household response. For the mass water treatment, powder form and liquid solutions (in jars) are mostly preferred by NRCS. NRCS currently prepositions chlorine tablets.

E. Handpump Market Analysis

♦ Current market situation

A Hand pump market referred to two fundamental components:

- Manufacture of whole pump set, which includes pump handle, pipe, strainer net and fittings etc)
- Service providers for the installation, repair and maintenance of hand pump set

Hand pump set are manufactured in India and imported by dealers and wholesalers themselves based on the market demand. Few years' back they were manufactured in Nepal too, but it has stopped after a while. Province 2 is very close to India and they could easily travel to India and they have good communication with manufacturer and dealer so they could place and collect order from distance for any quantities. Hand pump sets are mostly use in Terai region so their supply and prime consumers are in Terai in whole year round. Though, its

demand rises up whenever there is some program that supports to install larger numbers of hand pumps in the area.

- **Dealer/wholesaler:** These items are imported from India and supplied all over the area based on the local need. These shops are registered under the office of cottage and small industries at district level. There are number of wholesalers in most of the market centers. They have stocks about 200-500 sets of hand pumps normally. But whenever there is demand of larger quantities they could deliver within a week. So this is more demand based stock keeping in most of the times. As these districts are very close to India, there is no any issue on importing of any quantity, unless there are any unusual strikes, emergency or border seal.

There are no specific dealer or wholesaler for handpump parts in particular, rather they are available with dealers/ wholesalers that trade a variety of hardware items. Demand of hand pumps are mostly similar unless there is some support scheme launched by local government, I/NGOs or other institutions.

- **Service providers** are the groups of skilled, semi-skilled and unskilled masons, who provide services for the installation and unclogging of the hand pumps whenever needed. These service providers mostly work in a team composed of about 4-6 people. They could install 2 hand pumps set in a single day of depth of 120-140 feet. They charge about 7,000-9,000 NPR/ pump set installation.

As this region is located in plain land and ground water is main source for drinking water, many owners themselves have some skills and knowledge on small repair and maintenance of pump, as they are common. But for the installation, specific, skilled masons are required, who are easily available in most of communities. On average there are about 24-30 masons available in single villages, so it is concluded that service providers are easily available in this area. Some of the dealers offer combo packages of installation services along with materials, based on the demand.

- **I/NGOs** are another bigger consumer of the hand pump set as most of them have programs on hand pump support to the vulnerable people of these areas. They purchase it directly from dealer or wholesaler and provide them to the beneficiaries. Sometimes the contracts with best supplier include the installation of the pumps with the material in single agreement.

While purchasing goods and services, selection is based on a set of quality parameters. They check quality and with cost effectiveness. They not only complete installations, but rather provide basic operation and maintenance training to users or some selected masons for sustainability and safety. Such I/NGOs need to provide their installation plans to local government for their approval and record keeping purpose.

- **Local Government** is another key actor in market chain. They have responsibility to provide needful services to the people as the best responder, especially in emergencies, but they seem less active in normal situation and come to front whenever needed. Considering all these situations, they do have basket fund which could be mobilized to respond to any disaster or crisis in the area. Some of the local government authorities have bigger plans to support needy people by providing commodities and installation cost. This has certainly impacts on commodities demand. While purchasing, they follow the procurement policy of Nepal Government and accordingly ensures the quality of commodities and service. Sometime, local government provide masons training to selected candidates to prepare them as skilled masons which contribute for their livelihood too. These contributes for easy availability of skilled masons in local level. In case of new pump installation, there is no prior approval from any authorities required, ands records a about installed pumps are only kept at their own level, if these pumps are installed by any institution like local government or I/NGOS. It means, individually installed pumps are not recorded officially nor they need to get approval prior to installation.
- **Community Consumers** are the regular and ultimate actor of the market chain. If there is no any supporting agencies, they themselves manage to purchase and install. Looking on

the effect of 2017 Terai Flood, only a minimal number of handpumps were damaged, however many were filled with mud and turbid water for days and weeks but rehabilitated by unclogging and disinfecting by the users in most of the places. Common practice for unclogging is to keep pumping until clear water starts to come out from the pump, which takes about an hour in an average. But, whenever any institution plans for unclogging, they disinfect with chlorine and mostly pay NPR 1000/pump for unclogging. Hence, it could be assumed that hand pumps mostly exist until pump stops providing water because some physical damage in it.

There are altogether 5,404,145 persons living in province 2, and most of them have their own hand pump for drinking purpose. For the new installation of Hand pump sets, it required about 27000-30000 NPR /set including service charge in normal times. Most of the consumer purchase these commodities from local wholesaler nearby them, as they got cheaper prices than retailer. As in most of other places of Nepal, male are the key persons to take decision in most of the families, even though unclogging/cleaning and water filling is the responsibility of women. In a limited number of the HHs both of them have equal role either in taking decision or cleaning.

During monsoon, most of the low land of these districts is covered with about 2-6 feet of water for days. Therefore, people travel by boat while moving from one place to another. During floods, most of the roads and bridges are blocked for days. Unlike other commodities, handpump materials are usually not damaged by flooding. But, if blockages exist long enough, there might be a crisis in the market as these items are imported from India and people doesn't have big stocks. Once road access is back to normal, they could provide the quantities based on the demand within a week. Price of the pump sets and connected services don't hike more than 5-10% on average.

Handpump sets system map (baseline situation)

