

# PRE-CRISIS MARKET ANALYSIS (PCMA)



SEPTEMBER 2021

**RICE, LENTILS & SOAP  
MARKET SYSTEMS**

KANCHANPUR & DADELDHURA NEPAL



## ACKNOWLEDGEMENT

This research entitled 'Pre-Crisis Market Analysis (PCMA)' was carried out in between July and September 2021 by a dedicated team to understand the functionality of market systems in a crisis scenario with reference to the current non-crisis state of the elements of the markets. This has provided many opportunities for humanitarian and development interventions integrating market based plans. A team composed of three thematic experts, three data management and field coordinators, three enumerators and four community mobilization officers have undertaken this study considering optimal precautionary measures following the COVID-19 safety protocols.

This research is conducted by ARIA Solutions and was commissioned by NEEDS Nepal and Oxfam in Nepal in partnership for the "Strengthening Community Preparedness, Rapid Response, and Recovery in Nepal Project (SCOPR3)". On behalf of research team, I would like to thank the Chairperson Anju Bhatt Joshi, Executive Director Bhawa Raj Regmi, Programme Coordinator Ishwar Upadhyay, and the programme teams members, members of Executive Board and volunteers from NEEDS Nepal for their continued support in undertaking this study in the era of COVID-19 pandemic. Special thanks to Joshua Leighton from Oxfam America, Zeeshan Mahr from Oxfam America, Prakash Kafle and Bimal Khatiwada from Oxfam in Nepal for providing valuable insights, feedback and suggestions on a regular basis to give a shape to this study.

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## ACRONYMS AND ABBREVIATIONS

AGDP	Agriculture Gross Domestic Product
ATM	Automated Teller Machine
BAFIA	Bank and Financial Institutions Act (2017)
BCP	Business Continuity Plan
BCPR	Bureau for Crisis Prevention and Recovery
CaLP	Cash Learning Partnership
CCA	Climate Change Adaptation
CCG	Cash Coordination Group
CDMCs	Community Disaster Management Committees
CfT	Cash for Training
CfW	Cash for Work
CHS	Core Humanitarian Standards
CP	Contingency Plan
CVA	Cash and Voucher Assistance
DCA	DanChurchAid
D/EOCs	District/Emergency Operations Centers
DHM	Department of Hydrology and Meteorology
DRR/M	Disaster Risk Reduction/Management
DRRMA	Disaster Risk Reduction and Management Act
ECHO	European Commission Humanitarian Aid
EFSVL	Emergency Food Security and Vulnerable Livelihoods
EMMA	Emergency Market Mapping and Analysis
EPRPs	Emergency Preparedness and Response Plans
EWSs	Early Warning Systems
FbA	Forecast based Action
FGD	Focus Group Discussion
FIEQC	Food Import-Export and Quality Certification
FNCCI	Federation of Nepalese Chamber of Commerce and Industries
FSPs	Financial Service Providers
FTQC	Food Technology and Quality Control
GBV	Gender Based Violence
GDP	Gross Domestic Product
HCT	Humanitarian Country Team
IME	International Money Express
KII	Key Informant Interview
KYC	Know Your Customer
LTA	Long Term Agreement;
MAG	Market Analysis Guidance
MARKit	Price Monitoring, Analysis and Response Kit
MEAL	Monitoring, Evaluation, Accountability and Learning

MEB	Minimum Expenditure Basket
MIFIRA	Market Information and Food Insecurity Response Analysis
MIRA	Multisectoral Initial Rapid Assessments
MISMA	Minimum Standard for Market Analysis
MMC	Market Management Committee
MNOs	Mobile Network Operators
MoAD	Ministry of Agricultural Development
MoFAGA	Ministry of Federal Affairs and General Administration
MoHA	Ministry of Home Affairs
MPG	Multi-Purpose Grant/Multi-Purpose Cash Grant
MSSMEB	Multi Sector Survival Minimum Expenditure Basket
NDC	Nationally Determined Communication
NEEDS	Nepal Environment and Equity Development Society
NEOC	National Emergency Operations Center
NFC	Nepal Food Corporation
NFIs	Non-Food Items
NGO	Non-governmental Organization
NNSW	Nepal National Single Window
NRB	Nepal Rastra Bank
PCMA	Pre-Crisis Market Analysis
PDM	Post Distribution Monitoring
PMEP	Prime Minister Employment Programme
POS	Point of Sales
RAM	Rapid Assessment of Markets
SCOPR3	Strengthening Community Preparedness, Rapid Response and Recovery
SIM	Subscriber Identity Module
SMEB	Survival Minimum Expenditure Basket
SMEs	Small and Medium-Enterprises
SMS	Short Message Service
SOPs	Standard Operations Procedures
SRSP	Social Responsibility Support Program
VfM	Value for Money
WASH	Water Supply, Sanitation and Hygiene
WFP	World Food Programme
WFP TS	World Food Programme's Trader's Survey

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## EXECUTIVE SUMMARY

### OVERVIEW OF THE ASSESSMENT

NEEDS Nepal, a Kanchanpur based NGO founded in 1999, is implementing humanitarian and development projects with Oxfam. Currently, NEEDS Nepal is implementing a project “Strengthening Community Preparedness, Rapid Response, and Recovery in Nepal (SCOPR3).”

This Pre-Crisis Market Analysis (PCMA) provides market system and functionality analysis of rice market systems. This study was commissioned by NEEDS Nepal and Oxfam with technical support of Aria Solutions Private Limited. This study was aimed at an in-depth examination of the market system in the SCOPR3 Project areas under both normal and crisis contexts.

This report is organized into two sections, the executive summary comprises a brief summary of overall findings, and the second section a full report detailing all findings. PCMA has used the guidelines and procedures of Emergency Market Mapping and Analysis (EMMA). This analysis report is aimed to help with not just possible emergency responses, but also preparedness, contingency planning, mitigation to possible identified risks, disaster risk reduction and early recovery. The main aim of PCMA is to improve the quality of interventions that help to aid those people prone to crisis.

The PCMA identifies market systems that are interlinked throughout the focused four local levels namely Parasuram Municipality, Bhimdatta Municipality, Dodhara Chandani Rural Municipality, and Beldandi Rural Municipality. This includes the regional supply chains, concentric and dependent local markets (intervention markets), and the small petty traders shops at villages (downstream markets).

### OBJECTIVES

This report is also aimed at guiding the decision makers with the market information in planning and designing of humanitarian response preparedness as well as response to disasters through a careful observation of market system and its functionality with reference to a critical market system.

Specific objectives of this PCMA are to:

- understand market system and functionality of a selected market system
- recommend the market sensitive emergency response programming
- recommend the market based preparedness and disaster risk reduction
- contribute to the learning and capacity building of PCMA tools for Oxfam and partners

### RATIONALE OF THE PCMA EXERCISE

PCMA is designed to help agencies to improve preparedness, feed into contingency planning efforts and contribute to the design of disaster risk management programmes by identifying how people currently access basic goods, services and incomes and modelling how these systems continue to serve the population in the event of a crisis.

The PCMA in the four study municipalities of Kanchanpur and Dadeldhura was intended to identify whether there were alternative responses that could be built upon existing market systems and beneficiary behaviours, that could improve both response efficiency and the degree of appropriateness for the target community. Market analysis is also a part of the disaster preparedness plan of the project

that significantly assists the project team to improve readiness to respond to the future crises. It is therefore realized to integrate the market based planning for humanitarian response preparedness and response planning.

## **METHODOLOGY**

The PCMA follows the Emergency Market Mapping and Analysis (EMMA) guidelines and takes necessary tools and survey forms from RAM, Traders' survey, MAG, MARKit and 48 hours assessment tool as and where necessary. Feedback collection following a sharing meeting of key findings among the municipal representatives was also included at the later stage. Detailed feedback and inputs are also received from Oxfam Nepal and Oxfam America in the process of finalizing this document.

- Mapping and gathering existing information

This stage involved the desk review of existing information on the overall market functionality, desk review of existing information on the rice, soap and lentil market systems, review and analysis of governing policies and legislative tools such as the DRR/M policies, plans and acts, the contingency plans, trade policies and other similar market based governing legislative tools.

- Framing PCMA research and Training to the PCMA team

In this stage, the PCMA target communities were identified and geographical extent was determined for the study. The further action involved to finalize *Analytical Questions* with reference to the local contexts, the policy and market environments and scope of the study.

A three days full package of training was organized to capacitate the PCMA team including the staff and community mobilisers of NEEDS, and the members of board of NEEDS who can facilitate the assessment process in times of needs under the scope of contingency plan. The survey questions were developed, tested and re-defined based on the objective, scope and depth of analysis incorporating feedback, the relevance and applicability during the field test. During the time of training, critical markets systems were identified and base maps were developed.

- Assessing critical market systems in pre-crisis settings

For this purpose, a team was deployed in the field considering COVID-19 safety protocols. The team facilitated community and stakeholders interactions, had conducted site observations, and collected required data and information in-situ and remotely. Seasonal calendars were developed based on the historic review of the disasters, the livelihood patterns, people engagement for each selected critical market system. Simultaneously, the team identified the key market actors, the market chain (both the supply side and demand side) and studied the market environments. The survey questions were translated into Nepali language on demand of enumerators. The PCMA team also piloted the tools and refined the modality in consultation with NEEDS and Oxfam.

- Sampling, field observations and Focus Group Discussions

This stage assisted the team to select a number of FGDs and FGD locations so as to make a true representation of the information. A mapping was conducted that suggested to carry out 14 FGDs in 4 local levels. All the 14 FGDs were conducted successfully for this assessment despite the team faced challenges associated with the COVID-19 and the monsoon floods.



For the observation of local markets, the access and the exposure of the markets and communities in the hazards, the PCMA team visited 16 communities of both the districts while the enumerators reached all the 40 project communities. The team determined the size of the survey (stratified groups of people including the small traders, large mill operators and traders, warehouse operators, and the target communities/beneficiaries) to be 55 for normal situations, 55 for crisis situations and 40 for both giving to a total of 150 respondents from diverse groups. Including the KIIs and FGDs, the research team reached to around 200 respondents from Kanchanpur and Dadeldhura, and some from the Kailali (the central market of supply side).

- Transcribing and analyzing data to finalize PCMA report

This is the fourth stage of this PCMA where the team started drawing the crisis maps and begin the preliminary analysis based on the available information. Maps were simultaneously ratified, primary data and information was gathered and the team finalized the maps of critical market systems, analysed the market environments, summarized the roles and critical issues of all the major market value chain actors, and listed out key recommendations. At the later stage, draft report was developed and shared with NEEDS and Oxfam for review. The final report was produced after a thorough review of the feedback and suggestions from NEEDS and Oxfam.

- Sharing key findings to respective municipalities for validation and feedback

The findings were presented in a sharing meeting held at Bhimdatta municipality in the month of September 2021. During the event, the PCMA team leader presented key findings and recommendations of the study remotely where all four municipal officials and elected representatives got the opportunity to review key findings, and provided some recommendations. These recommendations have also been incorporated into the recommendations section of this report.

## THE CRISIS SCENARIO

### CRISIS SCENARIO AND THE CURRENT SITUATION

Nepal experienced incessant rainfall from August 11 to 14, 2017, resulting in widespread floods across 35 of the country's 77 districts. Several districts experienced the heaviest rainfall in over 60 years. This led to the inundation of about 80 percent of the land in substantial parts of the Terai region. Kailali and Kanchanpur were among the hardest hit districts by this flood.

The 2017 flood spanned the entire breadth of the country. Household assets and food grains were damaged and the affected communities faced shortage of food, water and WASH items. Many suffered infections from contaminated water.

The local markets were severely affected, the stored food grains lost and became unusable due to inundation, excess water, high moisture and untimely germination.



*Figure 1: A flood damaged house with its damaged mud-mortar rice container*

On the basis of this case, the study made a crisis scenario of 2017 floods in the month of August for communities of Kanchanpur and Dadeldhura of Mahakali sub-watersheds. The study was carried out in the same season to see how the local economy reacts and how the markets behave to prepare for and respond to similar situations. The current situation, which is July-August 2021, serves as a baseline (base map).

## **OVERVIEW OF THE HUMANITARIAN RESPONSES IN THE STUDY AREA**

The Disaster Risk Reduction and Management Committees (DMCs) at Municipalities are the key responsible body having sole responsibilities for local level coordination, response preparedness, planning and all aspects of disaster management. Humanitarian agencies including other mandated agencies coordinate through the government's DMCs for humanitarian response. Since the disasters like floods, droughts, landslides, inundations, and lightning strikes are recurrent phenomena in the study area, the local levels have realized mainstreaming disaster risk reduction into the development process, and encourage humanitarian agencies to participate in all stages of disaster risk management.

Humanitarian agencies have been working in the region since long in the DRR and Humanitarian preparedness sectors considering high of vulnerability of people exposed to multiple hazards. Several humanitarian agencies including Oxfam, DCA, and Mercy Corps have contributed to sectoral as well as integrated multi-sectoral resilience building initiatives in the recent past.

In all cases, the municipal government takes the lead for all kinds of policy decisions. Considering the One-Door policy of humanitarian activities in Nepal, the humanitarian agencies coordinate with the Municipal DMC for any kind of interventions. In addition to that, the district based DMC facilitates the inter-municipal coordination in times of large disaster affecting a larger region, while equally supporting municipalities for the implementation of the emergency responses

## **REFERENCE CRISIS TIMES AND SEASONS**

Based on the analysis of available information followed by discussions with NEEDS and Oxfam, massive floods that occurred in August 2017 was agreed upon as a major crisis scenario by the PCMA Team. The Disaster Preparedness and Response Plans of Dadeldhura and Kanchanpur districts, the Municipal Disaster Risk Reduction and Management Plans, and related local level disaster management documents provided detailed information on floods and other high ranked hazards in the region for determining the reference crisis times and the seasons.

### In the reference crisis year:

- governments (federal, provincial, local) declared the state of emergency,
- intense flooding in the area affected the standing paddy, brought massive silts in some areas,
- intense rain in the upstream communities resulted into landslides, mud-flow and damage to crop along the river basins, left communities flooded/inundated for at least five days impacting adversely to the overall economic development and livelihoods activities
- the small and medium mills and warehouses were also affected adversely
- critical market systems were interrupted for several months due to impacts of floods in several sectors
- municipalities and humanitarian agencies responded to disasters collectively including the cash transfers for the first time in a large scale by the government and the agencies

## SCOPE OF THE ASSESSMENT

The study was carried out in four local levels (Bhimdatta Municipality, Dodhara Chandani Rural Municipality and Beldandi Rural Municipality of Kanchanpur district, and Parasuram Municipality of Dadeldhura district) of Far western Province of Nepal. These are the local levels where NEEDS Nepal is implementing SCOPR3 Project in collaborative partnership with Oxfam and respective local governments.

## CRITICAL MARKET SYSTEM SELECTION

During the initial stage of the exercise of this PCMA, the team gathered most common and possible Critical Market Systems for scoring purpose. This was intended to analyse market systems that are critical to supporting essential food and WASH items required during the emergencies. The market systems are also observed in a way that these critical market systems can be accessed by the people or can be provided by the humanitarian and government agencies during the times of crisis. Some criteria were set forth for scoring the objectively guided and most needed food and WASH items, some of which were: used in a daily basis, a must have item, used equally by all age groups, can be made easy available, ease in storing and last long if not used immediately.

Based on the findings (presented in details report section), rice is considered for analysis as a major staple food, lentils as complementing food (soup/*Daal* for primary food), and soap bars as WASH item for Critical Market Systems analysis for the PCMA.

**1. Rice:** Rice being a major source of food and primary livelihoods of the people in the study area, it is taken to represent the overall food security and livelihoods element. This market system also relies on the external market places and actors, mainly from Dhangadhi and nearby Indian market places. Some regional and central traders have established production operations at Dhangadhi and Bhimdatta municipality. Rice is also a major food item included in the minimum expenditure basket (MEB).

**2. Lentil:** Lentil, a short bushy annual legume, is grown in the lowland region of Kanchanpur on the availability of residual soil moisture after the harvesting of paddy. Lentils play an important role in livelihood, food, and nutritional security. They are low in fat, low in sodium, cholesterol free, high in protein, and are an excellent source of both soluble and insoluble fiber, complex carbohydrates, vitamins and minerals. Lentil is also an important nitrogen fixing crop. This is a must have food item for the people in the study area in the form of curry/soup with main staple food. Lentil is also an item included in the food basket while considering the MEB.

**3. Soap:** Bar soaps are considered for this PCMA. Since the market system is the same for toilet soaps and laundry soaps, the study takes only the toilet soap bars for the analysis. In recent years there are only a few small-scale local factories established in Bhimdatta municipality. These producers have very limited production while a major portion of the supply is met through the import from central markets as well as from India. This market system also makes a valuable space in the MEB.

## KEY ANALYTICAL QUESTIONS

The key analytical questions were selected, filtered and put forward for study through a participatory approach in a co-creation modality with teams of NEEDS Kanchanpur and Oxfam in Nepal. The

analytical questions were also reviewed on the basis of scope and depth of the study in relation to the size and type of local markets under the study. Following are the key analytical questions in view of response planning and the critical market assessment.

- What goods and services are critical to meeting the target population's needs?
- What are the critical issues in terms of response timing and seasonality?
- What are the most effective and proven community practices for that brings the capacity of the markets for rapid recovery aftermath of any known crisis
- How best can agencies respond to this expected crisis through market based interventions, and how best can the agency respond to the changes in the market system during future disasters?
- How best can agencies mitigate the impact of this crisis through market based interventions or using the information of market systems?
- How best do market actors play to recover the market through localization of resources, integration of markets and through other known healthy market practices?
- How does this market information guide agencies to formulate the DRR and preparedness actions understanding the critical needs and recurrences of the disaster?

## **BACKGROUND INFORMATION OF THE TARGET POPULATION AND THE LOCATION**

**Kanchanpur District** covers an area of 1,610 square kilometers and had a population of 171,304 (Census 2011). It is located in south-western of Nepal. It is bordered by Kailali district in the east, Dadeldhura district in the north and India in the south and west. The majority of the population is ethnic Tharu community, and minor groups are the peoples that have migrated from the northern hilly region, especially from Doti, Dadeldhura and Baitadi. Geographically it is on the Terai, but the northern part of the district has some higher altitudes of elevation. The highest elevation of the district is 1528 m, and the lowest is 176 m above sea level.

As majority of the population in the study area is of Tharu community, the agrarian economy with small agriculture enterprises are the basis of livelihoods. Rice and wheat are the major cereal crops; sugarcane, mustard, potatoes and pulses are major cash crops in the area. Livestock rearing includes the cattle rearing for milk products and agriculture inputs, goats, sheep's, duck and poultry rearing for eggs and meat, all in a small and subsistence manner. The study was carried out in four local levels namely Bhimdatta Municipality, Dodhara Chandani Municipality and Beldandi Rural Municipality of this district.

**Dadeldhura** district covers an area of 1,538 square kilometers and had a population of 142,094 as of census 2011. The region has a desert-mountainous landscape whereas the PCMA study Municipality, the Parasuram, represents an inner valley combining Jogbuda and Shirsha villages. These are known to the most vulnerable villages in terms of floods and landslides. These villages are also known as the food basket of Dadeldhura district because of its high productivity of rice with a year-round irrigated cultivable land area along the river banks. Dotyal Brahmins and Chetriya make a majority of people living in the area with agriculture and petty trading as major livelihood practices in the study area.

## SEASONAL CALENDAR

Rice is the major staple crop for the entire population, and the study areas of Kanchanpur are known to be much suitable and productive fertile floodplains for rice. The seasons for the rice, lentils and soap market systems are the same across the study area and the entire value chain ecosystems of these two districts share common elements except some changes in the terrain, the geology, the water supply and the livelihoods inputs. Except fewer winter rains, the lands of Nepal receive required rains during the monsoon season. The excess rain in the peak of this season causes devastation through floods, landslides, inundations, and other secondary impacts such as diseases outbreak, food insecurity, damages to the infrastructures such as irrigation canals etc.

**Rice:** Seedlings are rice are prepared in early April and the transplantation begins by the second week of May. It is harvested in between August and September months. There is a high demand of rice in the market during the pre-harvest time which also corresponds to the peak time of monsoon and possible floods. This time is known as rice-stress time for which skilled and semi-skilled members of the family go to other areas in search of labor based jobs to meet the household (HH) demands.

The price of rice is high during the monsoon season because there is less stock in the household level and people are subjected to buy. During this time, people have planted paddy and harvest only at the beginning of October, after the monsoon ends. When people start harvesting paddy, the price of rice falls down and the quantity of rice in the household level as well as in the market increases.

**Lentil:** People prefer to produce lentils after the harvest of rice because of its nitrogen fixing property, lesser production costs and regular high demand of the market as well as for families. This tendency in recent years is obstructed due to pest and insect attack, loss of indigenous climate tolerant varieties, and poor quality of seeds available in the market. In recent years the crop is replaced by other cash crops, and its higher portion of demand is met through import from nearby districts as well as from neighboring international markets.

Seeds are sown in the months of October and November depending on the ground moisture and readiness of fields. When there is a high demand of lentils for seeds and normal use in these months, the price rises slightly. Lentils are harvested in the months of March and April (refer to the detail section for calendar).

**Soap:** The market system of soap is demand driven, and has high demand for it during the monsoon season. As in the monsoon, personal hygiene is affected due to high temperature (sweating), litter caused by rains and floods, and possibilities of disease outbreak. Awareness raising campaigns against open defecation, COVID-19 protection and fight for epidemics have caused increase in the use of soap in the study area.

People use soaps relatively higher in monsoon than in the winter seasons. Women are the primary user of soaps and detergents at a household level for laundry, cleaning utensils and caring for children whereas men and women equally use it for person hygiene. The price is slightly affected by the higher demand in the monsoon season and lesser supplies due to the floods causing impacts to normal transport systems.

## MARKET ENVIRONMENT AND FUNCTIONALITY

One major market place, which is of regional capacity is the urban market center of Bhimdatta Municipality (Mahendranagar). This is also a dependent market to the Dhangadhi, Nepalgunj, Birgunj, and Biratnagar and nearby Indian market places. All other markets of Beldandi and Parasuram are partially dependent on Bhimdatta while also have access to Dhangadhi, Amargadhi and nearby Indian markets. The markets of Dodhara-Chandani municipality rely mostly on the Indian markets at the borderline. During the early stage of COVID-19 pandemic, these markets had very limited connectivity and access to the market places of India. In the normal situation, there is a very good cross-border trade, mostly through the informal. There are dynamic cross-border trade policies and regulations.