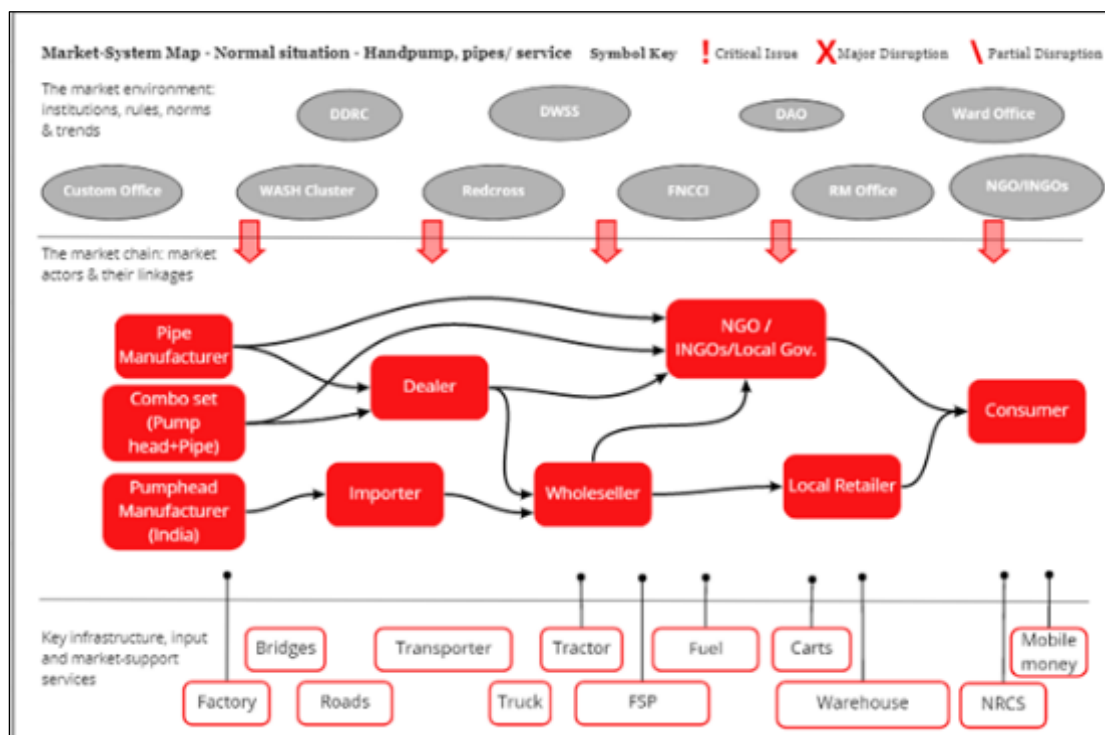


Figure 20 Market systems map -baseline situation: Handpumps and PVC pipes

Handpump sets market system map (crisis situation)

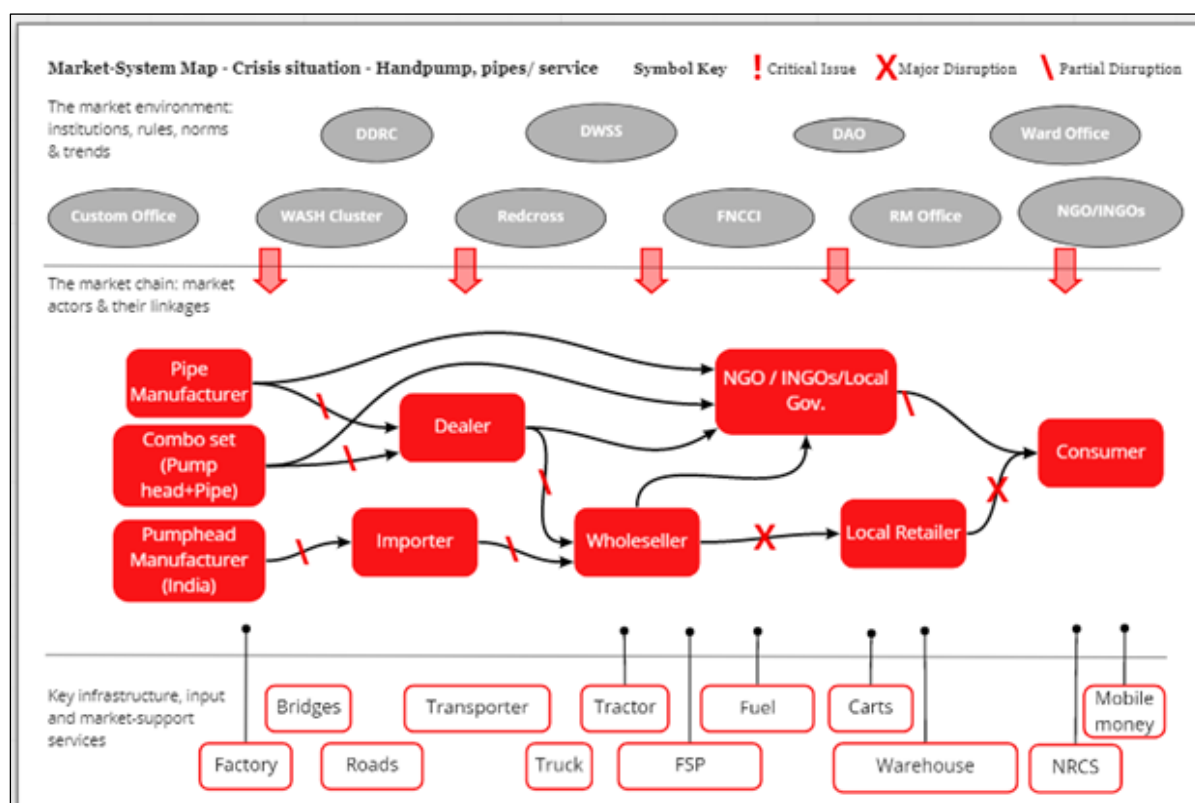


Figure 21 Market systems map - crisis situation: Handpumps and PVC pipes

Hand Pump Set in Combo (pipes, pump set, installation charge) Value Chain			
Situation	Wholesaler NPR	Service Provider NPR	Remarks
Normal times	20,000-21,000	7000-8000	These items are imported from India
Crisis times	22,000-22,100	9000-10,000	

Figure 22 Handpump Value Chains

♦ Current Response Practice

Generally, NRCS installs hand pumps during early/ recovery phase rather than acute relief phase. But NRCS has a provision of cleaning, repair and maintenance of the existing blocked hand pumps during the acute relief phase, by hiring local hand pump technicians for the cleaning, repair and maintenance. NRCS doesn't preposition hand pump and its spare parts in its warehouses. NRCS procures hand pumps and the spare parts as per the NRCS financial policy during early/ recovery phase.

F. Latrine Market Analysis

♦ Current market situation

A sanitary latrine market here is referred to as two fundamental components:

- Manufacturing of concrete rings and slab with or without pan (to be considered as a latrine set in a whole).
- Service providers for the construction or assembly of a latrine set 1 (rings+slab+pan).
- **Slab and Ring Manufacturer:** are local and small businesses, generally registered under the district office of cottage and small industry. One head concrete mason and a few non skilled labors produces and sell slabs and rings.

There are only 2 manufacturers near Badiya village, each with a production capacity of around 5 sets of latrines per day. Generally, in this market assessment, it is found that there are enough numbers of such kind of producers around the affected communities and it is well noted that even a large demand can be met within few days of pre-order. There is no disruption on demand and supply side during normal seasons, however demand increases if there are specific WASH campaigns led by I/NGOs or local government.

- **Service providers:** are considered to be a group of laborers headed by a mason who provides their service for the construction and installation of a sanitary latrine set upon users' demand. These groups work as freelancers and are not officially registered in any entity. However, the slab and ring manufacturers have their contacts and call them on-demand, or simply someone in the community has their contact details and the required households call them whenever necessary. Though they are officially not recognized, the department of water supply and sanitation office WASH focal person also has contact details of some of these groups. It's seen that laborers from nearby Indian villages are also engaged in these activities. It can be concluded that there are enough number of these groups in and around the community whenever necessary.
- **I/NGOs** (National and international non-government organizations) are one of the biggest consumers of latrine sets. They purchase them directly from the manufacturers and provide in-kind support to the communities. During crisis times and some relevant WASH campaigns, I/NGOs are more active and thus increases the demand side of the market chain. During the purchase of latrine sets, I/NGOs also check the production quality of the rings and slabs and even train the manufacturers to maintain the required standard of materials and their production. In the market chain, I/NGOs even act through various WASH promotional activities to encourage the community people and make them aware of the proper use of soap and latrine thus plays a vital role in creating demand on the chain during the normal times as well.
- **Local level municipality** is also among the market chain actors. They are partially active, especially during the time of crisis, when local level crisis management systems get activated and create demand for sanitary latrine sets. On the municipality level, purchase is usually done through a competitive bidding system, thus only manufacturers who are legally registered can participate in the bidding process. This leads to the majority of small-scale and unregistered manufacturers being left out from the market chain through the municipality purchase system. Moreover, the municipality purchase system is mostly cash-based and the distribution to the community is mostly in kind. During the purchase times, the municipality has certain quality standards (have to follow the government national standards for the toilet) which are ensured during the purchases.
- **Consumers:** Since Nepal is an ODF country, it is assumed that 100% of households have their own latrine. However, while more than 90% of HH have their own latrine, the remaining 10% have access to the shared latrines. Also, it is to be noted that among 90% of HH very few (around 10%) have proper septic tanks and the majority either have direct pits or temporary latrines. Since the majority of latrines are temporarily built, the flood water with debris fills up the ring pit and even sweeps away the temporary super structures, which are made up of local materials such as bamboo, wood, dry brick masonry etc. In normal times, due to lack

of desludging services in the rural areas the HH are forced to dig new pits whenever the old ones are full and move the slabs or connect to the old slabs to the new pit with pipes. Moreover, HH with little land can't even manage to dig new pits and are eventually forced to share the latrine or even worse, practice open defecation again. In the urban or city areas there are some desludging service providers from private as well as government sectors.

When purchasing a sanitary latrine, the typically package or set consists of one circular slab with an inbuilt squatting pan and 6 concrete rings, which cost approximately NPR 5,500. The price differs based on the quality and size of the rings. Additional costs for transportation and installation need to be covered by the consumer. Altogether, this adds up to NPR 7,500 to 8,000 per latrine set. The primary clients are local rural residents as well as some I/NGOS and sometimes even urban residents with rings systems latrines. Usual latrine installation time is during dry season, and during the monsoon season most of the roads and shops are inundated, so manufacturer stay idle for 3-4 months but are always ready to produce whenever there is demand.

During an extreme flood event, it was noted that most of the household latrines are inundated. People are unable to use their latrines whenever the water level is high. However, after few weeks when the water level is decreased, they are then able to use their toilet. Very few latrines were damaged in the flood due to poor excavation quality or filling up of their tank. During the extreme flood situation, people whose house or latrine are in low land request to use the latrine on sharing basis with the high landers who are they relatives or friends in general. Moreover, those households with no access to latrine during these times have no other choice than to practice open defecation. Children, Women and people with disability are more vulnerable in case of access to latrine in extreme crisis conditions since there is water all around and they have to rely on others to defecate on the safe place.

Surprisingly, it's been observed that the demand for the latrine set was not increased significantly in the extreme flood of 2017. The demand was very high during the "open defecation free campaign" led by the government. Manufacturers of latrine set in extreme flood faced severe damage of their raw materials such as cement and sand, nevertheless, their stock (ring and slab) were not damaged. Right in the times of flooding, manufacturers of the inundated area were fully affected and their production were halted, but manufacturers from city areas were less affected and were able to produce the rings and slab when the demand increased.

During this period relief actors entered the market system and where able to compensate for the loss of their business by creating some demand from consumer side. The process of relief actors entering market is a remarkable phase, mostly poor households are prioritized and with the budget limitations (for latrine support) defined by the local government they take actions. During the acute crisis times all the affected HH are treated under blanket approach but for the recovery phase better off HH have to manage their latrine system on their own and for that local government selects and finalized the HH names and numbers to be served.

Latrine market system map (baseline situation)