It is found that 100% of the residents are able to access the local markets in the normal situation. Market is accessible; services are accessible, while people still do not find it comfortable to visit shops and marts for buying their daily necessities due to COVID-19. Online market/business is growing at a fast pace. Cash transfer mechanisms exist across the municipalities in these districts. As markets are functioning well, CVA programmes can be perfect response options in any form; the preparedness with DRR, the immediate humanitarian response and the post disaster recovery and reconstruction interventions.

There are only a few financial service providers in the PCMA study municipalities providing loan services. These FSPs, however reluctant to provide loan services to small holders, are focusing to support to the large regional traders including the millers, processors and the collectors.

**RICE MARKET SYSTEM:** Kanchanpur district is famous for its productive land and high production of rice. This market system equally relies on the external market places and actors, mainly from Dhangadhi and nearby Indian market places. Some regional and central traders have established production operations at Dhangadhi and Bhimdatta municipality. Farmers are mostly engaged in subsistence and conventional farming practices due to a lack of skills and technology adoption. Post-harvest losses of 25-30% of the total seed and grain value have been reported in rice.

**LENTIL MARKET SYSTEM:** The lentil value chain is characterized largely by an informal market system. A large number of market actors are involved in the market system in the areas where the production is substantially high, whereas in the study area the value chain actors are very limited because of its limited and fewer production. Lentil is marketed as a raw product up to the processors. After processing, it is marketed as whole or split lentil and goes to the consumers of the domestic market. It is produced only in some inner pocket areas of Mahendranagar.

**SOAP MARKET SYSTEM:** The local traders holding approximately 90% of shop market is heavily influenced by the external supply system, primarily the large traders at central markets as Dhangadhi, nearby India markets and Nepalgunj. There are only three small sized soap and detergent powder manufacturers in the area. The produced soap is supplied in the local intervention and downstream markets. For humanitarian assistance, medicated brands are preferred by WASH cluster. Large scale producers located at industrial states of Dhangadhi, Nepalgunj, Butwal, Bhairahawa, Birgunj and Biratnagar make big contributions to fulfill demands of soap for the entire nation.

## MARKET SYSTEM ANALYSIS FOR RICE

### NORMAL SITUATION (BASE MAP)

**Rice Producers/Farmers:** Most of the areas in Kanchanpur have their own production of rice. Beldadi, in particular, has a large population that produces its own rice to meet the needs. Certain populations from Dodhara Chandani produce maize and wheat in addition to rice. However, there are small proportions of people who also need to buy the deficit of production from the market for the consumption of these items. Bhimdatta Municipality also has major rice production through its rural hinterlands, but also has a deficit that is fulfilled by buying from markets.

**Large Central and Regional Traders:** These large traders have a very good market network, and have excellent integration to the local small markets (the intervention markets), and that functions very well in the normal context. These traders have, in most of the cases, their own modern automatic rice mills of large capacity. The normal price range for a common variety of large grain rice (sample) is NPR 32-35/kg at this stage with an approximate volume of 35,000 MT of unhusked rice. Hauling of rice takes place in a batch basis proportionate to the demand to reduce risks of decaying due to high humidity and loss due to pests.

**Regional Warehouse Operators/Dealers:** Three large warehouse operators are active in the rice market system in the Bhimdatta municipality. They provide two services, one is the only warehouse facilities, while the other is a complete market system operation that includes the collection from farmers, milling and packaging, warehousing and supplying to the local marketplaces (Municipal dealers). The wholesale price at this point is not much different to the large suppliers, remaining in between NPR 32-38 per kg.

**Local Wholesalers:** There are several local wholesalers in the municipalities which collect rice from suppliers/dealers. The supply and storage quantity is determined on the basis of demand side, the dealers supply on the regular basis and drop the ordered quantity of rice as per order received by each local wholesaler. Partial payments (~40%) are made at the moment they receive rice, the rest is paid in an agreed timeline in a mutual understanding with established norms.

**Retailers/Super stores:** The retailers make the local businesses looking at the purchasing trend of local residents, such as purchasing capacity, the time available for chopping, and multiple choices. The retailers take the form of a superstore that provides multiple choices to the buyers and several items at one stop, larger in the cities and smaller in the rural area. Direct cash payment is the mode of exchange for the service/goods, very few customers in the cities use mobile wallets and smart cards. The rate remains between NPR 41-50/kg, higher the rate, higher the value chain actors involved.

**Government Institutions and Market Management Mechanism:** Nepal Food Corporation (NFC) provides facilities to collect rice in its warehouses. Seeds are recommended in accordance with the changing environments by Nepal Agriculture Research Council (NARC). Under the leadership of the Ministry of Agriculture and Livestock development (MoAD), several unions and associations of research companies, seeds producers, traders and food processors function to create an enabling policy environment in the rice market system.

**Key Inputs:** It is found that seeds of different varieties are available at the regional market place of Mahendranagar which is a central marketplace for all the four municipalities under the study. In general, people keep seeds of their preferred and regular varieties by themselves which comes from their own product. Small mud-mortar containers are the traditional seed storage containers, still in use in the rural areas, whereas most of the farmers use containers made of galvanized iron sheets (drums) with a capacity range of 100 kg to 500 kg. Farmers struggle to get NPK fertilizers, mainly the Urea.

**Infrastructures:** Transport system is very well and interconnected across all the communities except for some downstream communities of Parasuram Municipality. Only one suspension bridge connects Dodhara Chandani with the rest of Nepal which is over the Mahakali River allowing only the pedestrians and motorcycles to pass across. Roads to link Beldandi penetrate some sections of wildlife reserve, while a new road is being constructed to link Parasuram Municipality with national highway at Kanchanpur. Irrigation is well connected across communities of Kanchanpur.

There are some private warehouses in the region, most of which are the district units of large traders operating from the nearest central market of Dhangadhi located in Kailali district. There are three large mills in the district which operate through local small to medium sized traders, specially the *Gallawala* (collectors). These mills have their own processing, branding, packaging and distribution units. Large Lorries (trucks) are operated by large traders, while the medium and small traders hire such for transporting rice from

**CRISIS SITUATION (CRISIS MAP):** The economically poor farmers get adversely affected because the rice storing pots made of clay get damaged due to floods causing loss of stored food grain while at the same time the local market gets affected and causes limiting the functionality. This limitation leads to shutting up the shops which run out of items they sell because of import barriers in major supply chain (refer to the market maps).

In the times of disasters, the local markets get detached from the regional and the central markets, and the health of the market system gets adversely deteriorated by hike in price, heavy demand side and weaker supply giving rise to illegal trade, increased inflation, distortion of market ecology and economy, and unstable supply mechanism.

The local warehouses are not enough to provide the services as indicated by the demands. Dodhara-Chandani municipality fears of such a large-scale disaster with no proper warehouse, no alternative plan to supply the basic needs when the suspension bridge, the only connection to the rest of the country, gets damaged due to floods or any other disasters like earthquake.

In the overall market environment, the regulatory bodies may not be able to control the inflation and the quality of rice in future emergencies if the local levels depend on the external supplies. The major areas of concern remain at fulfilling the immediate and regular needs of rice, maintaining appropriate quality and quantity to balance the demand and supply that could mitigate the risks of inflation.

Smallholder producers, local small traders, informal market operators, millers, and *Galla-wala* (local collectors) are among the primary actors who get affected severely due to floods. During the study, it is found that these groups have never thought of risk mitigation and contingency planning.



**GENDER AND ROLE OF WOMEN IN THE MARKET:** The PCMA finds that men and women share equal responsibilities to paddy cultivation, weeding and harvesting, whereas the roles differ to some extent in field preparations, transportation, warehousing and threshing. Men are active and responsible for using machinery tools at all stages of the rice production cycle and women in the soft-work at all these stages. The grownup children also support families in the work at all the stages. In all the communities, women take major roles in storing seeds, warehousing/storing rice at household level while the men make major decisions that are associated with handling cash, receiving relief and any other support from external sources. It is also found that the majority of decisions at household levels are made by men but the majority of responsibilities are managed by women.

**MAIN FINDINGS:** In the study area, it is found that rice is the main staple food followed by wheat (for chapati breads). 85% of the residents of Kanchanpur have rice as a major staple food, while 70% of the residents of Dadeldhura prefer rice as staple and major food. As rice is the major food, the monsoon rain is the main factor to foster the product as well as to damage the product. Almost 95% feared that adverse impact on production and supply value chain in rice market system impacts the food-security and local livelihoods severely.

The regional market (1 in Bhimdatta) can supply the catchment communities and its dependent intervention markets for a maximum of a month with necessary services and commodities if the region is impacted by the disasters as witnessed in past (monsoons of 2007, 2008, 2014, 2016, 2017, 2021), or are affected by political unrest such as that witnessed in 2013-2014 (*Akbanda Sudurpaschim*), or are isolated by major disruptions of connectivity roads disconnecting from India and Kailai on either sides.

The majority of people in Kanchanpur district store their grains indoors in bins, sacks, drums and traditional containers made up of mud-husk mixture, whereas those in Dadeldhura store grains in a separate structure "*Bhakari*" in addition to the drums and sacks they use for storing grains inside the house. Most of the communities have easy access to local rice mills as they are located nearby and can also be accessed during the times of crises. About 10% of the respondents in Kanchanpur district mentioned that the local mills remain shut during the moderate type of crises in their communities. In large disasters such as that of 2017, the local mills were shut-down for months mainly due to siltation at mills, water inundations for several days, and power-cutoff. In Dadeldhura, people reported that mills are nearby but are not often in operation during the monsoon season, primarily due to heavy power-cuts.

Large warehouse operators have their operation channels at these local markets, mainly concentrated at Mahendranagar market. Based on the demands at the local markets (primarily the intervention markets), these operators supply rice by roadways. In the rice supply system, the large traders do add a margin of benefits to the price of rice so that the transport is made free of costs. People tend to buy rice from the wholesalers due to lesser cost per Kg (NPR 40-60 in the normal, 50-80 in times of emergencies). In most of the cases the Galla wala (local rice collectors) collect rice and keep record of each seller farmer. The sellers can take money (price of rice) in several installments, or at once in times of urgencies. The buyers also feel comfortable to pay to the local stallholder seller after they sell the total product to larger traders. There are some cases where local collectors have cheated smallholder rice farmers and have disguised without paying them the price of rice they had collected.

## MARKET SYSTEM ANALYSIS FOR LENTIL

### NORMAL SITUATION (BASE MAP)

**Producers:** Farmers receive inputs required for lentil production from local and district level input suppliers. The producer farmers keep about 70-90 percent of their product for home consumption and the remaining quantity is sold in the market. The majority of the surplus lentil is sold to small scale collectors, while some district based large traders and millers also collect through their local networks and commission based agents. The producers receive the value of lentils once the NFC, FNCCI and other key actors determine the value of it. On average, the price of lentils remains between NPR 110 and NPR 150 at this stage.

**Collectors (small scale/large scale):** Most of the small-scale collectors are permanent residents of their collection areas. Around 10-20 small scale collectors from each municipality are involved in the collection at the local levels. Of the total amount they collect, about 95 percent is sold to district level large traders and the remaining 5% is sold to large millers/exporters. There are about 4-5 large scale collectors who sell the majority of their volume to large millers/exporters while a very small amount (about 5 percent) to wholesalers/millers. There are also some commission agents in each municipality who collect lentils from producers and sell directly to large exporters at the rates of NPR 120-150.

**Wholesaler and Processors:** There are about 3 large exporters known in the nearest central market of Dhangadhi which mobilize district collectors and processors based in Kanchanpur and Dadeldhura districts. They fulfill various functions such as storing, grading, sorting, dehulling, cleaning, drying, splitting, and polishing. There are no such processors to refine, polish and pack the product to an industrial scale. People expressed that they prefer to buy locally produced lentils rather than the sorted, well-polished imported qualities.

**Municipal large outlets and shops:** Outlets and shops buy split lentil from exporters and other wholesalers/processors and sell it to retailers within their market catchment areas. These outlets are integrated in nature selling almost all grocery items at one stop and function as wholesalers as well as retailers based on the quantity of sale. As an example, a downstream market actor buys several items in large volume from these large outlets in wholesale price (NPR 148-155) whereas a local resident buys a small quantity of one or more items in a retail price (NPR 160)

**Retailers:** General groceries, local restaurants, and small retailers at the intervention as well as downstream markets buy split lentils from the wholesalers, and sell it to the final consumers. The functions of retailers are weighing and retailing to consumers. The price is around 160-170 at this stage.

**Key Inputs:** Agro-vets, agricultural tool dealers, seed producer cooperatives, fertilizer dealers, NARC, and the local seed companies are major input suppliers in the lentil value chain. They supply inputs and also provide technical advice to farmers on cultivation techniques, improved seed varieties, and the use of pesticides and insecticides. People in the study area use fewer pesticides and fertilizers for lentils, and almost leave with no inputs till the harvest of it. In the drought prone and non-irrigated areas, lentils are irrigated using deep bored pumps.

**Infrastructures:** Harvesting and threshing of lentils is completed between March and April. This is also the peak time of lentil transactions between farmers and collectors. Small collectors generally do not hold lentils for a long period so they need to sell to large collectors in April /May. The majority of large scale collectors sell to the processors within June/July; however some of the large collectors have the ability to store lentils for six to nine months to get a higher price in the offseason. The price of lentils begins increasing in September and remains high until October. Regional and central traders from eastern region of Nepal, mainly from Biratnagar, Birgunj and Kathmandu have been found active through local traders and district based networks in Kanchanpur for collecting lentils at a larger quantity to trade at international levels. Lentils are stored in small metal containers, plastic sacks and mud-mortar based containers in the communities. With high demand for lentils, people also sell it for urgent needs of cash at any time as a cash crop.

### **CRISIS SITUATION (CRISIS MAP)**

The producers keep a certain amount of lentils for their regular use. It is among key commodities that have passed through a continued rise of price in recent years. The farmers get adversely affected due to access siltation caused by floods in the monsoon. If the floods are caused by intense rains rather than flash floods originating from nearby hills, the land gets enough moisture for winter season as well as decomposes humus materials resulting in the increase of production of lentils. Most of the past floods have damaged the productivity due to access siltation in the farm lands in Beldandi, Simalkhet and western regions of Bhimdatta municipality.

In times of massive floods, the main transportation routes get damaged and the supply system of lentils like that of rice gets affected adversely. People have also reported that the flood leaves some kind of diseases that affect the subsequent crop in Beldandi and south-western parts of Bhimdatta Municipalities.

It is also found that the price of processed lentils is unexpectedly high in times of disaster emergencies, ranging from 160 to 190 NPR per Kg. Not only the floods, the producers have to leave the crop in the field unharvested if there is pest attack, damages by wild-lives and birds from around the Suklaphanta wildlife reserve areas. It is also reported that lentils are sensitive to high humidity and cause decay if not cured properly after harvesting.

**GENDER AND ROLE OF WOMEN IN THE MARKET:** There are no separate role divisions for lentils production at the smallholder levels in the communities. Large scale farmers use modern farm tools to sow seeds, harvest, and store, while the smallholders cultivate only for the regular consumption. Tasks such as field preparation, sowing seeds, irrigation and transporting to the markets for selling are made by men while the protection of crop from birds and animals, collection from fields, drying the harvest, storing, and manual threshing are done by men-women together, mainly under the women's initiations. As women prepare food for the family, major care is taken by women for the lentils storage, availability and separation for seeds. On request, men buy lentils for both the consumption as well as the seeds.

**MAIN FINDINGS:** The cross border marketing of lentils is not a big influence in the value chain due to export restrictions on the part of the Indian government. All the four local levels have a well-connected and established market chain, while these take major advantages from the nearest central

markets of Dhangadhi and Nepalgunj for lentils import. The rural areas of Beldandi, Bhimdatta and Dodhara Chandani municipalities produce lentils which are not sufficient to meet the local demands.

The regional and central lentil collectors have district level networks which collect lentils from these municipalities. The production of lentils have declined substantially in the recent years due to several factors, among them are the unavailability of quality seeds, pest and wildlife attack, excess siltation in the farmland due to floods and relatively low production compared to other cash crops. The lentil production has also been gradually replaced by sugarcane farming. The urbanization and expansion of settlements have also decreased the productive fields for lentils. The monsoon floods cause an increase in the humidity as well as cause damages to the storing pots and containers. This causes damage to the quality of seed due to higher sensitivity of lentils to the humidity.

Cost of lentils becomes very high during the disaster emergencies. There is scarcity of good quality of lentils in the normal situations too as a result of collection across the country for the export to international markets. This causes a supply deficit in the local markets resulting in the import from neighboring districts Bardiya, Banke and Bara with higher costs. Some NGOs support lentil value chain actors in various aspects such as input supply, technology dissemination, infrastructure development, policy lobbying, and trade. There appears to be a lack of consolidated efforts among the many service providers in supporting the lentil value chain.

## MARKET SYSTEM ANALYSIS FOR SOAP

### NORMAL SITUATION (BASE MAP)

**Raw-materials producers and suppliers:** These are large industries operated in industrial estates of Biratnagar, Birgunj, Kohalpur, Bhairahawa to produce chemicals, especially the Sodium benzoate and benzoic acids, Sodium laureth sulfate and fragrances. The price of the end product is affected when there is a change in the price of these chemicals. Regional and local soap and cleaning chemical producers collect these basic raw materials from these large chemical producers. Some bring directly from neighboring Indian markets.

**Regional large scale producers:** The nearest regional production sites are located at Dhangadhi of neighboring district Kailali. Dinesh Group of companies are among the largest of this kind in the nearest location that produces several kinds of cleaning chemicals including soap. New production companies are under the process of establishment at Daiji (Kanchanpur), Attaria (Kailali), Dhangadhi (Kailali), and Kahalpur (Banke) industrial areas that can be accessed by the local Soap market actors in the near future

**Local manufacturers:** There are only three chemical factories in Kanchanpur district at this moment, however, some new factories are in the process to establish. These chemical factories, however, have not produced laundry soap bars. They produce detergents, disinfectants, sanitizers and floor-cleaning chemicals. In an interview, they revealed that they are planning to produce bar soaps but fear of high input cost challenged by cheaply available soaps in the market.

**Regional traders and wholesalers:** Some regional traders operate in the area through the local market actors. There are no separate regional and wholesale traders for soap in the area, however, the larger scale traders make soap as one of several trading items. These are mainly the warehouse

operators, import-export traders, and regional suppliers operating from Dhangadhi (Kailali) and Mahendranagar (Kanchanpur). There are few wholesale traders cum warehouse operators who are expanding their operations at Attaria-Dhangadhi corridor to make easy access to the local markets in the region.

**Municipal traders/suppliers:** Several local traders play the middle role of collecting soap from large suppliers and supplying them to the local retailers, health centers and relief agencies. The rates at this stage do not substantially change, however, there is some margin of around 2-3 NPR per pc is observed while releasing a sample soap at NPR 35/pc. These local traders also supply at the wholesale price with a very small price margin in a mutual understanding with buyers.

**Retailers:** There are several retailers in urban and rural areas. With a nominal change in the retail price of soap, people do not prefer to go to urban center for regular purchasing of soaps, but when they tend to buy several household items for a month or so, they bring food and non-food items including soaps from the nearby urban centers, especially at Mahendranagar (Kanchanpur), Jogbuda (Dadeldhura) and Amargadhi (Dadeldhura). However, they also depend on smaller markets such as Raju Chauraha and medium size markets such as Brahma Dev. The soap is sold at the Maximum Retail Price (MRP) per unit as indicated in the soaps' cover or boxes which makes a margin of increments with NPR 2-10 per pc of soap.

**Key Inputs:** Government's regulatory inputs are primarily around the quality control, price regulation and import-export process facilitation in accordance with trade regulations. Policies and regulations are updated, shared and enforced under the leadership of the Ministry of Industries, Commerce and Supplies (MoICS). Kanchanpur Custom office is one to regulate and manage the import of Soap and other items from India border points. The Department of Cottage and Small Industries provides training, policy and regulatory support and encouragement incentives for entrepreneurships.

**Infrastructures:** Lack of industrial tools, machines and technical experts are always a challenge in production and refinery sectors in western region of Nepal. Warehouses are not in the priority, instead the local traders feel comfortable with large regional traders' regular supplies on demand. Local traders store soap for the monsoon season in advance considering the risks of floods impacts on transport systems and the increased demands during the peak time of monsoon. Government has plans for developing Daiji, a local marketplace, an industrial village. The soap market system is also dependent on the import from Dhangadhi.

The large traders have to supply to Bhimdatta, Dodhara-Chandani, Beldandi and Parasuram Municipalities through the roadways along national highways. These roadways get damaged severely in times of massive and recurrent floods during the rainy season/monsoon. This affects the local market system adversely creating a void between supply and demands. Longer the time taken to reopen the roadways, higher the price of soaps at local markets due to high demands, lower supply. Informal markets and imports from border points with India can thrive in such cases.

Regional traders have operated some warehouses at Bhimdatta Municipality from where the traders and local value chain actors supply soap to downstream markets and communities. When the supply is limited from regional and central markets, there is inflation of the price of soap and other commodities. In such cases, there are informal traders who sell items at very high prices taking advantages of the crisis situation.

**GENDER AND ROLE OF WOMEN IN THE MARKET:** Women and girls are disproportionately affected due to lack of safe water and soaps during the floods in the study area. Factors like need of more soaps and cleaning agents related to personal hygiene, fewer roles in decision makings in the family, and dependencies for cash need to the men members of the family put women to access markets. Men take primary responsibilities of buying household necessities with making decisions for handling the cash which limits the addressing of urgent needs of women and girls, such as soap for personal hygiene management.

**MAIN FINDINGS:** Soap is not produced in the study area but is imported by local and regional traders from production sites without any difficulties in the normal situation, however, the supply system becomes hindered in times of floods causing heightened demand.

Lack of proper warehouses in the municipal areas, lack of awareness on risk mitigation measures against floods and high humidity that has possibilities to degrade and damage the quality of soap, absence of local producers, and rise of unit price in times of disasters are key factors to consider in market based planning. Awareness raising campaigns by humanitarian agencies and local governments have accelerated the use of soap. These campaigns were intensive during the Open-Defecation Free Zone declaration mission, fight against cholera and WASH campaign, and COVID-19 health safety campaign in the recent past in these districts. Subsidies for small and medium industries, enterprises are provided to establish small industries. People also felt difficulties acquiring soap in the lockdown situation imposed by the local government during the COVID-19 first wave.

There are several actors in the soap value chain, but the price variation is not that high in normal situations. Women and girls use soaps relatively higher than men while they have less access to the soap market with cash handling than men. Local retailers can supply soap for a maximum of a week but rely on external supplies. If the external supplies are limited due to floods and other disasters, the increased demand induced to increase the price per unit of soap.

## MAIN RECOMMENDATIONS

### RECOMMENDATIONS FOR FUTURE EMERGENCY RESPONSES

#### *A. Cash and Voucher Assistance (CVA)*

1. Cash and Voucher Assistance (CVA) approach is quite relevant in the emergency response for future humanitarian situations if the market has a minimal threshold of functionality. It is recommended to make a rapid analysis of the functionality in the very first days of the disasters. Accordingly, the planners can get an idea of how quickly the market moves towards the recovery. Cash based response planning will be appropriate when the market has absorption capacity of the injected cash in the affected communities.
2. Support in sensitizing to Municipal DRM Committee members on humanitarian CVA approaches and their modalities so that the annual and fiscal plans can integrate such response modalities in a systematic and sustainable manner. Local levels have to be supported with technologies of CVA and accepted, tested and replicated models of these humanitarian response options in a way that these are linked to the local level DRM governance.
3. Multipurpose cash grants (MPGs) are first in the list in terms of effectiveness. Several good practices have been observed at Bhimdatta Municipality on MPG that have left good footprints of effectiveness and usefulness of MPG in times of crisis to address immediate needs of people

as well as to support in functionalization of market as a ripple effect through the injection of cash. This may be a suitable form once there is a clear regulatory protocol or guidelines in place.

4. The conditional cash grants, especially the Cash for Work (CfW), Cash for Training, Farm tools for Work, Food for Work, Cash for Special Needs such as addressing the medical supplies, the GBV etc., all seem relevant, feasible and doable. There are some successful examples of conditional cash grants in the humanitarian response programme in the study area to address the immediate needs of people during the COVID-19 and recent floods to support this recommendation.
5. For all the three critical market systems, CfW is among the most common approaches to recommend that assists local levels and humanitarian agencies to engage beneficiaries to reclaim and reopen the business, road access and public services considering the Build Back Better approach.
6. The voucher Assistance (VA) is found to be a perfect option for providing basic and most urgent needs including food commodities. A value voucher is intended to exchange with equivalent goods or services while a commodity voucher is designed for defined sets of commodity items. Both the options are feasible, well tested in Bhimdatta Municipality by a humanitarian agency in responding to the COVID-19 pandemic. This has to be well guided by the scope and objectives of the programmes and the contextual needs.
7. Integrate the Shock Responsive Social Protection in the CVA programmes to best utilize the existing system and mechanism of Social Security Allowances to the eligible beneficiary.
8. It is recommended to develop a guideline for CVA for the humanitarian response in these local levels under the umbrella framework of Disaster Risk Reduction and Management Act.

### ***B. In-kind support response planning***

1. If the market is not in a state to absorb the cash, has no or low level of functionality that the beneficiaries cannot access the intended services and supplies from the market, then the responses have to plan to support with urgent in-kind relief items.

### ***C. Combination of Cash and in-kind support response planning***

1. This is the most relevant option identified for the initial stage of the humanitarian response in the study area which sees the market's minimal state of functionalities. The cash has a multiplier effect and the disaster affected people get a wide range of choices for meeting their diverse but urgent needs. In this case, a value voucher model of response inclusive of a certain amount of cash is found to be the most suitable form of response in these communities.

## **RECOMMENDATIONS FOR IMMEDIATE MARKET-STRENGTHENING INTERVENTIONS**

### **Rice Market System**

1. A large scale warehouse is required in Dodhara Chandani area allowing people to use for emergency stockpile of food items and other necessities.
2. Stockpile rice together with other lifesaving items at all the municipal centers that can be quickly distributed during flood crises and disasters.

3. Build community level Grain-Banks envisioning crisis scenarios, at least one in each ward that is managed and operated by Ward level Disaster Management Committee (W-DMCs) having Standard Operating Procedures (SOPs).
4. Train Rice Market Actors with basic skills of risk mapping, mitigation and management with business contingency planning.
5. There are several local actors of the rice market system in the study municipalities. It is recommended to procure rice from these traders instead of importing from other regions of Nepal during the times of humanitarian response. Vouchers can be used to activate local markets when agencies choose to provide food assistance.
6. Refer to the seasonal calendar of rice when making response planning for food distribution, or cash assistance or combined.
7. Regulate the price and quality of rice in times of crisis. Design response plans to restore and reclaim the land for following winter crop if there is massive inundation and siltation in the paddy fields.

### **Lentil Market System**

1. Map the lentils value chain, support local producers with improved seeds and necessary skills for sustainable production through the livelihood improvement schemes.
2. Support local millers, warehouse operators and collectors (*Gallawala*) with risk mapping and contingency planning with practical training.
3. Build community level food storage envisioning crisis scenarios, at least one in each ward that is managed and operated by Ward level Disaster Management Committee (W-DMCs) having Standard Operating Procedures (SOPs).
4. Stockpile lentils together with other lifesaving items at all the municipal centers that can be quickly supplied to affected areas during flood crises and disasters.
5. Include Lentil in food distribution during emergencies which can be supported using the commodity voucher.

### **Soap Market System**

1. Stockpile soap together with other lifesaving items at all the municipal centers that can be quickly dispatched during flood crises and disasters.
2. Provide basic skills of business contingency planning for local and regional soap traders so that they will mitigate flood and other disaster risks in the area.
3. Prioritize local manufacturers and local traders of soap while procuring for humanitarian response
4. Agencies make standby agreements with municipal and regional traders for immediate actions to supply required quantities in an emergency.

### **Recommendations for Overall Market System**

1. Develop and mainstream market based disaster preparedness and response plans in the local disaster and climate risks management plans (LDCRPs).
2. Scope the opportunities and challenges for the private sector's involvement in the disaster risks reduction and management in the regions, and create enabling environments through capacity building and through creating conducive policy environments.
3. Scope the DRR and recovery priorities at local levels and facilitate mainstreaming these priorities and issues into the annual as well as periodic development plans for sustainable results.
4. Make regular interactions of these municipalities for collaborative response planning and preparedness for future humanitarian responses.



5. Support the youth to engage in market recovery, especially in the restoration of access, warehouses, rice production/processing jobs through the use of CVA modality, such as cash for work and cash for training.
6. Work closely with local levels to bring the FSPs in the humanitarian sectors. Map such FSPs and their coverage with available resources.
7. Invest in the risk reduction measures in the communities as well as the local markets, the food processing sites, the mills and warehouses to make realize that the crisis may hit to all, and the crisis management is a collective effort and is a common but differentiated responsibility of all.
8. Develop interventions to support small and medium microenterprises, especially the small millers, local transport service providers, seed/grain bank operating groups, seed production cooperatives and women groups, soap makers who get affected adversely during the flood disasters in the area and are key market actors at the downstream markets active at community level.
9. Ensuring that there are no forms of discrimination during crisis response and recovery activities especially while determining the relief recipient from a family.
10. Develop a network of local actors active in the value chain of key commodities and services, such as that of rice, lentil and soap market systems in each local level (municipal level), and build the capacity of risk sensitive business planning, contingency planning and roles of markets in response and recovery to and from disasters.
11. Local Governments encourage the private sector to establish warehouses at key locations. One of these kinds located at Jogbuda needs to be upgraded and brought into function so that it can serve well in the area.
12. Forecast based Financing and Actions are recommended to mitigate the risks of smallholder producers as well as small scale local traders who are found to be the most vulnerable due to disasters in all the four local levels.
13. Develop GIS based flood simulation maps together with hazards and capacity maps in the study areas that integrate the information of critical markets.
14. The governing local level plans such as the Emergency Preparedness and Response Plans (EPRPs) of the municipalities and the districts need to be updated in line to the market based response planning equipped with the market information.
15. Markets in Dodhara Chandani are highly vulnerable. Inter-municipal coordination and collaborations is recommended to address these challenges and issues.
16. The municipalities and community level Disaster Management Committees perform the simulation/drill exercises.
17. It is recommended to review these DRR/M policies with a lens of market based approach incorporating the relevant information of the local markets (downstream, intervention and regional markets).
18. Engage key actors or the members of their associations of all three critical market systems in the risk analysis, disaster response and preparedness planning as well as in the risk mitigation work.

## MARKET MONITORING AND RECOMMENDATIONS

Market monitoring involves the collection and the analysis of market information on a routine basis to understand the way the market behaves in different situations. The factors affecting markets, as discussed in the market maps are influenced by the changes in the external environments such as the policies, priorities, informal trades, demand-supply catalyzers and the price regulations. It is found that the changes in the agriculture policies such as an increased subsidy in farm inputs in neighboring India has substantially affected the pricing, and hence the production supply system of rice and lentils in Nepal, and the vice versa.

This is a simple process guide for the market monitoring for both the normal and the humanitarian situations. This is devised in such a way that it fits to other recommended frameworks in this PCMA such as the Response Logic (Response Tree), the decision matrix for the response options selection programme design logic.

Market monitoring mechanism is highly required to better inform cash-based interventions and understand market dynamics. Marketplaces in Kanchanpur and Dadeldhura districts should be periodically assessed, preferably on a monthly basis in times of humanitarian response and recovery stages. Market monitoring should include components including tools to check the market functionality in terms of a well-functioning supply chain ensuring adequate supply in the local as well as regional markets. At the same time, the monitoring tool should also be able to track and spot trends in the movement of prices of commodities, especially the ones that are considered while calculating the Multi-Sector Survival Minimum Expenditure Basket (MSSMEB).

Market monitoring can be effective if carried out by the district level Cash Working Group under the leadership of local government authority in close coordination with local level Market Monitoring Committees if exists, however, a market monitoring committee can be developed under the coordination mechanism of LDMC of respective rural/urban municipalities. Coverage of the markets should be clearly defined depending on the priority of vulnerable areas and capacity of organizations to regularly collect the data. The market monitoring teams should be well trained on the objectives, methodology and data collection tools.

Market monitoring activities also help regulate the markets to check illegal activities such as forming cartels for manipulating prices as stated by the Competition Promotion and Market Protection Act (2007) of Nepal. Similarly, as the name defines, the Consumer Protection Act of Nepal (2018), protects the rights of the consumers to be properly informed about the quality and other information related to goods and services that they are buying. Similarly, the Black Market and other Social Offence and Penalty Act (1975) should also be referred to while monitoring and regulating the market.

Make the monitoring inclusive and integrated as beneficiary level monitoring, community level (CDMC) monitoring, content monitoring and process monitoring. Risk monitoring should be considered a primary stage for the overall CVA and market based planning framework. Make indicators specifically the issues of protection, gender, equity, accountability in presence of local actors, beneficiaries and decision makers. Planning for monitoring and evaluation must start at the setup and early planning stage.

Monitoring and evaluation must be based on the indicators established in the logical framework that links the characteristics of the market such as the inflation, demand and supply, critical markets, policy and environments, major infrastructures and key actors. Make inclusive of commonly agreed criteria for the effectiveness and efficiency in connection to the Core Humanitarian Standards (CHS) compliance in the monitoring framework.

In the case of multipurpose cash grants (MPG), indicators should be broad enough to allow for capturing the multiplier effects. Make sure that the monitoring team is trained, and tools are tested. Gather baseline data before or at least at the time of the first round of encashment. Combine both quantitative and qualitative data from different sources, to allow for triangulation.

### SECTION 1: CONTEXT AND METHODOLOGY

NEEDS Nepal, a Kanchanpur based NGO founded in 1999, is implementing humanitarian and development projects with Oxfam. Currently, NEEDS Nepal is implementing a project “Strengthening Community Preparedness, Rapid Response, and Recovery in Nepal (SCOPR3).” This project expands on the previous Nepal program, which included several humanitarian, disaster risk reduction and livelihoods initiatives. With improved Early Warning Systems and risk information, enhanced community level response preparedness mechanism, improved linkages with disaster management authorities, and effective community-based disaster risk reduction measures, the project aims to strengthen governments’ and communities’ capacities to mitigate and prepare for future disasters. The project also aims to develop knowledge and evidence in the areas of disaster response and disaster risk reduction, allowing good practice to be better informed and interventions to have a greater impact.

This Pre-Crisis Market Analysis (PCMA) provides market system and functionality analysis of rice market systems. This study was commissioned by NEEDS Nepal and Oxfam with technical support of Aria Solutions Private Limited. This study was aimed at an in-depth examination of the market system in the SCOPR3 Project areas under both normal and crisis contexts. The normal situation, which served as the study baseline, is determined collectively. For this study, relevant market evaluation techniques have been used, but all three-market elements: the market settings, market players and infrastructure/inputs/services have been considered explicitly.

This report is organized into two sections, the first section comprises a brief summary of overall findings, and the second section a full report detailing all findings. This provides users to get a quicker understanding of the findings through a brief report in the section.

PCMA has used the guidelines and procedures of Emergency Market Mapping and Analysis (EMMA). This analysis report is aimed to help with not just possible emergency responses, but also preparedness, contingency planning, mitigation to possible identified risks, disaster risk reduction and early recovery. The main aim of PCMA is to improve the quality of interventions that help to aid those people prone to crisis.

This study is carried out by a team of experts bringing expertise in humanitarian response and response preparedness with experiences of market based approaches in the humanitarian and development contexts. The study was carried out in the paddy cultivation season from early July to late September 2021 in four local levels (Municipalities/Rural-Municipalities) of the Sudurpaschim Province of Nepal.

The PCMA identifies market systems that are interlinked throughout four local levels, namely Parasuram Municipality of Dadeldhura district, Bhimdatta Municipality, Dodhara Chandani Rural Municipality and Beldandi Rural Municipality of Kanchanpur district. This market system includes the regional supply chains; concentric, interconnected and interdependent local markets (interventions markets) such as those of Parasuram, Bhimdatta, Dodhara Chandani, and Beldandi; the downstream markets of rural settings, and central market of Dhangadhi.

## 1.1 OBJECTIVES

The PCMA was designed to help Oxfam and NEEDS Nepal to improve response preparedness, to feed into contingency planning and also to contribute to the SCOPR3 programme by identifying certain market systems which are vulnerable to shocks. This report is also aimed at guiding the decision makers with the market information in planning and designing of humanitarian response preparedness as well as response to disasters through a careful observation of market system and its functionality with reference to a critical market system.

Taking considerations of the market systems in the normal situation as well as in the crisis, the PCMA takes reference of 2017 massive floods as crisis time and rice as a major critical market system along with Soap and Lentil market systems.

Key and specific objectives of this PCMA are to:

- understand market system and functionality of a selected market systems
- recommend the market sensitive emergency response programming
- recommend the preparedness and disaster risk reduction
- contribute to the learning and capacity building of PCMA tools for Oxfam and partners

## 1.2 RATIONALE OF THE PCMA EXERCISE

PCMA is designed to help local governments, humanitarian and development agencies to improve preparedness, feed into contingency planning efforts and contribute to the design of disaster risk management programmes by identifying how people currently access basic goods, services and incomes and modelling how these systems continue to serve the population in the event of a crisis.

The PCMA in the four focus municipalities of Kanchanpur and Dadeldhura districts was intended to identify whether there were alternative responses that could be built upon existing market systems and beneficiary behaviours, that could improve both response efficiency and the degree of appropriateness for the target community.

By understanding and comparing how market systems operate for target populations in ‘normal’ and ‘crisis’ times, humanitarian agencies in coordination and collaboration with the government can make relevant and appropriate decisions for effective and efficient disaster response. Moreover, based on the analysis, agencies can consider strengthening market systems ahead of emergencies that would potentially reduce the disaster impact on critical market systems.

In recent years, Municipalities have increasingly integrated Cash and Voucher Assistance approaches in the humanitarian response. In 2021, some local NGOs in collaboration with municipalities have integrated multipurpose cash grants (MPGs), voucher assistance for foods, unconditional cash grants to the vulnerable families taking reference to worsening weather as *forecast based financing* among others in Kanchanpur to respond to the floods and COVID-19 pandemic. As CVA is increasingly used in humanitarian response systems, there is a critical need to systematize market analysis across all relevant sectors as a crucial step for informed decision making.

By understanding the market systems, agencies can minimize the unintended impacts of humanitarian response, increase efficiency and effectiveness, and mainstream the response into the recovery through ‘building back better’ approach.

Market analysis is also a part of the disaster preparedness plan of the project that significantly assists the project team to improve readiness to respond to the future crises. It is therefore realized to integrate the market based planning for humanitarian response preparedness and response planning. It is also aimed at guiding the process of disaster risk reduction and adaptations to change through market based approaches.

### 1.3 METHODOLOGY

Pre-Crisis Market Analysis is a rigorous *step by step* process that guides the SCOPR3 project to know the details of market, marketplaces, market systems, access and availability of goods and services to the 40 project communities in four local levels of two districts. This pre-analysis assists the project team in early designing and implementation on how the identified market systems will function and serve during any sorts of disasters and shocks in the SCOPR3 project communities.

The PCMA follows the EMMA guidelines and takes necessary tools and survey forms from RAM, Traders’ survey, MAG, MARKit and 48 hours assessment tool as and where necessary. Most of the tools are the ready reference in the EMMA sets of toolkits. The PCMA is conducted using standard tools that include the field observation, transect walk across the marketplaces, key informants interviews, use of a specifically designed mobile application called *Laligurans Humanitarian App* to conduct surveys to the sample population, traders and key market actors.

#### 1.3.1 MAPPING AND GATHERING EXISTING INFORMATION

This stage involves the desk review of existing information on the overall market functionality, existing information on the rice, soap and lentil market systems, review and analysis of governing policies and legislative tools such as the DRR/M policies, plans and acts, the contingency plans, trade policies and other similar market based governing legislative tools. In this stage, the study team also gathered and analysed available hazards and disaster information from these municipalities. The vulnerability and Capacity Assessment (VCA) has recently been conducted in the area, and the key findings of these analyses have also provided inputs to this study.

#### 1.3.2 FRAMING PCMA RESEARCH AND TRAINING TO PCMA TEAM

In this stage overall plan of the PCMA was developed that included an exercise to priorities the critical market systems. In addition to this, geographical extent and the depth of study was also determined in the framing stage. Under evidence based crisis scenarios, the team designed and agreed upon the preliminary sets of data collection tools practically during the event of training in a co-creation modality. The further action involved to finalize *Key Analytical Questions* with reference to the local contexts, the policy and market environments and the scope of the study.

A three days full in-person training was organized to capacitate the PCMA team, the staff and community mobilisers of NEEDS, and the members of board of NEEDS who can facilitate the assessment process in times of needs under the scope of contingency plan. The survey questions were developed, tested and re-defined based on the feedback, the relevance and applicability during the

field test. During the time of training, critical markets systems were identified and base maps were developed.

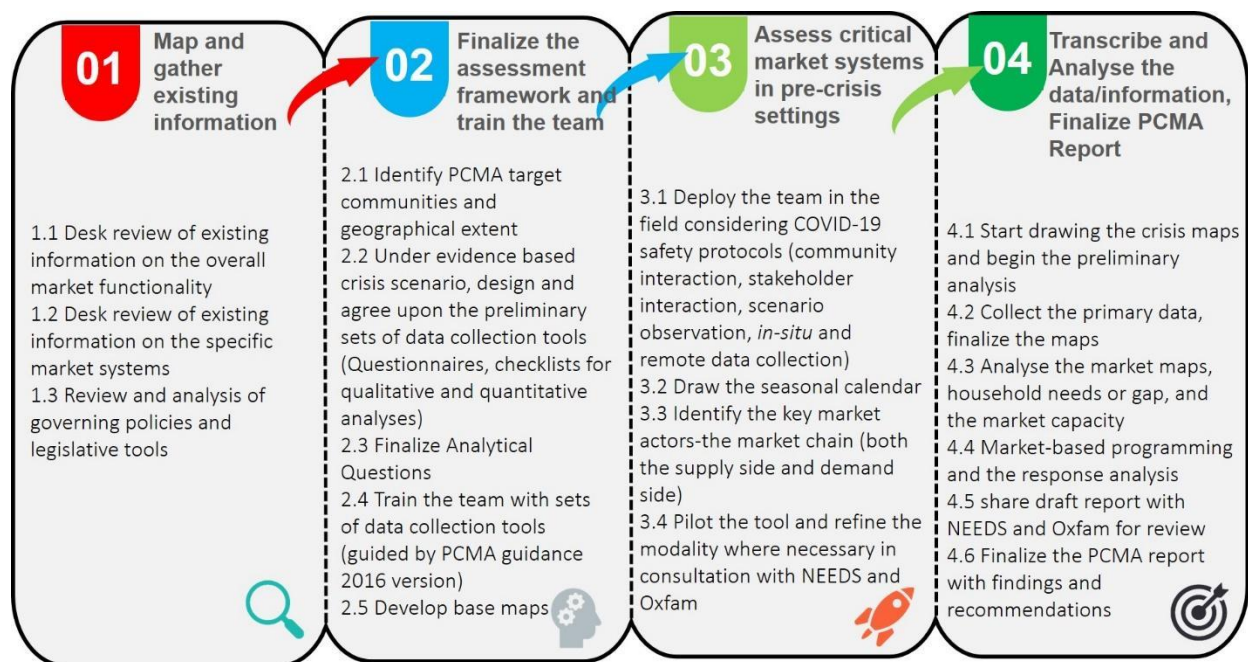


Figure 2: PCMA Approach and Methodology

### 1.3.3 SAMPLING STRATEGY WITH DETERMINATION OF SAMPLE SIZES

This stage assisted the team to select a number of FGDs to be conducted and selection of right locations for group discussion so as to make a true representation of the information. A mapping was conducted that suggested to carry out 14 FGDs in 4 local levels. All the 14 FGDs were conducted successfully for this assessment despite the team faced challenges associated with the COVID-19.

For the observation of local markets, the research team visited 16 communities of both the districts while the enumerators reached to all the 40 project communities. The team determined the size of the survey (stratified groups of people including the small traders, large mill operators, and the target communities/beneficiaries) to be 55 for normal situations, 55 for crisis situations and 40 for both giving to a total of 150 respondents from diverse groups. Including the KIIs and FGDs, the research team reached to approximately 200 respondents from Kanchanpur and Dadeldhura, and some from the Kailali (the central market of supply side).

### 1.3.4 ASSESSING CRITICAL MARKET SYSTEMS IN PRE-CRISIS SETTINGS

During this stage of the study, a team was deployed in the field considering COVID-19 safety protocols for community/stakeholders interaction, sites observation and collection. Seasonal calendars were developed based on the historic review of the disasters, the livelihood patterns, people engagement for livelihoods and businesses. Simultaneously, the team identified the key market actors, the market chain (both the supply side and demand side) and studied the market environment.

Survey questions were translated into Nepali language after the enumerators demanded for this with first trial of the survey. The PCMA team also piloted the tool and refined the modality where necessary in consultation with NEEDS and Oxfam.