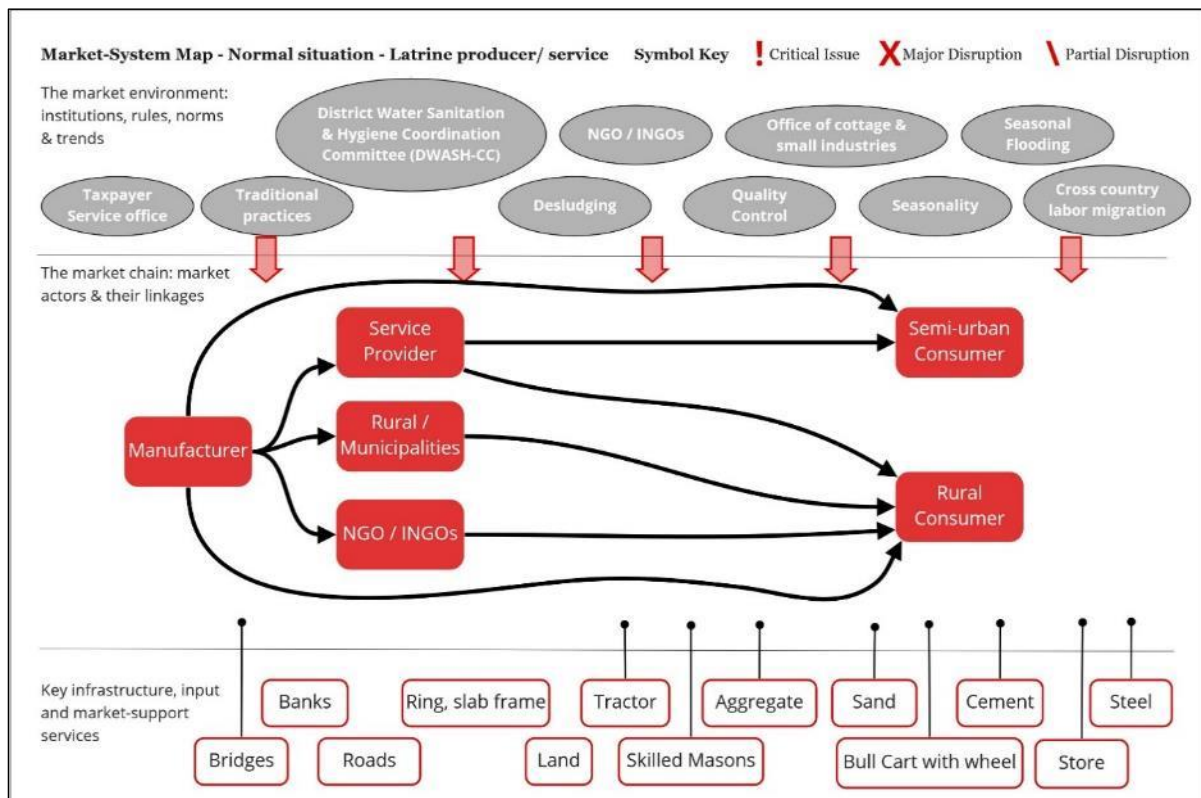


Figure 23 Market systems map -baseline situation: Latrines

Latrine market system map (crisis situation)

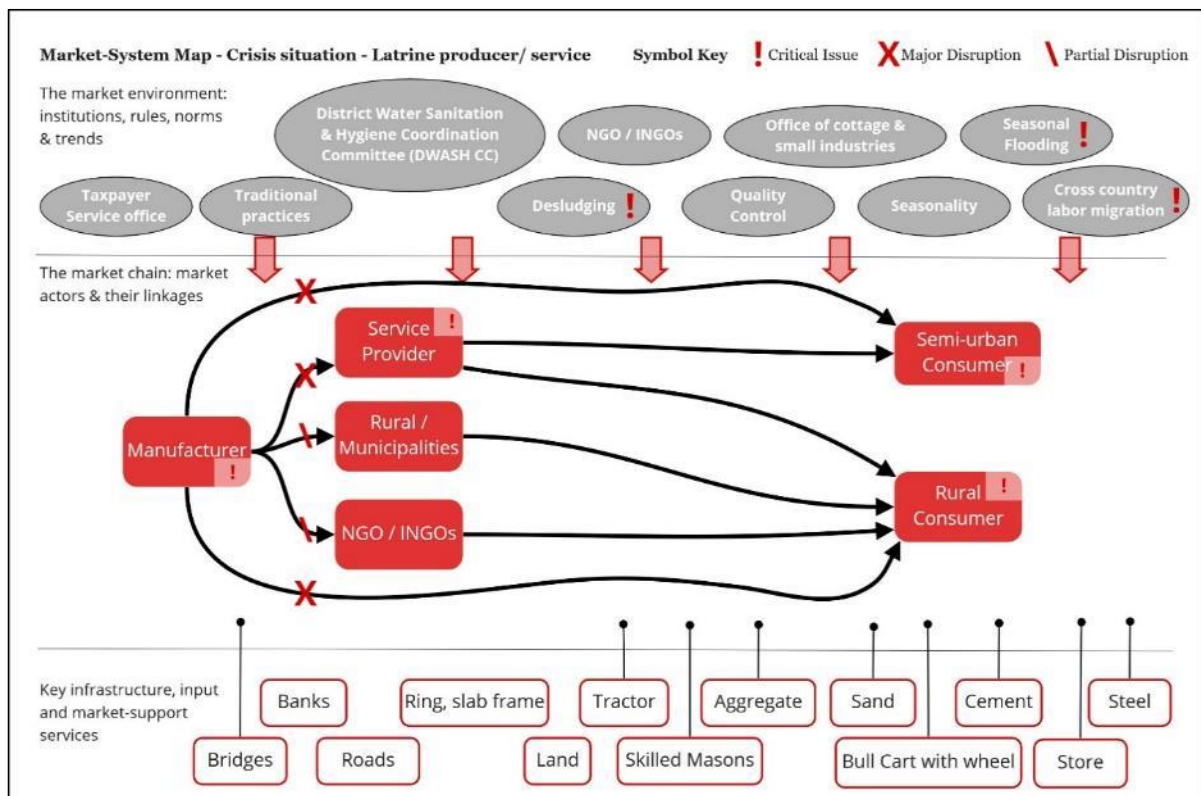


Figure 24 Market systems map - crisis situation: Latrines

Latrine set value chain (6 rings+1 slab+1 squatting pan)			
Price	Manufacturer	Service Provider (incl. labor charge)	Consumer
Normal times (NPR)	5,000-5,500	7,500-8,000	7,500-8,000
Crisis times (NPR)	5,000-6,000	7,500-8,500	7,500-8,500 (If purchased personally) Free (If distributed by relief actors)

Figure 25 Latrine set value chain

♦ Current Response Practice

During acute emergency phase (relief phase), NRCS generally mobilizes squatting plates from its pre-positioned stock. NHQs provides squatting plate sets to affected district chapters and district chapters mobilizes their volunteers to install emergency toilet. NRCS has also the practice to use local latrine sets manufactured by local entrepreneurs in case the squatting plate is not available in NRCS stock. During recovery phase, NRCS promotes locally manufactured latrine sets.