### 1.3.5 TRANSCRIBING AND ANALYSING DATA TO FINALIZE PCMA REPORT

In this stage the team started drawing the crisis maps and began the preliminary analysis based on the available information. Enumerators and the data management team started to collect information through using *Laligurans Humanitarian App* after its successful piloting. Maps were simultaneously ratified, primary data and information was gathered and the team finalized the maps of critical market systems. The team then started compiling information for market-based programming and the response analysis. At the later stage, draft report was developed and shared with NEEDS and Oxfam for review. The final report was produced after a thorough review of the feedback and suggestions from NEEDS and Oxfam.

### 1.3.6 VALIDATION AND FEEDBACK COLLECTION AT MUNICIPAL LEVEL

The findings at the draft stage were presented in an interaction meeting with respective municipalities that was held at Bhimdatta municipality in the month of September 2021. During the event, the team leader presented key findings and recommendations remotely where all four municipal representatives got the opportunity to analyse key findings, and provided some recommendations. These recommendations have been incorporated into the *recommendations section* of this report. Based on the findings, the Municipalities have decided to bring the market based response planning discussions in disaster response preparedness planning stages.

## SECTION 2: THE CRISIS SCENARIO

### 2.1 CRISIS SCENARIO AND THE CURRENT SITUATION

Nepal is prone to multiple disasters, while is a hotspot for recurrent floods and inundations, landslides, earthquake and the climate induced slow and rapid onsets. As a country with diverse geography, complex geology and highly varying climate, it is exposed to many natural and human-induced disasters. In a global comparison, Nepal ranks 4th in terms of climate risk according to the Global Climate Risk Index<sup>1</sup> which assesses the impacts of meteorological events in relation to economic losses and human fatalities. Also, the country ranks 11th in terms of global risk for earthquake occurrence and impact<sup>2</sup>. The country is in the top 20 of all the multi-hazard countries in the world.

Nepal experienced incessant rainfall from August 11 to 14, 2017, resulting in widespread floods across 35 of the country's 77 districts. Several districts experienced the heaviest rainfall in over 60 years. This led to the inundation of about 80 percent of the land in substantial parts of the Terai region. Kailali and Kanchanpur were among the hardest hit districts by this flood.

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<sup>1</sup> Source: [https://www.germanwatch.org/sites/default/files/Global%20Climate%20Risk%20Index%202019\\_2.pdf](https://www.germanwatch.org/sites/default/files/Global%20Climate%20Risk%20Index%202019_2.pdf)

<sup>2</sup> Source: [https://reliefweb.int/sites/reliefweb.int/files/resources/68230\\_6nepaldrmstatusreport.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/68230_6nepaldrmstatusreport.pdf)

The monsoon is both a productive and hazardous resource in Nepal. When it brings the right amount of rain, agriculture productivity soars; when there is excess, it causes tremendous loss of life and property. During monsoon cloudbursts in between June to September, landslides and flash floods occur in the mountains. In the southern plains, the same water breaches river banks and inundates swathes of land.

The 2017 flood spanned the entire breadth of the country. According to the National Emergency Operations Center (NEOC), a total of 35 districts were affected of which 18 of them severely. More than 190,000 houses were destroyed or partially damaged, displacing tens of thousands of people and rendering many homeless. Household assets and food grains were damaged and the affected communities faced shortage of food, water and non-food items. Many suffered infections from contaminated water.

In the study areas, the roads were blocked and inundated for several days, while the standing paddy got damaged in a way that the people feared of food insecurity for the entire year. The local markets were severely affected, the stored food grains lost and became unusable due to inundation, excess water, high moisture and untimely germination. Similarly, the villages of Dadeldhura experienced landslides in the uplands and floods in low-lying areas.

On the basis of this case, the study made a crisis scenario of 2017 floods in the month of August for communities of Kanchanpur and Dadeldhura of Mahakali sub-watersheds. The impacts in Kanchanpur was fewer than neighboring Kailai district, however, the Beldandi Rural Municipality had suffered a massive and prolonged inundation. The study was carried out in the same season to see how the local economy reacts and how the markets behave to prepare for and respond to similar situations.

The current situation, which is July-August 2021, serves as a baseline. The baseline for the baseline maps also serves as the normal condition as there were no significant crises till the time of study. However not included in the analysis for this report, there was a flood in the Kanchanpur district causing inundations in the paddy fields that damaged the partially harvested paddy crop at the later stage of the study.

## **2.2 OVERVIEW OF THE HUMANITARIAN RESPONSES IN THE STUDY AREA**

Mahakali River which borders Nepal and India, flows along Darchula, Baitadi, Dadeldhura and Kanchanpur. Small tributaries that bring monsoon runoff water cause massive floods, landslides and associated humanitarian crises in the region, while the Mahakali River, one of the largest of its kinds in Nepal causes floods, landslides and inundations every year causing greater losses of lives and livelihoods assets every year.

Local governments take the information from the river based early warning systems for humanitarian respite to the communities in Kanchanpur. The local governments have Disaster Risk Reduction and Management Committees (DMCs) at the municipal and ward level which have sole responsibilities for local level coordination, response preparedness, planning and all aspects of disaster management. Humanitarian agencies including other mandated agencies coordinate through the government's DMCs for humanitarian response. Since the disasters like floods, droughts, landslides, inundations,



and lightning strikes are recurrent phenomena in the study area, the local levels have realized mainstreaming disaster risk reduction into the development process.

Humanitarian agencies have been working in the region since long considering the higher level of vulnerability of people caused by exposure to the multiple hazards, and needs to address the unmet humanitarian needs. Oxfam, DCA, Mercy Corps are found to be recently active in the study area which have components of risk reduction and management, while several other agencies such as WFP, Save the Children, Practical Action, Mission East, UNDP, Plan International and CARE International have contributed to sectoral as well as integrated multi-sectoral resilience building initiatives in the recent past.

In all cases, the municipal government takes the lead for all kinds of policy decisions. Considering the One-Door policy of humanitarian activities in Nepal, the humanitarian agencies coordinate with the Municipal DMC for any kind of interventions. In addition to that, the district based DMC facilitates the inter-municipal coordination in times of large disaster affecting a larger region, while equally supporting municipalities for the implementation of the emergency responses. The Emergency Operations Centers (EOCs) at the district levels serve to provide needful information and timely situation reports for timely decisions by all concerned. Government is scaling up the EOCs at the municipal level.

### 2.3 REFERENCE CRISIS TIMES AND SEASONS

Based on the analysis of available information followed by discussions with NEEDS and Oxfam, the Mahakali River floods that occurred in August 2017 was agreed upon as a major crisis scenario by the PCMA Team. The Disaster Preparedness and Response Plans of Dadeldhura and Kanchanpur districts, the Municipal Disaster Risk Reduction and Management Plans, the Acts, and related local level disaster management governance provided detailed information on floods and other high ranked hazards in the region for determining the reference crisis times and the seasons.

As explained in the section 2.1 above, the 2017 intense flood disaster is taken as the crisis time while the study year 2021 from July to September is considered as the base year for the analysis.

#### In the reference crisis year:

- intense flooding in the area affected the standing paddy
- intense rain in the upstream communities (foothills of Bhimdatta municipality and entire Parasuram Municipality) experienced landslides, mud-flow and damage to crop along the river basins
- the rain and associated floods caused all the communities under study flooded for at least three days impacting adversely to the overall economic development and livelihoods activities
- the small and medium mills and warehouses were also affected adversely
- the market value chain was interrupted for several months due to impacts of floods in several sectors
- municipalities and humanitarian agencies responded to disasters collectively including the cash transfers for the first time in a large scale by the government and the agencies
- all tiers of government (Federal, Provincial, Local) declared the situation of emergency, halted all other regular development works, invited stakeholders to collaborate for the humanitarian assistance

In the reference base year:

- there were some small scale localised floods, not higher to damage livelihoods and local economy
- markets were functioning despite COVID-19 impact at the early recovery stage (second wave in Nepal)
- government and the local humanitarian agencies are

## SECTION 3: SCOPE OF THE ASSESSMENT

The study was carried out in the four local levels (Bhimdatta Municipality, Dodhara Chandani Rural Municipality and Beldandi Rural Municipality of Kanchanpur district and Parasuram Municipality of Dadeldhura district) of Far Western Province of Nepal. These are the local levels where NEEDS Nepal is implementing SCOPR3 Project in collaborative partnership with Oxfam and respective local governments.

The study was devised with reference to the PCMA standard procedure considering the market assessment and analysis protocols of EMMA tools. Fragmented into the four stages, the study has analysed existing relevant resources and studies, conducted training and a preliminary testing of tools after these were finalized, incorporated learning from such testing into the finalization of final sets of tools, sets of analytical questions and survey approach.

Tools were finalized in consultation with Oxfam and NEEDS, and the PCMA team collected data and the relevant information. The team then organized all sorts of collected data, transcribed the information, triangulated and validated the information in a simultaneous process.

### 3.1 CRITICAL MARKET SYSTEM SELECTION

During the initial stage of the exercise of this PCMA, the team gathered most common and possible Critical Market Systems for scoring purpose. This was intended to analyse market systems that are critical to supporting essential food and WASH items required during the emergencies. The market systems are also observed in a way that these can be accessed by the people or can be provided by the humanitarian and government agencies during the times of crisis. Some criteria were set forth for scoring the objectively guided and most needed food and WASH items, some of which were: used in a daily basis, a must have item, used equally by all age groups, can be made easy available, ease in storing and last long if not used immediately. The score chart developed during the planning and training stage is presented in the following figure.

	Ranking Indicators	Daily use pattern in the area	Must have item for a HH	Fit for/used by all age groups	Ease in storing	Access & use in emergencies	Total Score
SN	Critical Market System	Score (1-5; 1 being the least)	Score	Score	Score	Score	<b>25 (100%)</b>
<b>1: Major staple food</b>							
a.	Rice ✓	5	5	5	5	5	<b>25</b>
b.	Wheat (chapatti)	5	4	4	5	5	<b>23</b>

c.	Maize/Corn	3	2	2	5	4	16
<b>Summary of findings:</b> In the southern part of study area, the rice is taken a three times meal, the lunch and dinner being the major meals. Rice is common across all area while some households prefer wheat/chapatti for the dinner. Since the rice has scored highest in this comparative analysis, the study team decided to take this staple food as a critical market system for the analysis.							
<b>2: Major complementing food (in combination with SN 1)</b>							
a.	Green Vegetables	5	5	5	3	3	21
b.	Lentil ✓	5	5	5	5	4	24
c.	Beans	4	3	4	5	3	19
<b>Summary of findings:</b> Lentils have been a priority food complement that makes a combination with major staple food in SN 1. Lentils, a high source of protein, are used as a soup in the routine meal in the study area. This is also considered a critical market system for this analysis.							
<b>3: Major WASH items</b>							
a.	Soap bars ✓	5	5	5	5	5	25
b.	Detergent powders	4	4	3	4	5	20
c.	Sanitizers	2	3	4	4	5	18
<b>Summary of findings:</b> Bar soaps are the most needed personal hygiene item for a normal as well as for emergency situations. The study team decided to take 'Soap' as a critical market system for this PCMA study.							

**1. Rice:** Rice shares about 20% of the agriculture gross domestic product (AGDP) and nearly 50% of the total calorie requirements of Nepalese people (S. Airee et al., 2020). Kanchanpur district is famous for its productive land and high production of rice. About 46215 ha of land is under rice cultivation with the production of 179314 Mt and 3.88 ton/ha (MOAD, 2019). The popular varieties of rice in the district are Sarju-52, Radha-4, Bahuguni, Hardinath, Sawa mansuli, Sabitri, etc. Seeds are generally processed by the co-operatives whereas paddy grains are processed by the millers.

Rice being a major source of food and primary livelihoods of the people in the study area, it is taken to represent the overall food security and livelihoods element.

This market system also relies on the external market places and actors, mainly from Dhangadhi and nearby Indian market places. Some regional and central traders have established production operations at Dhangadhi and Bhimdatta municipality. Rice is also a major food item included in the minimum expenditure basket (MEB).

**2. Lentil:** Lentil, a short bushy annual legume, is grown in the lowland region of Kanchanpur on the availability of residual soil moisture after the harvesting of rice. It is also cultivated along the river bank paddy field in Dadeldhura, but in recent years the crop is replaced by other cash crops, and is imported for daily use. Lentils play an important role in livelihood, food, and nutritional security. They are low in fat, low in sodium, cholesterol free, high in protein, and are an excellent source of both soluble and insoluble fiber, complex carbohydrates, vitamins and minerals. Lentil is also an important nitrogen fixing crop. It is produced in the Terai region of Nepal, mainly in Rautahat, Sarlahi, Bara, Dang and Kailali districts. In Kanchanpur and Dadeldhura, the unmet need is supplied through import from these districts as well as from India and Bangladesh. This is a must have food item for the people in the study area in the form of curry/soup with main staple food. Lentil is also an item included in the food basket while considering the MEB.

**3. Soap:** Bar soaps are considered for this PCMA. Since the market system is the same for toilet soaps and laundry soaps, the study takes only the toilet soap bars for the analysis. In recent years there are only a few small-scale local factories established in Bhimdatta municipality. These producers have very limited production while a major portion of the supply is met through the import from central markets as well as from India. This market system also makes a valuable space in the MEB.

### 3.2 KEY ANALYTICAL QUESTIONS

The key analytical questions are selected, filtered and put forward for study through a participatory approach in a co-creation modality with teams of NEEDS Kanchanpur and Oxfam in Nepal. The analytical questions were also reviewed on the basis of scope and depth of the study in relation to the size and type of local markets under the study. Followings are key analytical questions in view of response planning and the critical market assessment. These are overarching sets of questions, which give rise to multiple subsets of the questions in a stratified order to make fit for the survey tools (Survey questionnaires, FGD and KII checklist, Observation guide).

#### 3.2.1 ANALYTICAL QUESTIONS FOR RESPONSE PLANNING

- Which market systems will be the most affected by the expected crisis and which market systems appear to have scope for feasible response options?
- What goods and services are critical to meeting the target population's needs?
- What is the agency's contingency planning? What are priority areas and how are these affected by the impacts of the crisis? Which market systems fit organizational mandate and expertise?
- What are the critical issues in terms of response timing and seasonality?
- What are the most effective and proven community practices for that brings the capacity of the markets for rapid recovery aftermath of any known crisis (with reference to the recurrence and historical timeline of disasters)
- What are government's contingency and response planning? How the policy environment interface with the critical markets?

#### 3.2.2 ANALYTICAL QUESTIONS FOR CRITICAL MARKETS

The critical market system provides ample opportunity to understand the markets' functionality, the absorption capacity, the possible factors for market distortions and malfunction and the opportunities to make effective and efficient humanitarian responses. These critical markets are just a reference, and an agency can take this reference to look into the several other factors of the markets such as the trade dynamics, the policy environments, and the levels of integration and health of overall markets. The followings are the key analytical questions to guide the analysis of critical markets as well as support generating the recommendations for market based planning:

- How is the critical market system behaving today, and how will these behave during the identified future disasters?
- How best can agencies respond to this expected crisis through market based interventions, and how best can the agency respond to the changes in the market system during future disasters?
- How best can agencies mitigate the impact of this crisis through market based interventions or using the information of market systems?

- How best does the agency contribute to mitigate the likely future changes in the market system?
- How best do market actors play to recover the market through localization of resources, integration of markets and through other known healthy market practices?
- How does this market information guide agencies to formulate the DRR and preparedness actions understanding the critical needs and recurrences of the disaster?

### 3.3 BACKGROUND INFORMATION OF THE TARGET POPULATION AND THE LOCATION

The study was carried out in four local levels namely Bhimdatta Municipality, Dodhara Chandani Municipality and Beldandi Rural Municipality of Kanchanpur district and Parasuram Municipality of Dadeldhura district in the Sudurpaschim (Far Western) Province of Nepal. These are the local levels where NEEDS Nepal is implementing SCOPR3 Project in collaborative partnership with Oxfam and respective local governments.

**Kanchanpur District**, with Bhimdatta as its district headquarters, covers an area of 1,610 square kilometers and had a population of 171,304 in 2011. It is located in south-western of Nepal. It is bordered by Kailali district in the east, Dadeldhura district in the north and India in the south and west. The majority of the population is ethnic Tharu community, and minor groups are the peoples that have migrated from the northern hilly region, especially from Doti, Dadeldhura and Baitadi. Geographically it is on the Terai, but the northern part of the district has some higher altitudes of elevation. The highest elevation of the district is 1528 m, and the lowest is 176 m above sea level.

As majority of the population in the study area is of Tharu community, the agrarian economy with small agriculture enterprises are the basis of livelihoods. Rice and wheat are the major cereal crops; sugarcane, mustard, potatoes and pulses are major cash crops in the area. Livestock rearing includes the cattle rearing for milk products and agriculture inputs, goats, sheep's, duck and poultry rearing for eggs and meat, all in a small and subsistence manner.

**Dadeldhura** district, with Amargadhi Municipality as its district headquarters, covers an area of 1,538 square kilometers and had a population of 142,094 as of census 2011.

The region has a desert-mountainous landscape whereas the PCMA study Municipality, the Parasuram represents an inner valley combining Jogbuda and Shirsha villages. These are known to the most vulnerable villages in terms of floods and landslides. These villages are also known as the food basket of Dadledhura district because of its high productivity of rice with a year-round irrigated cultivable land area along the river banks. Dotyal Brahmins and Chetriya make a majority of people living in the area with agriculture and petty trading as major livelihood practices in the study area.

In the Beldadi Rural municipality, the study covers the communities of Ratanpur, Jharanasagar, Kamari, Sishamjhadi, Gadda, Jhilmila, Emaliya and Gaudi.

Likewise, in Dodhara Chandani municipality, the study team reached to Patala Khalla, Shivanagar Khalla, Shanti Tol, Muskute Tol, Sundarnagar, Jarkha Tol, Dhakanaghat, Shanti Tol, Baidhi Phanta and Kutiyakabar.

In Bhimdatta Municipality, the selected communities for PCMA were Baidyanath Tol, Bhagawati Tol, Museti Tol, Khalla, Shrikrishna Tol, Janajyoti Tol, Mahakali Tol, Baijanath Tol, Siddhanas Tol, Bishnu Tol, Bijaya Tol, Sonapur Tol, Pragati Tol, Suvakamana Tol, Dharma Bhakta Tol and Triveni Dham Tol.

The study also covers the communities of Ghatteplate, Sarguna-Simalkhet, Tatapani-Chandani, Kuna-Chhela, Jojola, Dumshijala, Motahaldu and Jobjuda of Parasuram Municipality. The Major market places in and around these communities were also covered for market mapping and market-stakeholders' analysis.

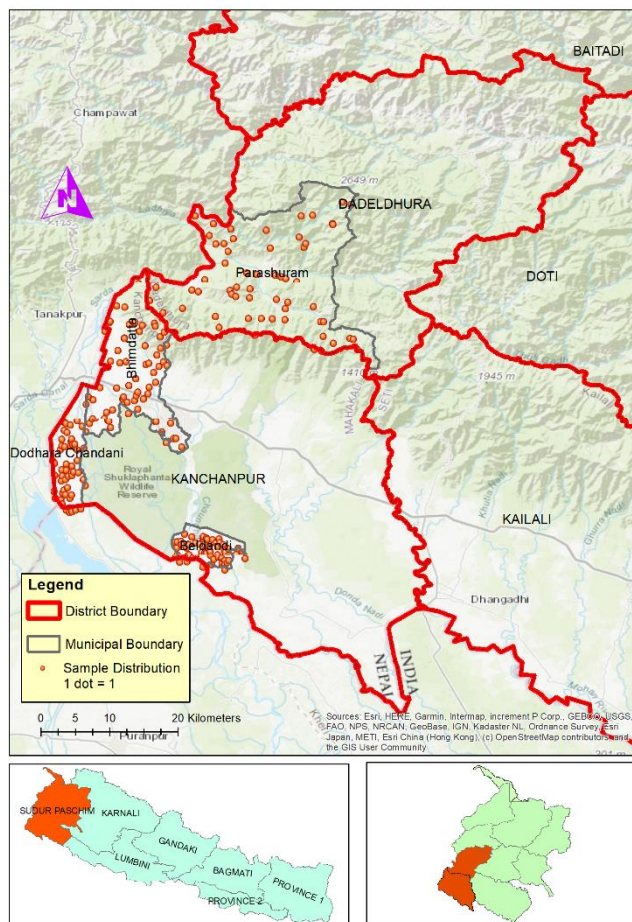


Figure 3: Map of study area with sample distribution

### 3.4 SEASONAL CALENDAR

Rice is the major staple crop for the entire population, and the study areas of Kanchanpur are known to be much suitable and productive fertile floodplains for rice. Dadeldhura also shares the similar humid tropical environment but has a different terrain and the geology of fragile *Simalik Hills*. The seasons for the rice, lentils and soap market systems are the same across the study area and the entire value chain ecosystems of these two districts share common elements except some changes in the terrain, the geology, the water supply and the livelihoods inputs.

There is a direct proportional relationship between the temperature, humidity and the

Monthly Climatology of Mean-Temperature and Precipitation in Nepal from 1991-2020

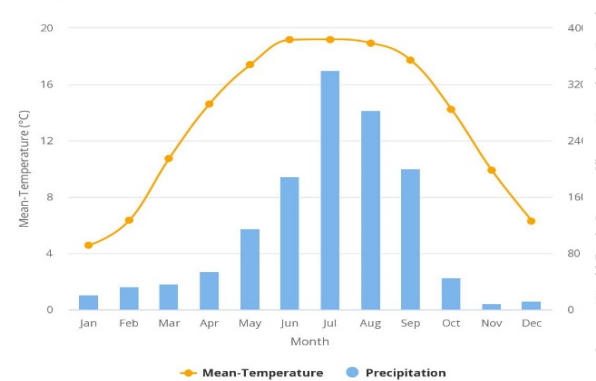


Figure 4: Monthly climatology of mean temperature and precipitation in Nepal

rainfall in a year in Nepal. Except a little bit of winter rains, the lands of Nepal receive required rains during the monsoon season. The excess rain in the peak of this season causes devastation through floods, landslides, inundations, and other secondary impacts such as diseases outbreak, food insecurity, damages to the infrastructures such as irrigation canals etc. The regions also experience off-seasonal unpredicted rains causing severe loss and damages in the agriculture sector.

The followings are the seasonal calendars for the rice, lentil and soap market systems. The lentil and soaps are basically the import driven market system for the region while the rice is among the major agricultural production as well as primary staple food.

### 3.4.1 RICE MARKET SYSTEM SEASONAL CALENDAR

The adjacent picture illustrates the major functions of rice in a typical year. There could be slight variations in the functions with reference to the months due to slight variation in the monsoon rain and irrigation facilities available for land preparation.

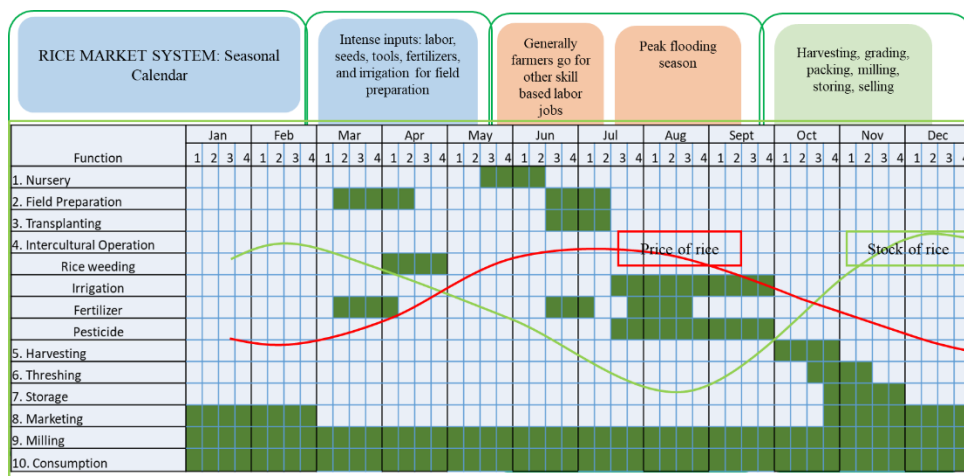


Figure 5: Seasonal Calendar of Rice Market System

There is a high demand of rice in the market during the pre-harvest time which also corresponds to the peak time of monsoon and possible floods. This time is known as rice-stress time for which skilled and semi-skilled members of the family go to other areas in search of labor based jobs to meet the household (HH) demands.

The price of rice is high during the monsoon season because there is less stock in the household level and people are subjected to buy. During this time, people have planted paddy and harvest only at the beginning of October, after the monsoon ends.

When people start harvesting paddy, the price of rice falls down and the quantity of rice in the household level as well as in the market increases.

### 3.4.2 LENTIL MARKET SYSTEM SEASONAL CALENDAR

People prefer to produce lentils after the harvest of rice because of its nitrogen fixing property, lesser production costs and regular high demand of the market as well as for families. This tendency in recent years is obstructed due to pest and insect attack, loss of indigenous climate tolerant varieties, and poor quality of seeds available in the market. In recent years the crop is replaced by other cash crops, and its higher portion of demand is met through import from nearby districts as well as from neighboring international markets.



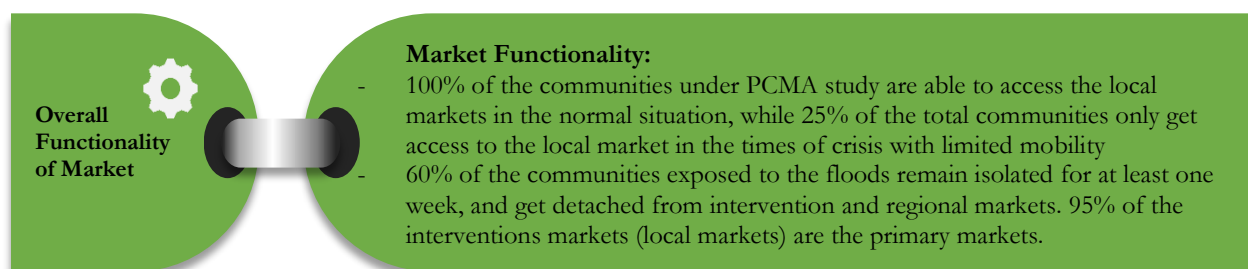


## SECTION 4: MARKET ENVIRONMENT AND FUNCTIONALITY

The assessment and analysis of the market itself has a broader spectrum. It has two broader descriptions; the first is the functionality of the overall markets, while the second is the system of the market that is analysed with reference to the Rice, Lentils and Soap market systems.

One major market place, which is of regional capacity is the urban market center of Bhimdatta Municipality (Mahendranagar). This is also a dependent market to the Dhangadhi, Nepalgunj, Birgunj, and Biratnagar and nearby Indian market places. All other markets of Beldandi and Parasuram are partially dependent on Bhimdatta while also have access to Dhangadhi, Amargadhi and nearby Indian markets. The markets of Dodhara-Chandani municipality rely mostly on the Indian markets at the borderline. During the time of COVID-19, these markets had very limited connectivity and access to the market places of India. In the normal situation, there is a very good cross-border trade, mostly through the informal spectrum, in a dynamic trade policies and regulations.

It is found that 100% of the residents are able to access the local markets (downstream and intervention markets) in the normal situation, while 25% (1/4<sup>th</sup>) of the total residents only get access to the local market in the times of crisis with limited mobility.



The normal situation refers to the current situation having normal livelihood settings with the gradually increasing development indices, accepted pace of urbanization and gradual modes of technology transfers. People have well adapted to the context and are aware of the crises that are more recurrent and have left adverse impacts in the pasts. The markets are well integrated and healthy, have good connectivity to the operational systems and the road network, however, the local markets in the study area are all dependent on the regional and central markets of nearest market places such as that of Dhangadhi for all sorts of commodities.

Overall functionality is summarized in the following points:

1. Market is recovering from the impact of COVID-19, however, traders including small retailers fear inflation and any form of distortion of the market. Informal economy is largely affected by the pandemic, and the informal sector is generally a critical market in these urban and semi-urban centers.
2. No strict commodity price control mechanism exists due to flexibility gained under the situation guided by COVID-19. If the market were not competitive, there would have been a greater adverse impact on the market systems.

3. Market is accessible; services are accessible, while people still do not find it comfortable to visit shops and marts for buying their daily necessities. Most of the traders from Bhimdatta Municipality mentioned that they lack the human resources to operate the home delivery system.
4. If border points with Indian markets, connection road to Dadeldhura (Parasuram Municipality), the main highway connecting to Dhangadhi are blocked by any reason such as flash floods, large earthquakes, inundations or political unrest the market in the Kanchanpur district will fear a distortion caused by extremely weak supply side.
5. A large population of youth, mainly those returning from India and other spatial seasonal jobs, is in search of local jobs and are exploring opportunities for small scale market based business. The absorption capacity of these markets is very low to such human resources, and hence are non-productive at this moment. There is an opportunity for optimizing such resources in the market based local economies.
6. Online market/business is growing at a fast pace. This is a great opportunity to explore new avenues and innovations in market based approaches. Among the four municipalities under the study, Bhimdatta has greater opportunity to establish a system and mainstream other markets of nearby local levels.
7. Cash transfer mechanisms exist across the municipalities in these districts. As markets are functioning well, CVA programmes can be perfect response options in any form; the preparedness with DRR, the immediate humanitarian response and the post disaster recovery and reconstruction interventions.
8. Gaps of knowledge, skills and guiding tools/policies among the traders, mill operators, and local level decision makers and even amongst the beneficiaries have widened the scope of knowledge building interventions for humanitarian and development agencies like NEEDS and Oxfam.
9. The integrated, healthy and competitive markets are providing multiple services from one stop since the last 30 years in Bhimdatta Municipality. These markets are gradually taking considerations to the risk reduction with contingency planning considering the recurrent disasters and their localised coping strategies.
10. Rice market system is well integrated, competitive, systematic and supportive to people residing in the area, while the lentils and soap markets systems are small, non-competitive, have less actors involved and are dependent on factors such as imports, quality and competitiveness.
11. There are only a few financial service providers in the PCMA study municipalities providing loan services. These FSPs, however reluctant to provide loan services to small holders, are focusing on support to large regional traders including the millers and collectors.

#### 4.1 RICE MARKET SYSTEM

Kanchanpur district is famous for its productive land and high production of rice. About 46215 ha of land is under rice cultivation with the production of 179314 Mt and 3.88 ton/ha (MOAD, 2019). The popular varieties of rice in the district are Sarju-52, Radha-4, Bahuguni, Hardinath, Sawa mansuli, Sabitri, etc. Seeds are generally processed by the co-operatives whereas paddy grains are processed by the millers.

This market system equally relies on the external market places and actors, mainly from Dhangadhi and nearby Indian market places. Some regional and central traders have established production operations at Dhangadhi and Bhimdatta municipality.

Farmers are mostly engaged in subsistence and conventional farming practices due to a lack of skills and technology adoption. Post-harvest losses of 25-30% of the total seed and grain value have been reported in rice.



Figure 8: Social Mobiliser presenting the market overall environments for the rice market system

Rice imports to Nepal increases by around 20% annually due to decreasing cultivable lands which is the impact of expansion of urbanization, shifting rice production to the sugarcane farming, unexpected losses of standing paddy during the monsoon due to prolonged inundations and recurrent floods, and unavailability of labor forces and other inputs due to the changes in the livelihoods priorities of youth in the recent years.

The regulatory bodies including the quality controls are functional but there are several complaints against the adulteration in rice brand and quality from consumers' perspective. It is also found that the large traders bring rice from other markets in raw form, process them in key mills located in Dhangadhi and make new local brands giving local names. This is a constraint to local producers to get the right value of products with a desired market recognition.

The Crop Development Division (CDD) of Nepal, Nepal Agriculture research Council (NARC), Custom Offices at Dhangadhi and Mahendranagar, Quarantine Offices, and the Department of Food Technology and Quality Control (DFTQC) are enabling and facilitating government bodies in the area. There appears to be a lack of consolidated efforts among the many service providers in supporting the rice market system.

## 4.2 LENTIL MARKET SYSTEM

Lentil is the most important pulse crop in a regular food basket in Nepal. The lentil value chain is characterized largely by an informal market system. A large number of market actors are involved in the market system in the areas where the production is substantially high, whereas in the study area the value chain actors are very limited because of its limited and fewer production. Lentil is marketed as a raw product up to the processors. After processing, it is marketed as whole or split lentil and goes to the consumers of the domestic market. It is produced only in some inner pocket areas of Mahendranagar.

Local markets import lentils from neighboring districts. There is also import from India to meet the demands in these districts as the local product does not adequately supply to the local markets, however, the majority of people living in the rural areas of southern belt produce lentils for their consumption, not for the selling purposes.

Agro-vets, agricultural tool dealers, seed producer cooperatives, fertilizer dealers, NARC and the National Seed Company are major input suppliers in the lentil value chain. They supply inputs and also provide technical advice to farmers on cultivation techniques, improved seed varieties, and the responsive and appropriate use of pesticides and insecticides.

The millers and local traders holding approximately 50% of the lentil market are heavily influenced by external supply systems, primarily the large traders at central markets such as of Dhangadhi, nearby India markets and the markets at Nepalgunj.

Harvesting and threshing of lentils is completed between March and April. This is also the peak time of lentil transactions between farmers and collectors. Small collectors generally do not hold lentils for a long period so they need to sell to large collectors in April /May. The majority of large scale collectors sell to the processors within June/July; however some of the large collectors have the ability to store lentils for six to nine months to get a higher price in the offseason. Lentils are processed in a traditional manner through local mills.

### 4.3 SOAP MARKET SYSTEM

The local traders holding approximately 90% of hygiene shop market is heavily influenced by the external supply system, primarily the large traders at central markets as Dhangadhi, nearby India markets and Nepalgunj. There are only three small sized soap and detergent powder manufacturers in the area. The produced soap is supplied in the local intervention and downstream markets.

Soap market system is governed by the policies and regulations managed by the umbrella ministry, the Ministry of Industry, Commerce and Supplies (MoICS). It is expected that the soap market system will be strengthened through establishing medium to large scale industries in the only selected industrial village at Daiji of Kanchanpur to serve both the districts Kanchanpur and Dadelhdhura.

Locally produced soaps have rough finishing, poorly decorated and have less/poor fragrance, and therefore have fewer choices among the consumers. People prefer well established brands of soap, which are further categorized in two types, the one is related the medicated types and the other cosmetic and luxury. For humanitarian assistance, medicated brands are preferred by WASH cluster. Large scale producers located at industrial states of Dhangadhi, Nepalgunj, Butwal, Bhairahawa, Birgunj and Biratnagar make big contributions to fulfill demands of soap for the entire nation.

The raw materials are imported that primarily includes sodium and/or potassium hydroxides, animal and/or plant fats, and decorative ingredients (color, fragrance, cover etc.).

Having long expiry dates, all the local markets including those at village levels (intervention markets) have enough soap stock to fulfill the regular demands. Soap market system is more active during the monsoon season. It is found that during the flood emergencies in Kanchanpur, the demand almost doubled due to its higher use.

Small shop owners buy soaps from local wholesalers, primarily from Mahendranagar bazar of Bhimdatta municipality. The suppliers use mobile supply teams with required items almost on a weekly basis to replenish the retailer's stock at local markets. Under these schemes, the retailers are not required to go to wholesalers to collect the commodity items.

## SECTION 5: MARKET SYSTEM ANALYSIS FOR RICE

### 5.1 CURRENT MARKET SITUATION (BASE MAP)

The map below represents a base map of rice which is briefly explained in the following sections:

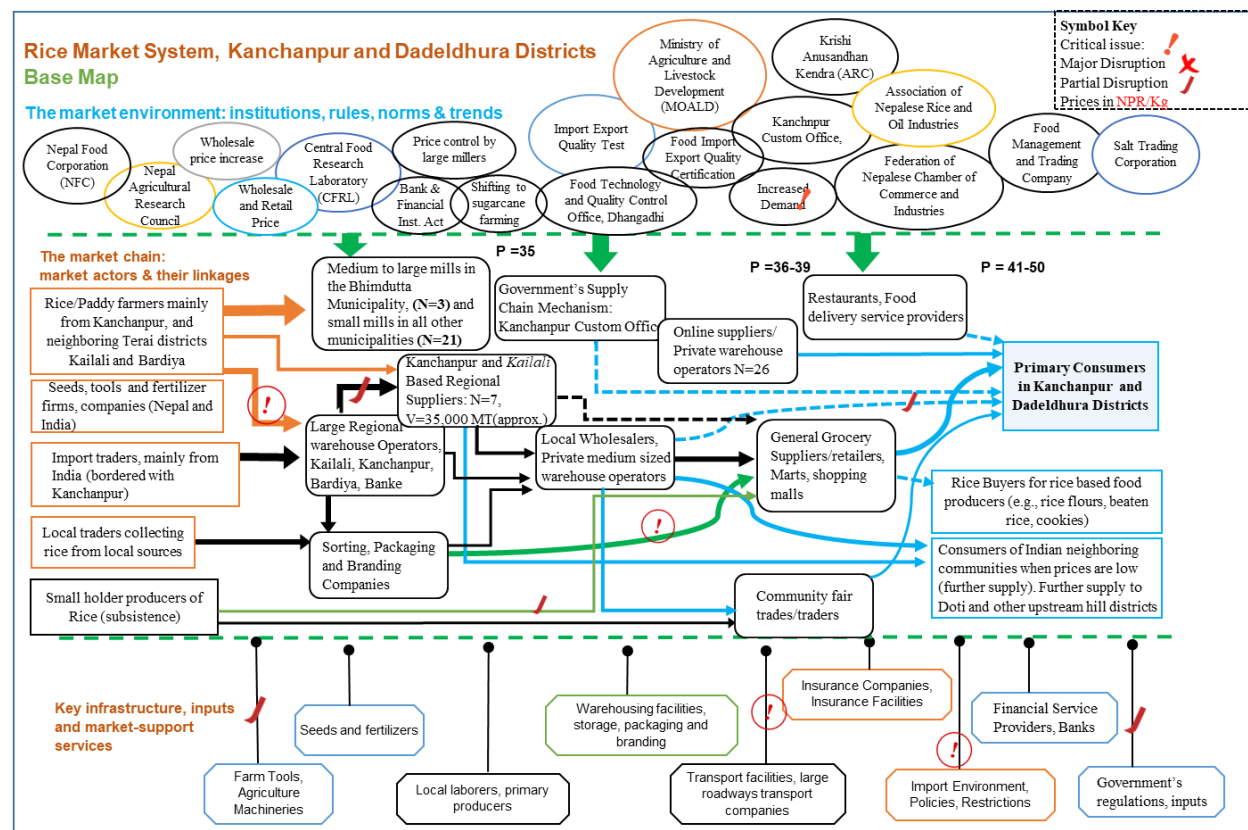


Figure 9: Rice Market System: Base Map

#### 5.1.1 MARKET CHAINS, MARKET ACTORS AND THEIR LINKAGES

##### Rice Producers/Farmers

In Kanchanpur, rice is produced by two types of farmers, one the smallholders for their regular use as subsistence farming having very small production capacity that can hardly feed to the producer's, the other type of farmer is the large landholders with large volume of production that brings several value chain actors in the system.

Most of the areas in Kanchanpur have their own production of rice. Beldadi, in particular, has a large population that produces its own rice to meet the needs. Certain populations from Dodhara Chandani produce maize and wheat in addition to rice. However, there are small proportions of people who also need to buy the deficit of production from the market for the consumption of these items. Bhimdatta Municipality also has major rice production through its rural hinterlands, but also has a deficit that is fulfilled by buying from markets.

The case in Dadeldhura is different from Kanchanpur as there are large deficits in production to meet the consumption needs and therefore, the populations there have higher dependencies on markets to buy the staple foods.

The rice is also imported from neighboring districts Kailali, Bardiya and Banke by the regional and central traders.

### **Large Central and Regional Traders**

These large traders have a very good market network, and have excellent integration to the local small markets (the intervention markets), and that functions very well in the normal context. These traders have, in most of the cases, their own modern automatic rice mills of large capacity. Large mills are operated at Bhimdatta municipality while medium to small mills are found at several villages in these municipalities. There were no mills in Parasuram Municipality of large scale, but small manual mills were found at almost every community center.

The large traders buy rice from other districts, collect demands from Kanchanpur and Dadeldhura districts, and deliver on the basis of bookings or orders made at the free cost of transportation in general. The cost of transportation is included in the pricing of rice at their production units (large mills). The normal price range for a common variety of large grain rice (sample) is NPR 32-35/kg at this stage with an approximate volume of 35,000 MT of unhusked rice. Hauling of rice takes place in a batch basis proportionate to the demand to reduce risks of decaying due to high humidity and loss due to pests.

### **Regional Warehouse Operators/Dealers**

Three large warehouse operators were active in the rice market system in the Bhimdatta municipality. They provide two services, one is the warehouse only, while the other is a complete market system operation that includes the collection from farmers, milling and packaging, warehousing and supplying to the local marketplaces (Municipal dealers). Unique in the Kanchanpur and Dadeldhura, most of the rice market system actors have multiple operations, for example, trader deals as miller, wholesaler, as well as a retailer with different modes of market deals and rates. The wholesale price at this point is not much different to the large suppliers, remaining in between NPR 32-38 per kg.

### **Local Wholesalers**

There are several local wholesalers in the municipalities which collect rice from suppliers/dealers. The supply and storage quantity is determined on the basis of demand side, the dealers supply on the regular basis and drop the ordered quantity of rice as per order received by each local wholesaler. Partial payments (~40%) are made at the moment they receive rice, the rest is paid in an agreed timeline in a mutual understanding with established norms. The initial payments are made mostly with hard cash (hand-to-hand) while the due amount is transferred to bank accounts. Local humanitarian agencies operate through these wholesalers for food aid during the emergencies. The price here is in between 35 to 39/kg for wholesale, but they also serve as retailers at the rates ranging from 37 to 45/kg, few Rupees cheaper than at the retailers at downstream markets (community shops). This is why people prefer to go to the wholesalers at the city centers.

## **Retailers/Super stores**

The retailers make the local businesses looking at the purchasing trend of local residents, such as purchasing capacity, the time available for chopping, and multiple choices. The retailers take the form of a superstore that provides multiple choices to the buyers and several items at one stop, larger in the cities and smaller in the rural area. Direct cash payment is the mode of exchange for the service/goods, very few customers in the cities use mobile wallets and smart cards. The rate remains between NPR 41-50/kg, higher the rate, higher the value chain actors involved.

## **Government Institutions and Market Management Mechanism**

Nepal Food Corporation (NFC) provides facilities to collect rice in its warehouses. Seeds are recommended in accordance with the changing environments by Nepal Agriculture Research Council (NARC). Central food research laboratory and Food Technology & Quality Control Offices provide major services to research based recommendations and quality assurance for emerging newer varieties, disease control techniques etc.

Under the leadership of the Ministry of Agriculture and Livestock development (MoAD), several unions and associations of research companies, seeds producers, traders and food processors function to create an enabling policy environment in the rice market system. In the study area, these functional units are found at Bhimdatta Municipality, as this serves as a district headquarters for Kanchanpur.

### **5.1.2 KEY INFRASTRUCTURES, INPUTS AND MARKET SUPPORT SERVICES**

#### **Key Inputs**

It is found that seeds of different varieties are available at the regional market place of Mahendranagar which is a central marketplace for all the four municipalities under the study. In general, people keep seeds of their preferred and regular varieties by themselves which comes from their own product. Small mud-mortar containers are the traditional seed storage containers, still in use in the rural areas, whereas most of the farmers use containers made of galvanized iron sheets (drums) with a capacity range of 100 kg to 500 kg. Farmers struggle to get NPK fertilizers, mainly the Urea.

Power tillers (small to large) have almost replaced the traditional oxen plough in Kanchanpur while later is still used in the communities of Dadeldhura. Combined harvesters, threshers are used in the very recent days to minimize the post-harvest loss, harvesting inputs, and labor costs.

#### **Infrastructures**

Transport system is very well and interconnected across all the communities except for some downstream communities of Parasuram Municipality. Only one suspension bridge connects Dodhara Chandani with the rest of Nepal which is over the Mahakali River allowing only the pedestrians and motorcycles to pass across. A reinforced concrete bridge is under construction that links this municipality with the rest of Nepal in all the seasons. Roads to link Beldandi penetrate some sections of wildlife reserve, while a new road is being constructed to link Parasuram Municipality with national highway at Kanchanpur. Irrigation is well connected across communities of Kanchanpur. In case of

Dadledhura, the Simalkhet, Kunda, Banda, Chhela, Kurmule and the areas along Puntara and Rangoon river basins have established small irrigation canals (*keulo*).

There are some private warehouses in the region, most of which are the district units of large traders operating from the nearest central market of Dhangadhi located in Kailali district. There are three large mills in the district which operate through local small to medium sized traders, specially the *Gallawala* (collectors). These mills have their own processing, branding, packaging and distribution units.

Large Lorries (trucks) are operated by large traders, while the medium and small traders hire such for transporting rice from

## 5.2 CRISIS SITUATION (CRISIS MAP)

The economically poor farmers get adversely affected because the rice storing pots made of clay get damaged due to floods causing loss of stored food grain while at the same time the local market gets affected and causes limiting the functionality. This limitation leads to shutting up the shops which run out of items they sell because of import barriers in major supply chain (refer to the market maps).