CONCLUSIONS AND RECOMMENDATIONS

► Gap analysis

Target Group	Total affected Household	Total affected Population	Total affected Male	Total affected Female	Total affected adolescent female	Item	Unit	HH Need per person	HH Shortfall	Total Gap	Proposed Duration	Available Packaging	Modality preferal
Flood affected HHs in Province 2	239,632	1,317,974	685,091	632,883	253,153	Laundry Soap	grams/bar	200	200	1317974 Bar	1 month	200 gms/Bar	CASH
						Bathing Soap	grams	250	250	329494 Kg	1 month	120 gms/Bar	CASH
						Sanitary Pad	pcs	15	15	3797295 Packet	1 month	6 pcs/Package	CASH
						ORS Sachets	sachet	5	5	6589870 Sachet	1 month	20.5 gms/Sachet	CASH
						Chlorine Solution	mg/3ltr	6	6	237 Kg	1 month	Tablets	CASH
						Latrines	set	-	-	-	N/A	N/A	Inkind/commodity voucher for Materials + Cash for service
						Handpump	set	-	-	-	N/A	N/A	Inkind/commodity voucher for Materials + Cash for service

Figure 26 Gap Analysis

All of the hygiene NFIs included in the PCMA (bathing soap, laundry soap, sanitary napkins, chlorine and ORS) have been combined into a single gap analysis, as they are all included in typical hygiene kits. There was no sufficient data about the gaps for hand pumps and latrines available, therefore the analysis only provides recipients preferred mode modality.

In Nepal, the WASH Cluster has set minimum requirements in terms of hygiene items to be provided to target beneficiaries during a humanitarian crisis; these minimum requirements were used in the numerical calculation of the gap analysis. The population used in the calculation of the gap analysis represents the entire population in the respective districts which is categorized as poor and ultra-poor.

► Response Options Framework

P.T.O

Response Option	Advantages	Disadvantages	Feasibility	Timing considerations (When to start, for how long to implement)	NRCS specific comments
In kind hygiene kit	<ul style="list-style-type: none"> Quick response if sufficient stock is available Quality assurance All-in-one package Uniformity 	<ul style="list-style-type: none"> No choice of target group level Long procurement process If pre-stocked, expiry of good! High cost (transportation, warehousing, labor cost) 	High	<ul style="list-style-type: none"> Preparedness phase Immediate distribution 	Yes, this is comparatively relevant in acute emergency phase where the area is inundated or has limited access to the nearest market.
Direct cash (Cash-in-hand)	<ul style="list-style-type: none"> Quick response Choice, dignity Flexible Cost effective Longer encashment process 	<ul style="list-style-type: none"> Security issue Misuse of funds Quality control? HH level dispute 	Medium	<ul style="list-style-type: none"> Immediate distribution 	In acute phase, NRCS generally provides in-kind. However, for the labor, transportation and local material, direct cash approach is used.
Cash through FSP/Bank account	<ul style="list-style-type: none"> Safe Choice, dignity Flexible Cost effective Create access to banking system Strengthening local market 	<ul style="list-style-type: none"> Time consuming if not already bank access Limited bank coverage 	Rural- Low Urban- Medium	<ul style="list-style-type: none"> Preparedness time 1 month 	NRCS generally has a practice to use cash through FSP during early/ recovery phase.
Paper Value Vouchers	<ul style="list-style-type: none"> Choice of items safe Usual CVA benefits i.e., dignity better quality assurance 	<ul style="list-style-type: none"> Less flexible Less choice Limited vendors printing time May require training for response 	Medium	<ul style="list-style-type: none"> Time for printing of vouchers Contracting time with vendors 	NRCS has not yet practiced in WASH sector.

	<ul style="list-style-type: none"> cost is "low" Strengthening local market 	<ul style="list-style-type: none"> Longer process encashment 			
Paper commodity voucher	<ul style="list-style-type: none"> Quality Control Strengthening local market Assurance of basic needs fulfilled 	<ul style="list-style-type: none"> Less choice for beneficiaries Limited vendors' availability Longer process encashment 	Medium	<ul style="list-style-type: none"> Time for printing of vouchers Contracting time with vendors 	NRCS practices paper commodity voucher widely in all phases of emergency except acute emergency phase.