In the times of disasters, the local markets get detached from the regional and the central markets, and the health of the market system gets adversely deteriorated by hike in price, heavy demand side and weaker supply giving rise to illegal trade, increased inflation, distortion of market ecology and economy, and unstable supply mechanism.

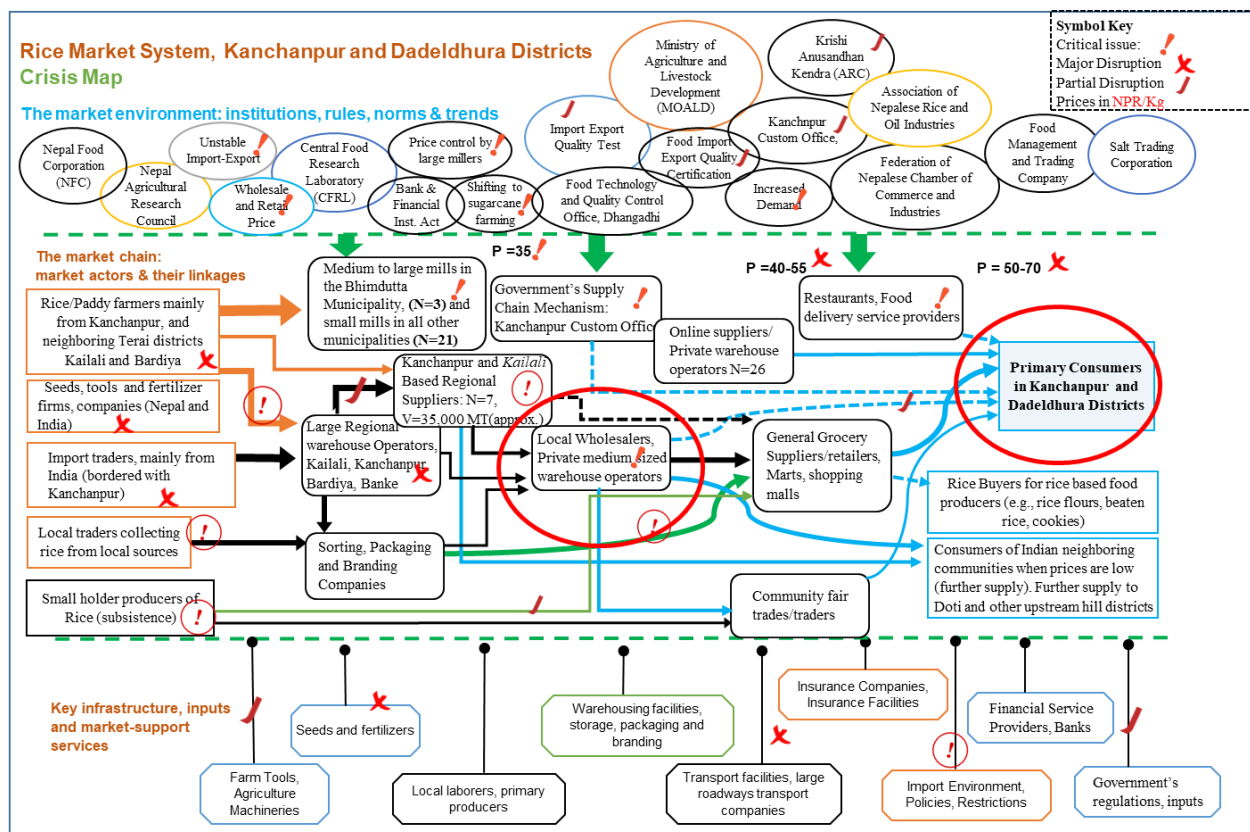


Figure 10: Rice Market System: Crisis Map



There are several records of floods damaging the standing crop. The scale of damage is high when floods inundates the area at the time when rice is ready to harvest. Flooding and intense rains during the months of September and October cause major damages compared to July and August.

The major threats are observed at the production, import and the local level processing sections of the rice value chain. It is also found that price increase during a crisis is substantially high. This is the overall effect of impact in seeds and fertilizers, transport facilities, import environment and associated policies, and the lack of warehouse facilities.

The local warehouses are not enough to provide the services as indicated by the demands. Dodhara-Chandani municipality fears of such a large-scale disaster with no proper warehouse, no alternative plan to supply the basic needs when the suspension bridge, the only connection to the rest of the country, gets damaged due to floods or any other disasters like earthquake.

In the overall market environment, the regulatory bodies may not be able to control the inflation and the quality of rice in future emergencies if the local levels depend on the external supplies. The major areas of concern remain at fulfilling the immediate and regular needs of rice, maintaining appropriate quality and quantity to balance the demand and supply that could mitigate the risks of inflation.

The main road connections through Mahendra Highway, *Hulaki Marga*, and key border points with India become lifeline to these local levels in crisis, mainly the floods. During the floods, the sections of *Hulaki Marga* get severely affected at the national park area. Similarly, the floods originating from Churiya cause erosion and damage to the culverts, bridges and road sections at several points along the Mahendra Highway. Dadeldhura too gets disconnected from the central markets when there are damages at Daiji-Jogbuda, Jogbuda-Budar, and Budar-Attariaya road sections. The transport facilities cannot be operated until the debris is cleared, alternative diversion routes are developed at the places where culverts, road sections and bridges are damaged.

Smallholder producers, local small traders, informal market operators, millers, and *Galla-wala* (local collectors) are among the primary actors who get affected severely due to floods. During the study, it is found that these groups have never thought of risk mitigation and contingency planning.

### 5.3 GENDER AND ROLE OF WOMEN IN THE MARKET

The PCMA found that men and women share equal responsibilities to paddy cultivation, weeding and harvesting, whereas the roles differ to some extent in field preparations, transportation, warehousing and threshing. Men are active and responsible for using machinery tools at all stages of the rice production cycle and women in the soft-work at all these stages. The grownup children also support families in the work at all the stages.

In Chaudhary and Tharu communities, the decisions for buying/selling the rice and understanding of the prices remains informed in the family, whereas, in the other communities, the major decisions are made by male and the information is shared with family members after the execution is completed.

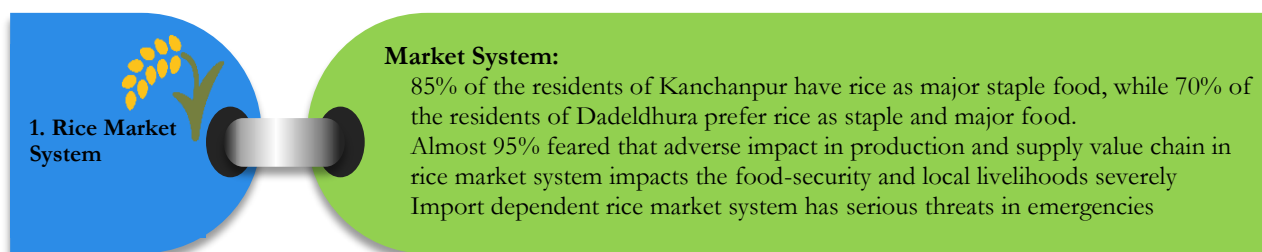
In all the communities, women take major roles in storing seeds, warehousing/storing rice at household level while the men make major decisions that are associated with handling cash, receiving

relief and any other support from external sources. It is also found that the majority of decisions at household levels are made by men but the majority of responsibilities are managed by women.

## 5.4 MAIN FINDINGS

In the study area, it is found that rice is the main staple food followed by wheat (for chapati breads). 85% of the residents of Kanchanpur have rice as a major staple food, while 70% of the residents of Dadeldhura prefer rice as staple and major food. As rice is the major food, the monsoon rain is the main factor to foster the product as well as to damage the product. Almost 95% feared that adverse impact on production and supply value chain in rice market system impacts the food-security and local livelihoods severely.

The study area lacked any systematic and risk bearing warehouse. The major three rice mills in the area are also unaware of major humanitarian crises and impacts to their system. These large operators have realized for the first time the possible disaster risks, the challenges, opportunities and risks mitigation measures for their procession, packaging and supply chain businesses during the study.



It is estimated that the intervention markets (2 in Beldandi, 4 in Dodhara Chandani, 1 in Parsuram and 3 in Bhimdatta) can supply necessary services to the catchment communities for 7 days, and rely on the capacity of only one regional market.

The regional market (1 in Bhimdatta) can supply the catchment communities and its dependent intervention markets for a maximum of a month with necessary services and commodities if the region is impacted by the disasters as witnessed in past (monsoons of 2007, 2008, 2014, 2016, 2017, 2021), or are affected by political unrest such as that witnessed in 2013-2014 (*Akbanda Sudurpaschim*), or are isolated by major disruptions of connectivity roads disconnecting from India and Kailai on either sides.

People buy rice in quantities ranging from 5 to 300 Kg depending on the size of the population. People buy wheat in quantities of 30 to 50 Kg.

The majority of people in Kanchanpur district store their grains indoors in bins, sacks, drums and traditional containers made up of mud-husk mixture, whereas those in Dadeldhura store grains in a separate structure "*Bhakari*" in addition to the drums and sacks they use for storing grains inside the house.

Most of the communities have easy access to local rice mills as they are located nearby and can also be accessed during the times of crises. About 10% of the respondents in Kanchanpur district mentioned that the local mills remain shut during the moderate type of crises in their communities. In large disasters such as that of 2017, the local mills were shut-down for months mainly due to siltation

at mills, water inundations for several days, and power-cutoff. In Dadeldhura, people reported that mills are nearby but are not often in operation during the monsoon season, primarily due to heavy power-cuts.

Mid-June to mid-September are the major food shortage months in Kanchanpur district in addition to fewer deficits during the month of Falgun (mid-February to mid-March). Dadeldhura groups reported a relatively higher number of months as food deficit months from Chaitra to Bhadra (mid-March to mid-September), but people in Dadeldhura have other alternatives such as maize and wheat.

During the food shortage periods, people from Kanchanpur districts usually borrow food from markets, neighbors and relatives. They also mentioned selling farm animals to be one of the coping mechanisms that they have used in the past. Some also reported using proactive measures such as storing food during surplus months to use during shortage months.

Groups from Dadeldhura revealed that they rely on local money lenders for loans to buy food during the food deficit months. However, they also have informal savings and credit groups that they borrow from during the crisis. Some groups from both the districts also mentioned borrowing from cooperatives and microfinances during the lean periods to meet their needs as well as receiving food aid from different government and non-government agencies.



Figure 11: Local Trader and Processor's Interview at Beldandi Rural Municipality, Kanchanpur

People from Kanchanpur district visit these markets quite frequently almost on a daily basis. Exception is the group that rely on *Brahma Dev* markets, who go to the market less than 10 times in a month. In times of crisis, this dependency and relying on the market makes the lives

of people difficult. People generally do not buy food items as stock for two-three months, rather they buy in a regular demand based short period of time, such as for a week.

Groups in Dadeldhura use smaller markets such as Pantura, Laldhunga and Chandani bazaar to buy day to day hygiene items. However, they also travel to medium sized markets such as Jogbuda and bigger markets such as Tanakpur in India for these items if they have to purchase in larger volumes. For going to Tanakpur Market, there are several trans-boundary regulatory challenges, and are not in operation during the high times of crisis.

People from the Motahaldu community go to Pantura bazaar almost on a daily basis similar to the other groups that depend on smaller local markets of the intervention market categories. However, a group from Jojola Dumsijala reported going to markets only 4 or 5 times in a month.

Groups from both Dadeldhura and Kanchanpur districts reported going to markets in farther locations to buy items such as clothes, jewelry, utensils, construction and farm equipment. They

reported that the farther the locations of these markets they visit, the cheaper the prices are, India being by far the cheapest by all means, whereas they visit Dhangadhi Bazar (a central market local at Kailali, the neighbor of Kanchanpur) if they face challenges to visit Indian border markets.

People from Kanchanpur that are vulnerable to floods, keep their food items in tube-like containers stored in higher places of the house where water is unlikely to reach. They also have designated higher altitude spaces in the communities where they temporarily shift during floods. People also suggested that they want to build or have built houses on the raised platforms to be safe from floods.

The focus group discussions reveal that 40% and 33% of the respondents in Kanchanpur and Dadeldhura districts respectively reported receiving no food aid during the crisis. Some reported that they are receiving food support from the office of the Municipality and from some humanitarian NGOs namely NEEDS Nepal; Nepal Red Cross Society, NNSW, Oxfam, DCA, and CARE Nepal through their humanitarian response programmes.

People from Dodhara Chandani reported that they go to nearby small markets or to Indian markets across the border to buy rice and other regular items of daily necessities, but in small quantities. However, access to these markets are not easy as they have to either travel by private vehicles or on foot.

Large warehouse operators have their operation channels at these local markets, mainly concentrated at Mahendranagar market. Based on the demands at the local markets (primarily the intervention markets), these operators supply rice by roadways. In the rice supply system, the large traders do add a margin of benefits to the price of rice so that the transport is made free of costs. People tend to buy rice from the wholesalers due to lesser cost per Kg (NPR 40-60 in the normal, 50-80 in times of emergencies).

In most of the cases the Galla wala (local rice collectors) collect rice and keep record of each seller farmer. The sellers can take money (price of rice) in several installments, or at once in times of urgencies. The buyers also feel comfortable to pay to the local stallholder seller after they sell the total product to larger traders. Around 25% respondents have mentioned this a good way, but the rest have reported that they suffer to get remaining or full money from local traders (collectors) in times of emergencies. There are some cases where local collectors have cheated smallholder rice farmers and have disguised without paying them the price of rice they had collected.



*Figure 12: Informal market in the heart of Regional Marketplace of Mahendranagar, Kanchanpur*

## SECTION 6: MARKET SYSTEM ANALYSIS FOR LENTIL

### 6.1 CURRENT MARKET SITUATION (BASE MAP)

The map below represents a base map of lentil which is briefly explained in the following sections:

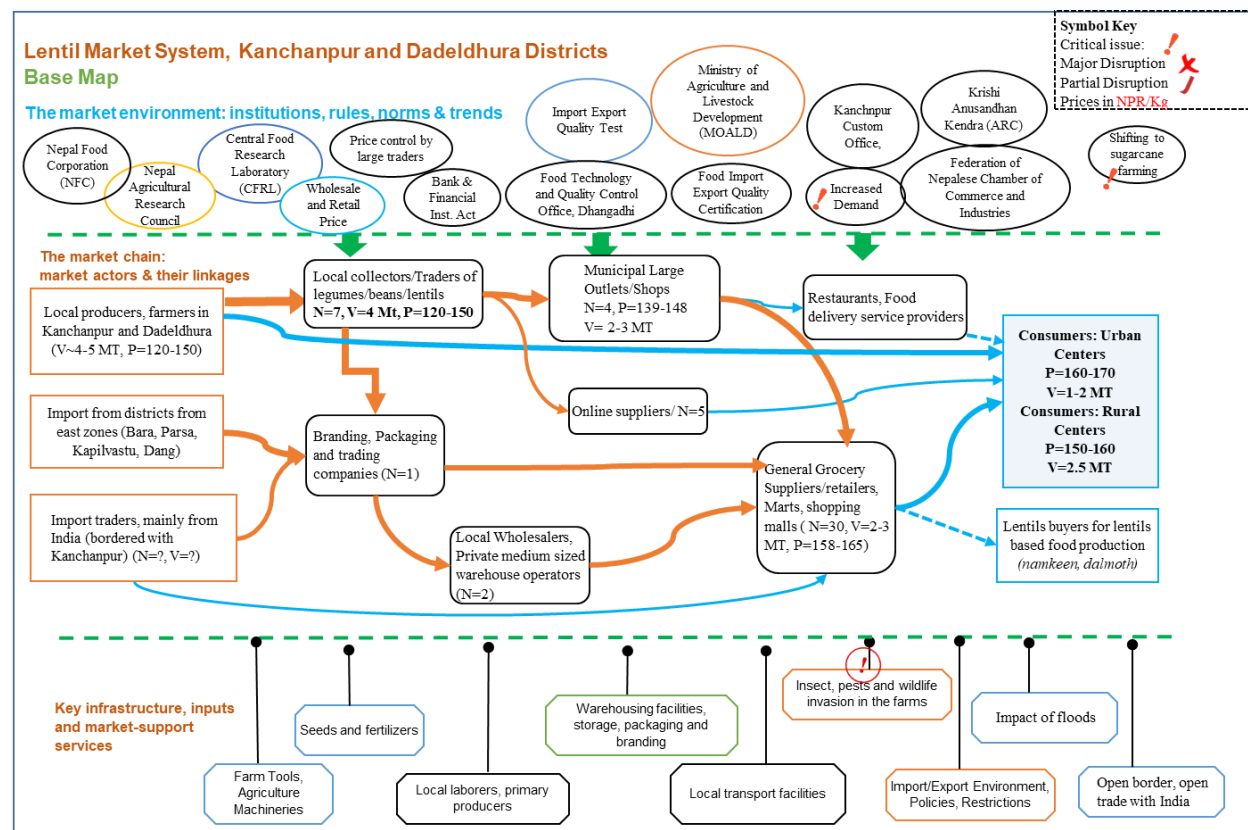


Figure 13: Lentils Market System: Base Map

#### 6.1.1 MARKET CHAINS, MARKET ACTORS AND THEIR LINKAGES

Lentil is a winter crop following the harvest of rice that thrives well in monsoon. The flood water brings humus as well as helps keep soil moisture for several days enabling the production of lentils. But when there is massive siltation during the monsoon, the productivity of successive crops decline, and people generally tend to keep such farm lands uncultivated.

Lentil market is dependent on imports in recent days because the farmers have diversified their lentil production to other forms such as the sugarcane in Beldandi Rural Municipality. Only some pocket areas in the southern areas to the national highway produce lentils, mostly the subsistence.

#### Producers

Farmers receive inputs required for lentil production from local and district level input suppliers. The producer farmers keep about 70-90 percent of their product for home consumption and the remaining

quantity is sold in the market. The majority of the surplus lentil is sold to small scale collectors, while some district based large traders and millers also collect through their local networks and commission based agents. There is not a strong association among the farmers so they cannot collect large amounts at one place for bargaining higher prices with the collectors. The producers receive the value of lentils once the NFC, FNCCI and other key actors determine the value of it. On average, the price of lentils remains between NPR 110 and NPR 150 at this stage. People opined that the price is highly variable due to the influence of collectors, from small scale local collectors to large scale regional traders involved in the collection.

### **Collectors (small scale/large scale)**

Most of the small-scale collectors are permanent residents of their collection areas. In some instances they are also lentil producers. Around 10-20 small scale collectors from each municipality are involved in the collection at the local levels. Of the total amount they collect, about 95 percent is sold to district level large traders and the remaining 5% is sold to large millers/exporters.

There are about 4-5 large scale collectors who sell the majority of their volume to large millers/exporters while a very small amount (about 5 percent) to wholesalers/millers. Collectors are primarily involved in collection, drying, and storage. There are also some commission agents in each municipality who collect lentils from producers and sell directly to large millers/exporters at the rates of NPR 120-150.

### **Wholesaler and Processors**

There are about 3 large exporters known in the nearest central market of Dhangadhi which mobilize district collectors and processors based in Kanchanpur and Dadeldhura districts. They fulfill various functions such as storing, grading, sorting, dehulling, cleaning, drying, splitting, and polishing. However, none have a proper grading system.

The impurity from variables such as weeds, dust, and sand is high in lentils produced from Dadeldhura compared to that from Kanchanpur due to the presence of larger and coarse grain sands in the soil in Dadeldhura. .

The region lacks special policing, packaging and branding services to an industrial scale, however, people expressed that they wish to buy locally produced lentils rather than the sorted, well-polished imported qualities.

The millers and local traders holding approximately 50% of the lentil market are heavily influenced by external supply systems, primarily the large traders at central markets such as of Dhangadhi, nearby India markets and the markets at Nepalgunj.

### **Municipal large outlets and shops**

Outlets and shops buy split lentil from exporters and other wholesalers/processors and sell it to retailers within their market catchment areas. They are stationed in main market places in the municipalities including Mahendranagar and Jogbuda. These outlets are integrated in nature selling almost all grocery items at one stop and function as wholesalers as well as retailers based on the

quantity of sale. As an example, a downstream market actor buys several items in large volume from these large outlets in wholesale price (NPR 148-155) whereas a local resident buys a small quantity of one or more items in a retail price (NPR 160)

### **Retailers**

General groceries, local restaurants, and small retailers at the intervention as well as downstream markets buy split lentils from the wholesalers, and sell it to the final consumers. The functions of retailers are weighing and retailing to consumers. The price is around 160-170 at this stage.

## **6.1.2 KEY INFRASTRUCTURES, INPUTS AND MARKET SUPPORT SERVICES**

### **Key Inputs**

Agro-vets, agricultural tool dealers, seed producer cooperatives, fertilizer dealers, NARC, and the local seed companies are major input suppliers in the lentil value chain. They supply inputs and also provide technical advice to farmers on cultivation techniques, improved seed varieties, and the use of pesticides and insecticides.

People in the study area use fewer pesticides and fertilizers for lentils, and almost leave with no inputs till the harvest of it. In the drought prone and non-irrigated areas, lentils are irrigated using deep bored pumps.

### **Infrastructures**

Harvesting and threshing of lentils is completed between March and April. This is also the peak time of lentil transactions between farmers and collectors. Small collectors generally do not hold lentils for a long period so they need to sell to large collectors in April /May. The majority of large scale collectors sell to the processors within June/July; however some of the large collectors have the ability to store lentils for six to nine months to get a higher price in the offseason. The price of lentils begins increasing in September and remains high until October.

Lentils are not stored in separate warehouses, rather, they are traded by almost the same traders who are active in rice market systems. These traders including wholesalers, millers and retailers keep lentils in the region based on the regular demand and supply statistics. Regional and central traders from eastern region of Nepal, mainly from Biratnagar, Birgunj and Kathmandu have been found active through local traders and district based networks in Kanchanpur for collecting lentils at a larger quantity to trade at international levels.

Lentils are stored in small metal containers, plastic sacks and mud-mortar based containers in the communities. With high demand for lentils, people also sell it for urgent needs of cash at any time as a cash crop.

## 6.2 CRISIS SITUATION (CRISIS MAP)

The producers keep a certain amount of lentils for their regular use. It is among key commodities that have passed through a continued rise of price in recent years. The farmers get adversely affected due to access siltation caused by floods in the monsoon. If the floods are caused by intense rains rather than flash floods originating from nearby hills, the land gets enough moisture for winter season as well as decomposes humus materials resulting in the increase of production of lentils. Most of the past floods have damaged the productivity due to access siltation in the farm lands in Beldandi, Simalkhet and western regions of Bhimdatta municipality.

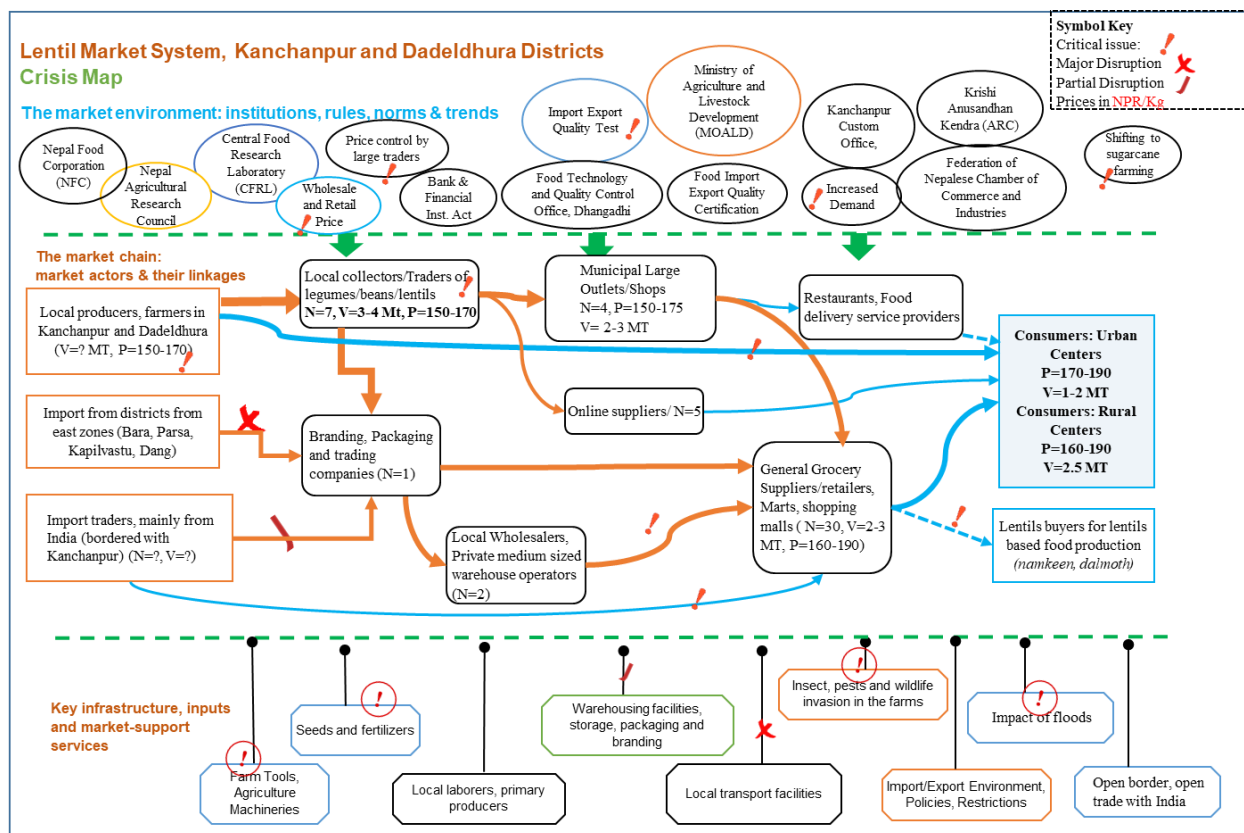


Figure 14: Lentils Market System: Crisis Map

The floods cause loss of stored lentils in the rural areas. This not only affects regular use of lentils in pulses, but also destroys the local varieties of seeds. Farmers have reported that the imported varieties of seeds have low adaptation capacity to changing environments and poor coping capacity to fight against the diseases and climate extremities.

In times of massive floods, the main transportation routes get damaged and the supply system of lentils like that of rice gets affected adversely. People have also reported that the flood leaves some kind of diseases that affect the subsequent crop in Beldandi and south-western parts of Bhimdatta Municipalities.

It is also found that the price of processed lentils is unexpectedly high in times of disaster emergencies, ranging from 160 to 190 NPR per Kg. Not only the floods, the producers have to leave the crop in the field unharvested if there is pest attack, damages by wild-lives and birds from around the



Suklaphanta wildlife reserve areas. It is also reported that lentils are sensitive to high humidity and cause decay if not cured properly after harvesting.

### 6.3 GENDER AND ROLE OF WOMEN IN THE MARKET

There are no separate role divisions for lentils production at the smallholder levels in the communities. Large scale farmers use modern farm tools to sow seeds, harvest, and store, while the smallholders cultivate only for the regular consumption. Tasks such as field preparation, sowing seeds, irrigation and transporting to the markets for selling are made by men while the protection of crop from birds and animals, collection from fields, drying the harvest, storing, and manual threshing are done by men-women together, mainly under the women's initiations. As women prepare food for the family, major care is taken by women for the lentils storage, availability and separation for seeds. On request, men buy lentils for both the consumption as well as the seeds.

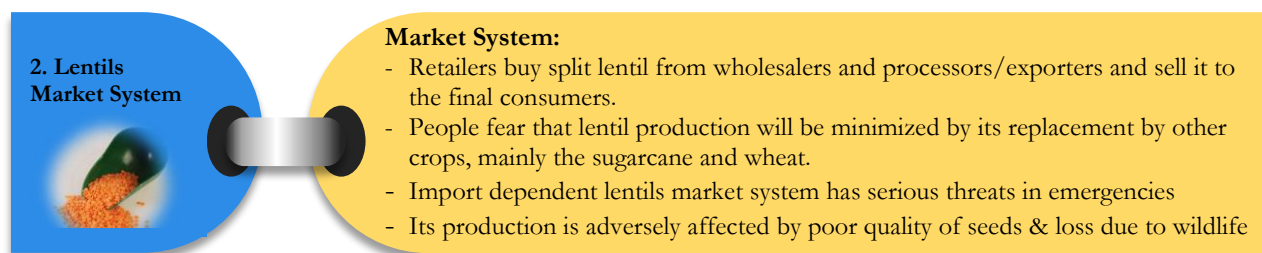
### 6.4 MAIN FINDINGS

The cross border marketing of lentils is not a big influence in the value chain due to export restrictions on the part of the Indian government. All the four local levels have a well-connected and established market chain, while these take major advantages from the nearest central markets of Dhangadhi and Nepalgunj for lentils import. The rural areas of Beldandi, Bhimdatta and Dodhara Chandani municipalities produce lentils which are not sufficient to meet the local demands.

The regional and central lentil collectors have district level networks which collect lentils from these municipalities. The production of lentils have declined substantially in the recent years due to several factors, among them are the unavailability of quality seeds, pest and wildlife attack, excess siltation in the farmland due to floods and relatively low production compared to other cash crops.

The lentil production has also been gradually replaced by sugarcane farming. The urbanization and expansion of settlements have also decreased the productive fields for lentils. The monsoon floods cause an increase in the humidity as well as cause damages to the storing pots and containers. This causes damage to the quality of seed due to higher sensitivity of lentils to the humidity.

Cost of lentils becomes very high during the disaster emergencies. There is scarcity of good quality of lentils in the normal situations too as a result of collection across the country for the export to international markets. This causes a supply deficit in the local markets resulting in the import from neighboring districts Bardiya, Banke and Bara with higher costs.



**2. Lentils Market System**

**Market System:**

- Retailers buy split lentil from wholesalers and processors/exporters and sell it to the final consumers.
- People fear that lentil production will be minimized by its replacement by other crops, mainly the sugarcane and wheat.
- Import dependent lentils market system has serious threats in emergencies
- Its production is adversely affected by poor quality of seeds & loss due to wildlife

Some NGOs support lentil value chain actors in various aspects such as input supply, technology dissemination, infrastructure development, policy lobbying, and trade. There appears to be a lack of consolidated efforts among the many service providers in supporting the lentil value chain.

## SECTION 7: MARKET SYSTEM ANALYSIS FOR SOAP

### 7.1 CURRENT MARKET SITUATION (BASE MAP)

The map below represents a base map of soap which is briefly explained in the following sections:

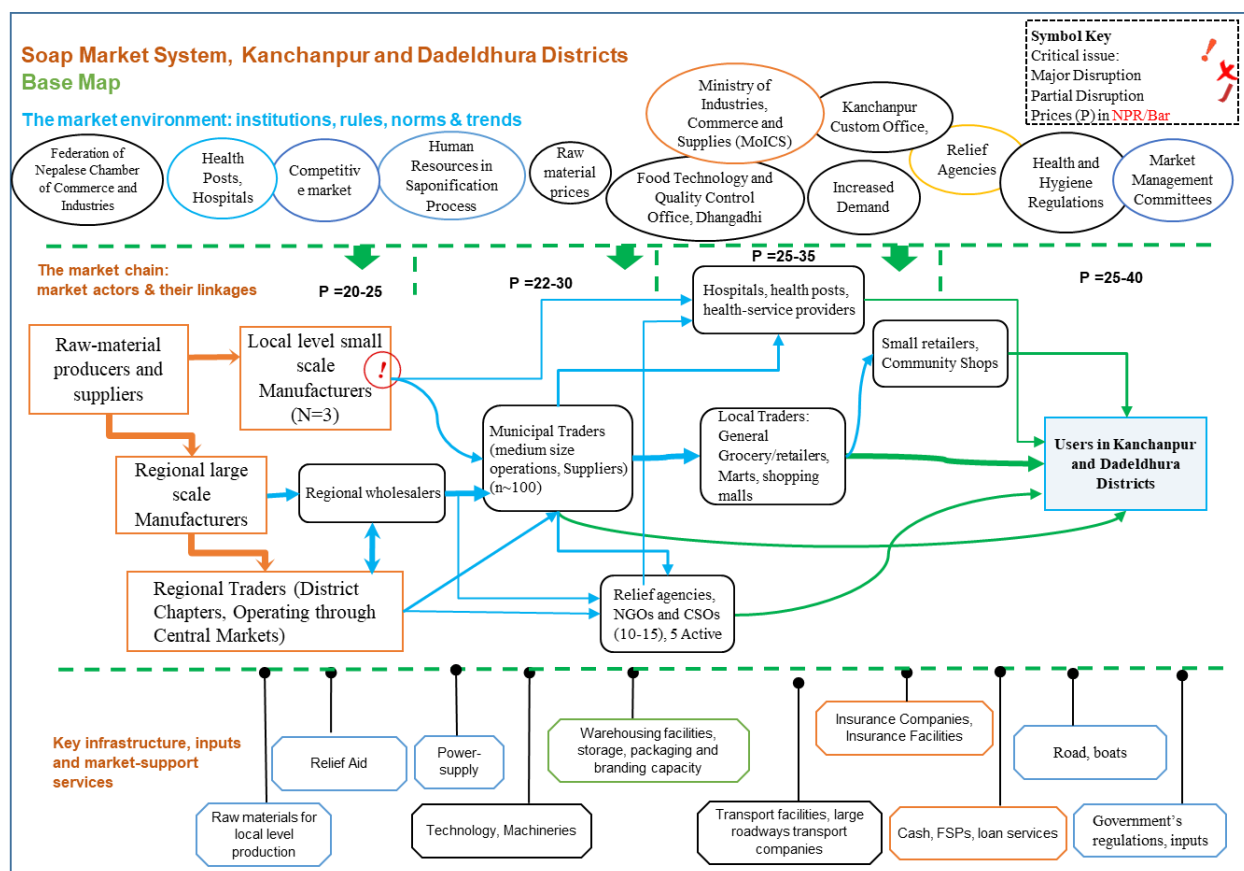


Figure 15: Soap Market System: Base Map

#### 7.1.1 MARKET CHAINS, MARKET ACTORS AND THEIR LINKAGES

The soap market system is totally dependent on external actors for supply. The demand for soap is relatively higher during the monsoon. There are only a few chemical factories of small scale that produce cleaning agents and detergent powder, however, they do not produce laundry bar soaps. There are several actors involved in the soap value chain and market system in Kanchanpur and Dadeldhura districts which are explained briefly in the following section.

##### Raw-materials producers and suppliers

These are large industries operated in industrial estates of Biratnagar, Birgunj, Kohalpur, Bhairahawa to produce chemicals, especially the Sodium benzoate and benzoic acids, Sodium laureth sulfate and

fragrances. The price of the end product is affected when there is a change in the price of these chemicals. Regional and local soap and cleaning chemical producers collect these basic raw materials from these large chemical producers. Some bring directly from neighboring Indian markets.

### **Regional large scale producers**

The nearest regional production sites are located at Dhangadhi of neighboring district Kailali. Dinesh Group of companies are among the largest of this kind in the nearest location that produces several kinds of cleaning chemicals including soap. New production companies are under the process of establishment at Daiji (Kanchanpur), Attaria (Kailali), Dhangadhi (Kailali), and Kahalpur (Banke) industrial areas that can be accessed by the local Soap market actors in the near future

### **Local manufacturers**

There are only three chemical factories in Kanchanpur district at this moment, however, some new factories are in the process to establish. These chemical factories, however, have not produced laundry soap bars. They produce detergents, disinfectants, sanitizers and floor-cleaning chemicals. In an interview, they revealed that they are planning to produce bar soaps but fear of high input cost challenged by cheaply available soaps in the market.

### **Regional traders and wholesalers**

Some regional traders operate in the area through the local market actors. There are no separate regional and wholesale traders for soap in the area, however, the larger scale traders make soap as one of several trading items. These are mainly the warehouse operators, import-export traders, and regional suppliers operating from Dhangadhi (Kailali) and Mahendranagar (Kanchanpur).

There are few wholesale traders cum warehouse operators who are expanding their operations at Attaria-Dhangadhi corridor to make easy access to the local markets in the region.

### **Municipal traders/suppliers**

Several local traders play the middle role of collecting soap from large suppliers and supplying them to the local retailers, health centers and relief agencies. The rates at this stage do not substantially change, however, there is some margin of around 2-3 NPR per pc is observed while releasing a sample soap at NPR 35/pc. These local traders also supply at the wholesale price with a nominal price margin when the demands are higher, especially during the epidemics, floods situations and similar other cases.

### **Retailers**

There are several retailers in urban and rural areas. With a nominal change in the retail price of soap, people do not prefer to go to urban center for regular purchasing of soaps, but when they tend to buy several household items for a month or so, they bring food and non-food items including soaps from the nearby urban centers, especially at Mahendranagar (Kanchanpur), Jogbuda (Dadeldhura) and Amargadhi (Dadeldhura). However, they also depend on smaller markets such as Raju Chauraha and medium size markets such as Brahma Dev. The soap is sold at the Maximum Retail Price (MRP) per unit as indicated in the soaps' cover or boxes which makes a margin of increments with NPR 2-10 per pc of soap.

## 7.1.2 KEY INFRASTRUCTURES, INPUTS AND MARKET SUPPORT SERVICES

### Key Inputs

Government's regulatory inputs are primarily around the quality control, price regulation and import-export process facilitation in accordance with trade regulations. Policies and regulations are updated, shared and enforced under the leadership of the Ministry of Industries, Commerce and Supplies (MoICS). Kanchanpur Custom office is one to regulate and manage the import of Soap and other items from India border points. The Department of Cottage and Small Industries provides training, policy and regulatory support and encouragement incentives for entrepreneurs.

New efficient and handy technologies have emerged in the recent days to produce soap with little investments and fewer operations costs. Several cooperatives, farmers groups, and individual entrepreneurs have learnt to make herbal soap as small microenterprises, but several have ended at the training stage. These inputs are provided by local governments, the cooperatives, the NGOs and development partners.

There are provisions of subsidized loan and other incentives from the government under several schemes such as Prime Minister Employment Fund, Small-Domestics and Small Industries Development Fund and Programmes and other similar from which small and medium entrepreneurship can be envisioned, developed and expanded in these local levels.

### Infrastructures

Lack of industrial tools, machines and technical experts are always a challenge in production and refinery sectors in western region of Nepal. Warehouses are not in the priority, instead the local traders feel comfortable with large regional traders' regular supplies on demand. Only a few local warehouses are operated as loading-unloading sites for large traders. Local traders store soap for the monsoon season in advance considering the risks of floods impacts on transport systems and the increased demands during the peak time of monsoon.

There is a good road network and transport system to reach each and every community in these local levels. Government has plans for developing Daiji, a local marketplace, an industrial village. The soap market system is also dependent on the import from Dhangadhi.



Figure 16: Inter-municipal Coordination Meeting (all 4 study municipalities)

## 7.2 CRISIS SITUATION (CRISIS MAP)

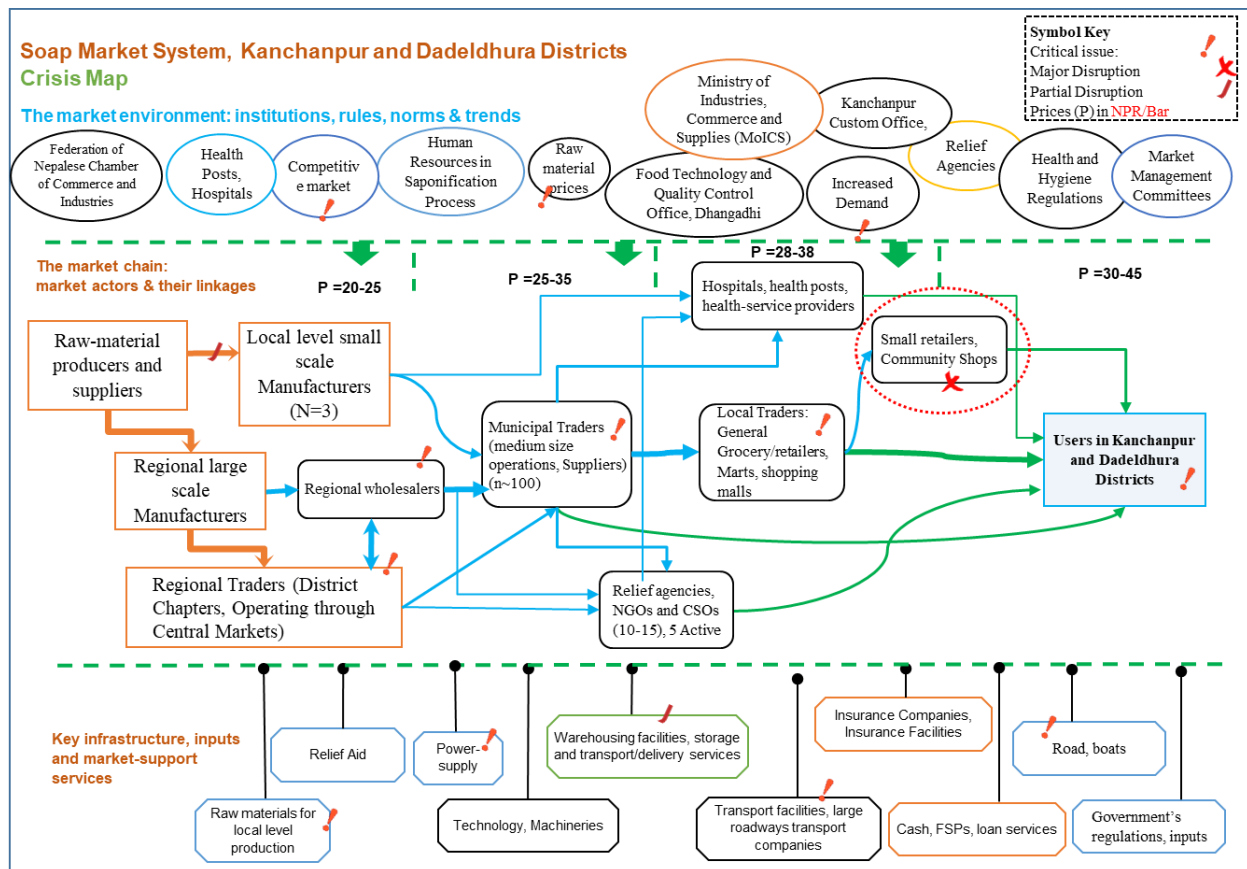


Figure 17: Soap Market System: Crisis Map

A dependent market system of soap to external suppliers is heavily affected when there is high demand in times of flood disaster and road network is damaged. The soap and detergents, soluble to water, are damaged when they come into contact with it. Retailers generally keep some stock of soap for monsoon months which they sell with higher marginal prices. The seasonal calendar also illustrates that price and demands both are high during rainy days and flooding situations.

The large traders have to supply to Bhimdatta, Dodhara-Chandani, Beldandi and Parasuram Municipalities through the roadways along national highways. These roadways get damaged severely in times of massive and recurrent floods during the rainy season/monsoon. This affects the local market system adversely creating a void between supply and demands. Longer the time taken to reopen the roadways, higher the price of soaps at local markets due to high demands, lower supply. Informal markets and imports from border points with India can thrive in such cases.

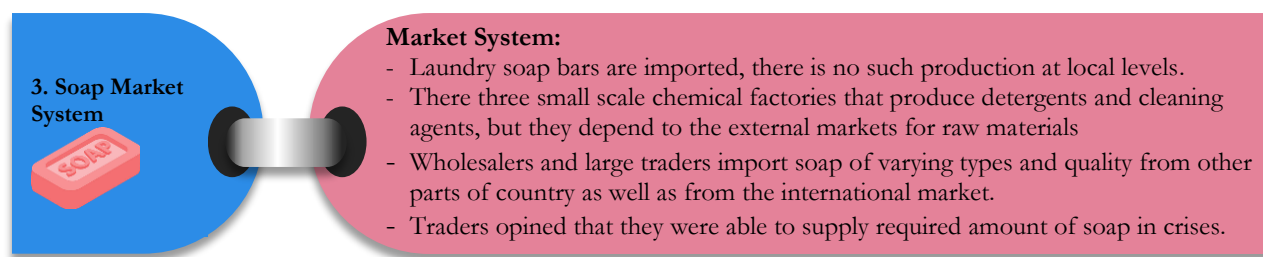
Regional traders have operated some warehouses at Bhimdatta Municipality from where the traders and local value chain actors supply soap to downstream markets and communities. When the supply is limited from regional and central markets, there is inflation of the price of soap and other commodities. In such cases, there are informal traders who sell items at very high prices taking advantages of the crisis situation.

Small retailers and community shops generally keep small amounts of soap in their regular services. This can supply the local demands for a maximum of one week, but when there is situation of flooding, people tend to buy more soaps and stockpile some as contingency. The floods generally last within a week which is okay for ease of coping, but when there is recurrent floods and prolonged inundations, there is a serious crisis of soap in the region because the supply side is obstructed by the damage on road sections.