Figure 27 Response matrix

► Market based Programming (MBP) Framework

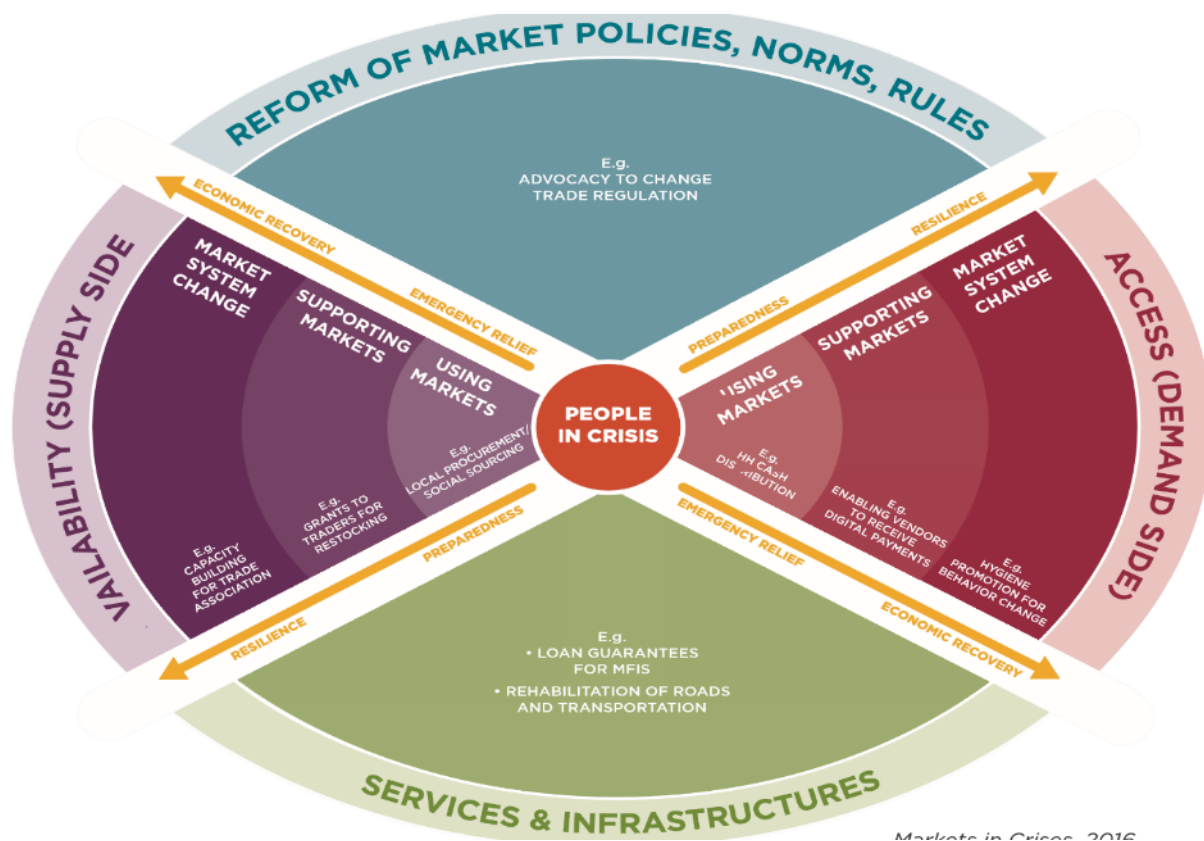


Figure 28 MBP Framework

In the illustration, market-based programming or market-based interventions are understood to be projects that work through or support local markets. The terms cover all types of engagement with market systems, ranging from actions that deliver immediate relief to those that proactively strengthen and catalyze local market systems or market hubs. Some degree of market analysis is a critical part of all situation and response analyses. At a minimum, all humanitarian programming should be “market aware”. The better humanitarian and development actors understand markets, the deeper they can engage with markets.

Complete MBP Framework available here:

<https://www.calpnetwork.org/wp-content/uploads/2020/09/mbp-framework2may2017final-2.pdf>

► Recommendations

Since the selected **markets are well-functioning and resilient** in times of flooding, a **market-based approach is recommended**. The Nepal Government allows cash distributions, so the most feasible modalities are either **direct cash** distributions (cash in hand) or **paper vouchers**.

More detailed response options that humanitarian actors and donors might consider depend on the objective of the planned interventions. The overall objective of these response options is the improvement or maintaining of WASH NFI and through local market systems by using a market-based approach (MBA) such as cash or vouchers.

However, during the market assessment several **institutional barriers to the future uptake of MBA** in flood response in the target area were identified:

- Although the Nepal Government is nowadays more open towards Market based programming there is still need for **advocacy work, especially on district level**.
- Furthermore, there is still need to improve awareness and knowledge regarding CVA within the NRCS especially on district level. It is therefore advised to conduct a so-called **Organisational Cash Readiness Assessment and CVA trainings on national and district level**.

The one WASH market that is not functioning in non-emergency times is the market for household level **chlorine products, which is due to a lack of demand**. Therefore, a possible WASH preparedness activity might be promotional activities for demand creation during non-emergency times.

Apart from informing WASH response options in province 2, the other aim of this PCMA was also to build up institutional capacities of NRCS WASH team in market assessment methodologies. While this PCMA laid the foundation, it is recommended to **follow up capacity development** by

- Repeated **PCMA of WASH markets in other areas and for other disaster scenarios** (which was also requested by the WASH sector in the coordination about this PCMA), and/or
- Integrating WASH market analysis into **multi-sectoral market assessment**

► **MONITORING AND UPDATING THE ANALYSIS**

Monitoring the critical market systems studied in this PCMA and updating its results are key to ensuring that the present findings and recommendations remain relevant, as well as to make sure that they are adjusted if the situation evolves. Key recommendations on these activities are explained below.

Ongoing monitoring of the critical market systems aims to identify any major changes in how the market functions which might have implications for programming. Markets are dynamic in nature, and if the shock analysed here does not occur immediately, it will be crucial to monitor how markets behave over time in order to keep the findings and recommendations up to date. Regular monitoring is essential, and the following monitoring plans provide suggestions as to what to monitor and how to do it, for each critical market system.

Local leaders/government and local NGOs should be involved to the greatest extent possible. As the PCMA team collected the phone contact details of market actors, phone calls can be arranged to collect data in order to optimize time and resources (but in-person visits should take place again after a few months to maintain rapport).

A small technical working group within the WASH Working Group can be established for participating agencies to follow up on the ongoing monitoring results and to discuss needs for adjustments to findings and recommendations. A dedicated person of NRCS should be appointed to oversee data compilation and analysis.

Market monitoring should be a light and continuous process that is integrated into the routine operations of leading WASH organisations, while updating the analysis is a more involved process that should occur only in response to certain, specified triggers.

The following table provides context-specific recommendations for the ongoing monitoring of the critical market systems assessed in this study:

Coordination	In coordination with the relevant Cash and WASH working groups different agencies using market-based approaches should ensure the collection of market data.
Data Collection	The first visit should occur in person in order for the data collector to develop survey format with the market actors. Subsequently, data could be collected over the phone, either via a phone call, an online form. Mobile data collection is encouraged to streamline data entry and analysis.
Frequency of Data Collection	Given that the Hygiene NFI and WASH Service market systems seem to be less volatile than are other market systems, once every 6 months might be sufficient, ideally on the same day (e.g., the first Monday of the month).
Data Analysis	Data should be analysed to allow: <ul style="list-style-type: none"> • Comparison of the average price of each commodity over time • Comparison of the average volume sold/month of each commodity per type of market actor over time
Triggers	<p>If any of the following trends in the data are noted, more thorough investigation is needed.</p> <ul style="list-style-type: none"> - $\geq 30\%$ change (+/-) in the average price of a given commodity between one monitoring period and the next (adjusted for seasonality); or 50% increase in prices as compared to baseline (adjusted for seasonality); - $\geq 30\%$ change (+/-) in average monthly volume traded at a single point in market chain between two consecutive monitoring periods (adjusted for seasonality); - Major disruption at key point in market system (e.g., issues that restricts access to key markets or blocks key transport routes) <p>If the change is expected persists, the relevant cluster(s) should be informed, and the baseline market maps should be updated, and the relevance of the recommendations verified.</p>

ANNEX-1: Participants List of PCMA training

Nepal Red Cross Society

Kalimati Kathmandu

PCMA Training (31 March to 2 April, 2021)

S.N	Name	Designation	Organization
1	Kiran Acharya	WASH Engineer	NRCS CDD-WASH
2	Jaya Ram Basnet	Program Officer	NRCS CDD-WASH
3	Suvechhya Manandhar	PMER Coordinator	NRCS CDD-WASH
4	Saurav Dhakal	IM Volunteer	NRCS CDD-WASH
5	Ksitiyz Acharya	Program Coordinator	NRCS CDD-WASH
6	Krishna Subedi	Program Coordinator	NRCS CDD-WASH
7	Birendra Bahadur Shahi	Program Coordinator	NRCS CDD-WASH
8	Achyut Koirala	WASH Engineer	NRCS CDD-WASH
9	Dikendra Pokhrel	Program Officer	NRCS CDD-WASH
10	Anjal Paudel	Program Officer	NRCS CDD-WASH
11	Sirjana Devkota	PMER officer	NRCS CDD-WASH
12	Subhadra Devkota	Livelihood Coordinator	Danish Red Cross, Nepal
13	Prajwal Acharya	Manager	IFRC, Nepal Office
14	Ishwar Maharjan	Program Officer	NRCS CDD-WASH
15	Hari Bajgai	Finance Officer	NRCS Finance
16	Amar Mani Poudel	Deputy Director	NRCS CDD
17	Buddhi Sagar Shrestha	Director	NRCS CDD

ANNEX-2: Pre-Crisis Market Assessment Tools Matrix

S.N.	Tool	Application of tool	Process	Remarks
1.	Desk Work	To collect the PCMA Data Analysis from literatures and different report and increase the understanding	Team and facilitator will study the collected reports and documents uploaded in team group and shared by AutRC and NRCS	Please go through the team group link
2	Transect walk	To collect information related to geography and services in fields such as: road, river, habitat, facilities, building types and flood impact, flood movement pattern, indigenous practice, public service offices/building	Each team will conduct the walk-in targeted community by vehicle and motorbikes as well as walking. Existing physical map of area will be also used.	Key informant of NRCS district chapter will accompany with team
3	FGD with women on WASH emergency needs	To collect information of the real critical WASH needs in given conditions and compare it with pre-fixed commodities and services in women group	A FGD will be conducted with women group in a location of targeted community giving the severe known scenario.	
4	FGD with people with disability, children/youth/adolescent or old age people	To collect information of the real critical WASH needs in given conditions and compare it with pre-fixed commodities and services in PWD, children, youth and old age	A mixed group FGD will be conducted with PWD, children, youth and old age of targeted community giving the severe known scenario.	At the evening, debrief will be conducted and if need to change commodities or service, will take decision.

5	FGD with people with disability, children/youth/adolescent or old age people	To collect information of the real critical WASH needs in given conditions and compare it with pre-fixed commodities and services in PWD, children, youth and old age	A mixed group FGD will be conducted with PWD, children, youth and old age of targeted community giving the severe known scenario.	At the evening, debrief will be conducted and if need to change commodities or service, will take decision.
6	FGD with men group on WASH emergency needs	To collect information of the real critical WASH needs in given conditions and compare it with pre-fixed commodities and services in men group	A FGD will be conducted with men group in a different location (than women group) of targeted community giving the severe known scenario.	
7	Seasonal calendar	To dig out the information related to the community activities and its trend, WASH commodities and services evolvement, market volatility, accessibility and disaster nature in given caseloads	Each team will facilitate to make seasonal calendar of targeted community with participatory process. Possible interventions related to floods, agriculture, WASH activities and market will be captured seriously. Mix group will be involved in this exercise.	

8	PCMA Semi-structure interview to Beneficiary households	To gather information related to the needs, criticality, availability, price fluctuation, accessibility and uses of WASH commodities and services from end users' level in given conditions and constraints.	Each team will have pre-final sets of questions. Sample households will be selected considering the well representation of the community and its gender and vulnerability. Team will take the interview in systematic manner with accepting culture and language. Note taker will take clear information. Cross and additional questions will also ask as per needs.	It needs some triangulation in other group of people.
9	PCMA Semi-structure interview to sales person	To collection of information related to the availability, accessibility and price fluctuation of WASH commodities and service that sales man offered in given conditions	Each team will select appropriate sales person that give service to that community. In sample basis, a semi-structure interview will be conducted. If additional information needs, then will ask additional questions. Pre-sets questions will used for semi-structure interview.	Local volunteers will help to language translation, if need.

10	PCMA Semi-structure interview to Village shops	To gather information related to the availability, accessibility and price fluctuation of WASH commodities and service in village shops in given conditions	Each team will be identified total numbers of village shops in the target communities. Seeing WASH Commodities availability in those village shops, shops will be selected for semi-structure interview considering three different scenarios. Pre-sets of questions will be used for this interview.	Let confirm first-whether there is WASH commodities (as our list) sales person in community.
11	Semi-structure interview to toilet concrete ring and slab production entrepreneurs	To extract information related to the availability, accessibility and price fluctuation of toilet rings and slab in given conditions and capacity of further production.	Team will be identified toilet concrete ring and slab production entrepreneurs in the community. Appropriate entrepreneurs will be selected for interview and collected the required information using pre-sets of questions. Team will also observe the construction sites and possible risks for given conditions	Transect walk helps to identified the available shops at community.

12	Semi-structure interview with retailers in local bazar	To collect information of the availability, accessibility and price fluctuation of WASH commodities to retailers in local bazars in given conditions.	Team will identify the retailers in local bazar of targeted community. Local bazar may be within the community or adjoin of community. Appropriate retailers will be selected for interview. Pre-set of questions will asked to extract required information.	Transect walk helps to identified the entrepreneurs at community.
13	Semi-structure interview with whole seller district big bazar or nearby big bazar of district HQs	To dig out the information related to the availability, accessibility and price fluctuation of WASH commodities among whole sellers in given conditions	Team will concisely select the whole sellers in district big bazar and conduct the interview to dig out information related WASH Commodities. These whole sellers' locations will be showed in social map.	Transect walk helps to identified the local bazar at community or adjoin of it.

14	Semi-structure interview with commodities manufactures	To gather information related to the production capacity, supply chain, whole sellers' credits, transportation and price fluctuation of WASH commodities to manufactures in given conditions	The manufactures company of WASH commodities which supply in targeted community will be identified with google map or through secondary information. Team will go in those manufacture company and collect the required information. In this case, official request letter will be prepared for good accessibility in the company.	To select the whole seller and big bazar, transect walk will conduct in that bazaar.
15	Semi-structure interview with tube well repair technicians	To dig out information related to availability of tubewell repair service, it's demand, cost and skills to technicians in given conditions	The team will coordinate key informants and local government offices to identify the available tube well repair technicians at community level. Those selected technicians will be interviewed with structured question sets.	Nearby district branch office will help the team for accessibility and collect the information
16	Semi-structure interview with transporters	To gather information related to availability of transport service, its services quality, road condition and price fluctuation to transport services company or vehicle owners	Team will collect the secondary data from transport services offices or union. Appropriate transport services owners will be interviewed and collect the required information	NRCS District chapter can also help to contact those tube well repair technicians in that location

17	Draw market chain of each commodity	To assemble information related to the criticality that affect the supply chain and price of each commodity in each given condition	Each team will prepare at least three market chain of each commodity after analysis of market actors and market trends in each given condition. After making the market chain, it will be triangulated in the community.	NRCS District chapter can also help to contact those transport company or owners.
18	Accessibility of target groups in given condition	To capture the information related to the accessibility and accessibility means to go and come in the targeted community in given conditions	Team will investigate the accessibility into community and its means during given three conditions and how long criticality of obstructed will remain and why- such information will be collected with key informants' interview at the community.	NRCS district chapter also triangulate the chain based on their earlier response
19	Characteristics of targeted communities	To gather information related to similarities and differentials within the communities that affect the response in given conditions.	The team will collect the different information related to community and earlier response interventions and working organizations, society structure, local government intervention and preparedness etc.	Check with NRCS district chapter further verification of collected information.

20	Understanding the functionality of local branch of bank, cooperative or finance related institute	To collect the information related to functionality of local bank, cooperative and financial institutions and can give service of CVA	The list of financial institutions will be collected through company registration office at district and assistance from NRCS district chapters. Team will conduct interview to those institutions.	The secondary data can be obtained from local government offices.
21	Information from local government, goods distribution depo of government, local security force	To gather information related to local government relief capacity, plan, fund and prepositioning and contingency mechanism	Team will coordinate to local government office and interview to authority and collect the documents/plans.	Secondary data will be collected before move to field, if possible.
				NRCS district chapters will collect those documents/plan prior to field work (if possible)

ANNEX-3: ToR

TERMS OF REFERENCE

WASH market assessment facilitator

To support a pre-crisis WASH market assessment within the scope of the emergency WASH project of Nepal Red Cross society

February 2021

1. Introduction and background

Nepal Red Cross Society (NRCS) in partnership with IFRC is implementing a national emergency WASH capacity development project in Nepal with funding from Australian and Austrian Red Cross. The 3-years program (1.1.2019 to 31.12.2021) aims to "Strengthen the WASH capacity, readiness and resilience of the Nepal Red Cross Society to respond to local disasters".

This program includes a pre-crisis market assessment of relevant WASH markets, in order to be better prepared for emergencies with ready-made and regularly updated market systems maps that could be rapidly adapted to crisis situations to serve as a basis for professional response options analysis.

Also, market assessment was identified as a topic of strategic interest for Austrian Red Cross, because of a perceived skill gap about market assessment and analysis in RC generally, and in the RC WASH community in particular. WASH market analysis is furthermore considered as perfect gateway to promote market-based assistance within the AuTRC, and raise awareness about the complexities and the lack of respective skills). Consequently, NRCS and AuTRC want to use this opportunity for developing its market assessment capacities by planning a WASH market assessment including a field mission to Province 2, Nepal, of ~14 days in March/April 2021, based on MAG¹, PCMA² and WASH Market based programming guidelines³.

2. Objectives

In order to support the pre-crisis WASH market assessment of NRCS while at the same time building up NRCS and AuTRCs capacities for market assessment and analysis, AuTRC is looking for a WASH market expert to act as a facilitator for the NRCS-AuTRC WASH Market assessment teams.

The facilitator will:

- Review secondary resources prepare preliminary information analysis sheets for sharing with others
- Provide Input into analysis of scenario, objectives of assessment, critical market systems selection, key analytical questions
- Train team members in assessment purpose, rationale and methodology and lead team members through preparations and fieldwork in Province 2.
- In cooperation with team members, identify market places and actors to interview; create detailed fieldwork plans
- Regularly monitor data collected for quality and completeness and work with team to rectify any problems identified
- Hold daily debriefings with the field team to capture information and identify information gaps, develop market systems maps, etc.
- Link field-based work with remote support teams via online collaboration tools such as Miro, Teams, ...
- Facilitate identification of programming options, in line with the objective of the assessment; development of a plan for market monitoring and SOPs for NRCS-emergency WASH market assessments.

- In cooperation with the field team members, prepare draft market assessment report
- Give debriefing presentation to NRCS

3. Scope of work, duration and timing

A total of 14 days is expected for facilitation of the pre-crisis-market assessment.

ACTIVITY	DESCRIPTION	DURATION & TIMING
PREPARATION	Remote/ quarantine-based Study of programme documents	Up to 2 days in March
FACILITATION OF MARKET ASSESSMENT TRAINING	Train team members in assessment purpose, rationale and methodology (in Kathmandu)	3 days in Mid-March
FACILITATION OF FIELDWORK	Backstopping and daily (de)briefings during field missions (in province 2)	8 days in late March/ early April
REPORTING SUPPORT	Remote facilitation of compilation of assessment outputs, in particular reports	2 days in April

4. Obligations (funding & practical arrangements) and reporting

The facilitator shall coordinate closely with the NRCS / AuTRC WASH market assessment team.

AuTRC shall inform the facilitator until March, 1st, 2021 about the final dates for the training & field mission in April

The facilitator is expected to be in Nepal. Travel expenses related to the field mission are to be reimbursed by AuTRC upon receipt of invoices and boarding passes.

The facilitator is responsible for providing for all means necessary to fulfil the remote services, in particular connectivity for skype debriefings.

Should the circumstances require it, modifications and adjustments can be made to the ToRs with prior written agreement from the AuTRC program management.

The facilitator shall submit an invoice about the services provided after giving feedback on the final WASH market assessment report

Austrian Red Cross shall make payment of this invoice within 30 days.

5. Profile

The facilitator should have the following qualifications:

- Professional background and 10y+ experience in Market Based and/ or WASH programming
- Recent experience either leading or participating in one or more emergency market assessment(s) such as EMMA, PCMMMA or MAG
- Experience in advising projects and program as well as organizations in their capacity development and in preparing and facilitating trainings.
- Work experience in Nepal;
- Strong written and spoken command of English as contractual and working language

+ END C