### 7.3 GENDER AND ROLE OF WOMEN IN THE MARKET

Women and girls are disproportionately affected due to lack of safe water and soaps during the floods in the study area. Factors like need of more soaps and cleaning agents related to personal hygiene, fewer roles in decision makings in the family, and dependencies for cash need to the men members of the family put women to access markets. Men take primary responsibilities of buying household necessities with making decisions for handling the cash which limits the addressing of urgent needs of women and girls, such as soap for personal hygiene management.

### 7.4 MAIN FINDINGS



Soap is not produced in the study area but is imported by local and regional traders from production sites without any difficulties in the normal situation, however, the supply system becomes hindered in times of floods causing heightened demand.

Lack of proper warehouses in the municipal areas, lack of awareness on risk mitigation measures against floods and high humidity that has possibilities to degrade and damage the quality of soap, absence of local producers, and rise of unit price in times of disasters are key factors to consider in market based planning.

Awareness raising campaigns by humanitarian agencies and local governments have accelerated the use of soap. These campaigns were intensive during the Open-Defecation Free Zone declaration mission, fight against cholera and WASH campaign, and COVID-19 health safety campaign in the recent past in these districts. Subsidies for small and medium industries, enterprises are provided to establish small industries. People also felt difficulties acquiring soap in the lockdown situation imposed by the local government during the COVID-19 first wave.

There are several actors in the soap value chain, but the price variation is not that high in normal situations. Women and girls use soaps relatively higher than men while they have less access to the soap market with cash handling than men. Local retailers can supply soap for a maximum of a week but rely on external supplies. If the external supplies are limited due to floods and other disasters, the increased demand induced to increase the price per unit of soap.

## SECTION 8: MAIN RECOMMENDATIONS

The recommendations are categorized into three sections, one is the recommendations for future emergency responses, the other is the immediate market strengthening interventions, and the third is the recommendations for building the capacity of multiple actors to execute overall recommendations.

### 8.1 RECOMMENDATIONS FOR FUTURE EMERGENCY RESPONSES

Some key and primary recommendations are listed below in this section:

#### **A. Cash based response planning**

1. Cash and Voucher Assistance (CVA) approach is quite relevant in the emergency response for future humanitarian situations if the market has a minimal threshold of functionality. It is recommended to make a rapid analysis of the functionality in the very first days of the disasters. Accordingly, the planners can get an idea of how quickly the market moves towards the recovery. Cash based response planning will be appropriate when the market has absorption capacity of the injected cash in the affected communities.
2. Support in sensitizing to Municipal DRM Committee members on humanitarian CVA approaches and their modalities so that the annual and fiscal plans can integrate such response modalities in a systematic and sustainable manner. Local levels have to be supported with technologies of CVA and accepted, tested and replicated models of these humanitarian response options in a way that these are linked to the local level DRM governance.
3. Multipurpose cash grants (MPGs) are first in the list in terms of effectiveness. Several good practices have been observed at Bhimdatta Municipality on MPG that have left good footprints of effectiveness and usefulness of MPG in times of crisis to address immediate needs of people as well as to support in functionalization of market as a ripple effect through the injection of cash. This may be a suitable form once there is a clear regulatory protocol or guidelines in place.
4. The conditional cash grants, especially the Cash for Work (CfW), Cash for Training, Farm tools for Work, Food for Work, Cash for Special Needs such as addressing the medical supplies, the GBV etc., all seem relevant, feasible and doable. There are some successful examples of conditional cash grants in the humanitarian response programme in the study area to address the immediate needs of people during the COVID-19 and recent floods to support this recommendation.
5. For all the three critical market systems, CfW is among the most common approaches to recommend that assists local levels and humanitarian agencies to engage beneficiaries to reclaim and reopen the business, road access and public services considering the Build Back Better approach.
6. The voucher Assistance (VA) is found to be a perfect option for providing basic and most urgent needs including food commodities. A value voucher is intended to exchange with equivalent goods or services while a commodity voucher is designed for defined sets of commodity items. Both the options are feasible, well tested in Bhimdatta Municipality by a humanitarian agency in responding to the COVID-19 pandemic. This has to be well guided by the scope and objectives of the programmes and the contextual needs.

7. Integrate the Shock Responsive Social Protection in the CVA programmes to best utilize the existing system and mechanism of Social Security Allowances to the eligible beneficiary.
8. It is recommended to develop a guideline for CVA for the humanitarian response in these local levels under the umbrella framework of Disaster Risk Reduction and Management Act.

**The PCMA finds the best ways for cash transfers which are listed below briefly:**

- Bank Account Transfer: The selected FSP can transfer cash to the beneficiaries' bank account at multiple banks through an Interbank Payment System. Humanitarian agencies can use the existing bank account of the beneficiary instead of opening a separate bank account. Banks are concentrated in Mahendranagar Bazar of the Bhimdatta Municipality as this local level serves as a regional market for this geography.
- Remittances: Various banks and remittance companies are available to transfer cash to those without bank accounts in these local levels. Their networks of agents are scattered throughout the municipalities and the beneficiaries can withdraw cash from any of the agents in the network, which makes this mechanism highly accessible to beneficiaries. IME and Prabhu-Pay are among the most active service providers in all the four municipalities.
- Cash Camps: Cash camps are an easy and safe option to distribute cash wherever financial service providers are not available or are not enough due to their coverage, liquidity issue, remoteness, or large-scale disaster etc. with proper preparedness and plan. There are some limitations such as security issues, uncontrolled crowds of alien beneficiaries such as due to open borders with India and remoteness of communities of Dodhara Chandani, southern Beldandi, and western areas of Parasuram Municipality.
- Cash-over-the-counter is appropriate when these are operated by any dedicated FSP in which cash is distributed through the mobile banking counter.
- Digital Wallet: These are the most effective and rapidly expanding means of access to financial services. FSPs providing such services such as IME-Pay and E-Sewa have piloted cash transfers using digital wallets. Khalti and Prabhu-Pay have also expanded their capacity to reach remote communities in Nepal. The survey finds that the future of humanitarian cash transfers have to integrate and build the capacity to mainstream the system of digital wallets.

#### TRANSFER OPTIONS

All the transfer options are feasible to intervene in response as well as development interventions unless there is another disastrous situation disrupting the functionality in these municipalities. For sustainability point of view as well as in relation to integrating fanatical literacy, saving habits and safety purposes, transfer through the banks are recommended as the first option for transferring cash to the beneficiaries unless there are issues and limitations at the time of making decisions.

Box: XX

### ***B. In-kind support response planning***

1. The humanitarian response is intended to support people affected by the crises with immediate needs and supplies. If the market is not in a state to absorb the cash, has no or low level of functionality that the beneficiaries cannot access the intended services and supplies from the market, then the responses have to plan to support with urgent in-kind relief items. Sectoral needs are identified through a Multisectoral Initial Rapid Assessments (MIRA), while it is recommended to review this report together with other rapid assessment tools such as RAM and 48 Hours tools.



### ***C. Combination of Cash and in-kind support response planning***

1. This is the most relevant option identified for the initial stage of the humanitarian response in the study area which sees the market's minimal state of functionalities. The cash has a multiplier effect and the disaster affected people get a wide range of choices for meeting their diverse but urgent needs. In this case, a value voucher model of response inclusive of a certain amount of cash is found to be the most suitable form of response in these communities.
2. The size of cash in this approach can be determined with the help of MEB gap and in-kind relief support. To restore the livelihoods, an approach of MEB+ can be applied that integrates the immediate recovery needs into the relief package such as by providing seed of crop for next follow-up cropping cycle, some immediate farm tools and other livelihood inputs based on the agency's priority, local recovery needs and government's recommendations. The cash included in this approach helps beneficiaries fulfill those urgent needs which are not included in the standard relief package.

## **8.2 RECOMMENDATIONS FOR IMMEDIATE MARKET-STRENGTHENING INTERVENTIONS**

There are some key recommendations for immediate market strengthening interventions, grouped for each critical market system, as well as a holistic approach for overall markets.

### **Rice Market System**

1. A large scale warehouse is required in Dodhara Chandani area allowing people to use for emergency stockpile of food items and other necessities.
2. Stockpile rice together with other lifesaving items at all the municipal centers that can be quickly distributed during flood crises and disasters.
3. Build community level Grain-Banks envisioning crisis scenarios, at least one in each ward that is managed and operated by Ward level Disaster Management Committee (W-DMCs) having Standard Operating Procedures (SOPs).
4. Train Rice Market Actors with basic skills of risk mapping, mitigation and management with business contingency planning.
5. There are several local actors of the rice market system in the study municipalities. It is recommended to procure rice from these traders instead of importing from other regions of Nepal during the times of humanitarian response. Vouchers can be used to activate local markets when agencies choose to provide food assistance.
6. Refer to the seasonal calendar of rice when making response planning for food distribution, or cash assistance or combined.
7. Regulate the price and quality of rice in times of crisis. Design response plans to restore and reclaim the land for following winter crop if there is massive inundation and siltation in the paddy fields.



*Figure 18: A worker in an integrated mill of small size that operates rice hauler, oil expeller, wheat flour maker and lentil splitter at the same site in Beldandi*

## **Lentil Market System**

1. Map the lentils value chain, support local producers with improved seeds and necessary skills for sustainable production through the livelihood improvement schemes.
2. Support local millers, warehouse operators and collectors (*Gallawala*) with risk mapping and contingency planning with practical training.
3. Build community level food storage envisioning crisis scenarios, at least one in each ward that is managed and operated by Ward level Disaster Management Committee (W-DMCs) having Standard Operating Procedures (SOPs).
4. Stockpile lentils together with other lifesaving items at all the municipal centers that can be quickly supplied to affected areas during flood crises and disasters.
5. Include Lentil in food distribution during emergencies which can be supported using the commodity voucher.

## **Soap Market System**

1. Stockpile soap together with other lifesaving items at all the municipal centers that can be quickly dispatched during flood crises and disasters.
2. Provide basic skills of business contingency planning for local and regional soap traders so that they will mitigate flood and other disaster risks in the area.
3. Prioritize local manufacturers and local traders of soap while procuring for humanitarian response
4. Agencies make standby agreements with municipal and regional traders for immediate actions to supply required quantities in an emergency.

## **Recommendations for Overall Market System**

1. Develop and mainstream market based disaster preparedness and response plans in the local disaster and climate risks management plans (LDCRPs).
2. Scope the opportunities and challenges for the private sector's involvement in the disaster risks reduction and management in the regions, and create enabling environments through capacity building and through creating conducive policy environments.
3. Scope the DRR and recovery priorities at local levels and facilitate mainstreaming these priorities and issues into the annual as well as periodic development plans for sustainable results.
4. Make regular interactions of these municipalities for collaborative response planning and preparedness for future humanitarian responses. Bring key market actors, large traders and millers in such an interaction forum to make a collective and collaborative plan with resources leveraging for a common purpose.
5. Support the youth to engage in market recovery, especially in the restoration of access, warehouses, rice production/processing jobs through the use of CVA modality, such as cash for work and cash for training.
6. Work closely with local levels to bring the FSPs in the humanitarian sectors. Map such FSPs and their coverage with available resources. Make some piloting of interventions using the cash transfers using the latest technologies such as mobile wallets and SMS banking. This will provide an opportunity to scale up the humanitarian response using such modalities for the future crisis management.
7. Invest in the risk reduction measures in the communities as well as the local markets, the food processing sites, the mills and warehouses to make realize that the crisis may hit to all, and the crisis management is a collective effort and is a common but differentiated responsibility of all.
8. Develop interventions to support small and medium microenterprises, especially the small millers, local transport service providers, seed/grain bank operating groups, seed production cooperatives

and women groups, soap makers who get affected adversely during the flood disasters in the area and are key market actors at the downstream markets active at community level.

9. Ensuring that there are no forms of discrimination during crisis response and recovery activities especially while determining the relief recipient from a family. It is observed that men are the primary recipients of relief items, which may put women and girls' priorities in lower priority as observed in the gender role of using soap, household decision making and cash handling.
10. Develop a network of local actors active in the value chain of key commodities and services, such as that of rice, lentil and soap market systems in each local level (municipal level), and build the capacity of risk sensitive business planning, contingency planning and roles of markets in response and recovery to and from disasters.
11. Local Governments encourage the private sector to establish warehouses at key locations, at least few at Bhimdatta municipality, one at Jogbuda, 1 at Parasuram, 1 at Kunda-Band-Chhela, 1 at Simalkhet. One of these kinds located at Jogbuda needs to be upgraded and brought into function so that it can serve well in the area.
12. Forecast based Financing and Actions are recommended to mitigate the risks of smallholder producers as well as small scale local traders who are found to be the most vulnerable due to disasters in all the four local levels. An integrated people centered early warning and early actions need to be identified through a collective upstream-downstream inter-municipal coordination mechanism, and need to mainstream into the local level periodic as well as annual development plan for sustainability and long term impacts.
13. Develop GIS based flood simulation maps together with hazards and capacity maps in the study areas that integrate the information of critical markets.
14. The governing local level plans such as the Emergency Preparedness and Response Plans (EPRPs) of the municipalities and the districts need to be updated in line to the market based response planning equipped with the market information. The intervention markets (those of small market centers in the community settlements) are more fragile and need immediate support to make them functional. These supports are primarily the restoration of road networks, the bridges and culverts. If these are included in the risk reduction and recovery planning in the EPRPs of the respective local levels, the market can absorb humanitarian cash and find ways to be self-functional. The restoration of rural roads and other services can be well planned through the cash for work, food for work, and even the cash for agro-inputs.
15. Markets in Dodhara Chandani are highly vulnerable. This market system is operated with factors of high demand in Bhimdatta Municipality (with relatively cheaper prices of items in India), low level of policy enforcement at border points and by using mostly the illegal traits. If the disaster affects the access routes, and the community faces blockade and similar restrictions from India, the market dies in a short span of time, estimated to be for a month, and hence the huge humanitarian crisis is expected. Inter-municipal coordination and collaborations is recommended to address these challenges and issues.
16. The municipalities and community level Disaster Management Committees perform the simulation/drill exercises. Make a necessary arrangement to incorporate the market based approach in such exercises. This sort of exercise can help test the available resources, existing policy environment and provide wide ranges of implementation opportunities, ease the bottlenecks, and intervene in the areas of improvements.
17. The local level DRR/M policies have not incorporated any form of market information and market based modalities. It is recommended to review these with a lens of market based approach incorporating the relevant information of the local markets (downstream, intervention and regional markets).

18. Engage key actors or the members of their associations of all three critical market systems in the risk analysis, disaster response and preparedness planning as well as in the risk mitigation work. This will help in making these actors realize the potential risks and capacity they have in their business, and accordingly plan for enhancing the resilience of the market system, the actors and the people.

### 8.3 RECOMMENDATIONS FOR CAPACITY DEVELOPMENT

Here are some key recommendations for the capacity building to the team/s for implementation of the market based interventions, especially using the CVA approaches. This can be equally useful to the government officials, DMC members and representatives of community groups, key traders and the representatives of FSPs.

Areas of Capacity Building	Recommended Key Activities for Enhancing Knowledge on CVA and Market Based Planning
<b>Human Resources</b>	<ul style="list-style-type: none"> <li>- Provide self-guided online training of CVA basics and the market assessment tools available free of cost from Cash Learning Partnership (<a href="#">CaLP</a>)</li> <li>- Coordinate with National CCG group and other humanitarian platforms for regular updates and the contextualized resources on CVA</li> </ul>
<b>Conceptual clarity on CVA Programming</b>	<ul style="list-style-type: none"> <li>- Provide self-guided online training of CVA basics and the market assessment tools available free of cost from Cash Learning Partnership (<a href="#">CaLP</a>)</li> <li>- Before designing and implementing and such interventions, it is necessary to observe and learn similar interventions implemented by other humanitarian agencies</li> <li>- Pilot some modalities of market based humanitarian response interventions in a small community for learning and sharing purposes</li> <li>- Refer to good practices and lessons learnt documents on CVA for response planning if available</li> </ul>
<b>Targeting</b>	<ul style="list-style-type: none"> <li>- Review this assessment report, refer to the targeting criteria set forth by the government and the humanitarian coordination networks.</li> </ul>
<b>Project Management</b>	<ul style="list-style-type: none"> <li>- Training for staffs and members of Board for the CVA Project Management Cycle</li> <li>- Piloting some CVA interventions for normal market strengthening or livelihoods strengthening projects</li> <li>- Learning from other similar projects in the region</li> </ul>
<b>Risk Bearing and innovation practices</b>	<ul style="list-style-type: none"> <li>- Update the organizational and operational contingency plans incorporating CVA and market based planning strategies</li> <li>- Update the agreements such as framework agreement, standby agreements, long term agreements etc., with the suppliers, FSPs after every disaster and before every anticipated disasters such as recurrent annual monsoon floods</li> </ul>

## SECTION 9: MARKET MONITORING AND RECOMMENDATIONS

Market monitoring involves the collection and the analysis of market information on a routine basis to understand the way the market behaves in different situations. The factors affecting markets, as discussed in the market maps are influenced by the changes in the external environments such as the policies, priorities, informal trades, demand-supply catalyzers and the price regulations. It is found that

the changes in the agriculture policies such as an increased subsidy in farm inputs in neighboring India has substantially affected the pricing, and hence the production supply system of rice and lentils in Nepal, and the vice versa.

It helps identify market trends and patterns of changes, adapt strategies and inform decisions on project management. While monitoring activities should be undertaken regularly, evaluation of issues related to these activities can take place at different stages of the cash assistance programme. The objective of evaluation is to understand whether the expected outputs, outcomes and objectives have been reached, and to capitalize on learning for any ongoing humanitarian effort, if possible, and certainly for future initiatives. Undertaking it in a collaborative or a joint manner has all the advantages which can result in better programme management with increased effectiveness and lower cost.

## 9.1 MARKET MONITORING TOOLS

The commonly used tools and guidance that can be referred to for training, guidance and reference documents for market based planning and decision making processes are listed below. It is recommended to refer to the CALP's Programme Quality Toolbox for support and guidance for the overall programme management cycle.

- Existing Pre-crisis Market Analysis (PCMA) reports
- Emergency Market Mapping and Analysis Toolkit ([EMMA](#)); Rapid Assessment for Markets ([RAM](#)) toolkit; Market Analysis Guidance ([MAG](#)) Toolkit;
- 48 Hours Assessment Tools ([48 hr tool](#)); Price Monitoring, Analysis and Response Tool ([MARKit](#)) ; CALP [Programme Quality Toolbox](#)

## 9.2 MARKET MONITORING FRAMEWORK

This is a simple process guide for the market monitoring for both the normal and the humanitarian situations. This is devised in such a way that it fits to other recommended frameworks in this PCMA such as the Response Logic (Response Tree), the decision matrix for the response options selection programme design logic.

Market monitoring mechanism is highly required to better inform cash-based interventions and understand market dynamics. Marketplaces in Kanchanpur and Dadeldhura districts should be periodically assessed, preferably on a monthly basis in times of humanitarian response and recovery stages. Market monitoring should include components including tools to check the market functionality in terms of a well-functioning supply chain ensuring adequate supply in the local as well as regional markets. At the same time, the monitoring tool should also be able to track and spot trends in the movement of prices of commodities, especially the ones that are considered while calculating the Multi-Sector Survival Minimum Expenditure Basket (MSSMEB).

Market monitoring can be effective if carried out by the district level Cash Working Group under the leadership of local government authority in close coordination with local level Market Monitoring Committees if exists, however, a market monitoring committee can be developed under the coordination mechanism of LDMC of respective rural/urban municipalities. Coverage of the markets should be clearly defined depending on the priority of vulnerable areas and capacity of organizations

to regularly collect the data. The market monitoring teams should be well trained on the objectives, methodology and data collection tools.

Market monitoring activities also help regulate the markets to check illegal activities such as forming cartels for manipulating prices as stated by the Competition Promotion and Market Protection Act (2007) of Nepal. Similarly, as the name defines, the Consumer Protection Act of Nepal (2018), protects the rights of the consumers to be properly informed about the quality and other information related to goods and services that they are buying. Similarly, the Black Market and other Social Offence and Penalty Act (1975) should also be referred to while monitoring and regulating the market.

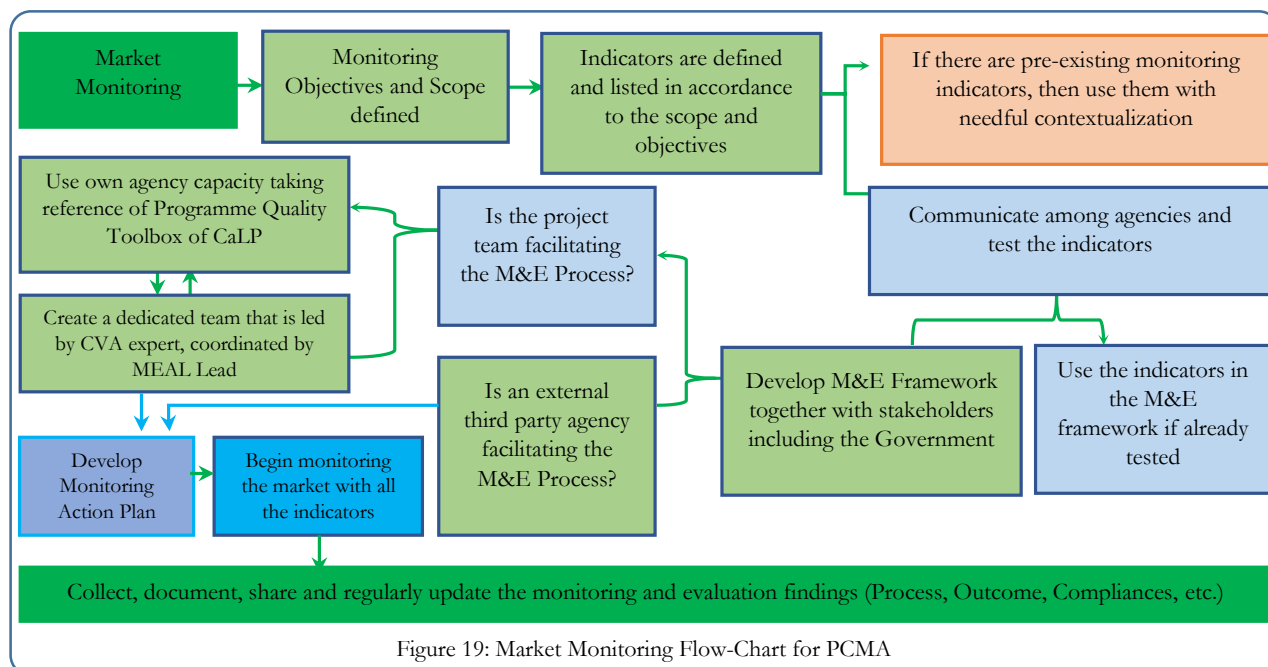


Figure 19: Market Monitoring Flow-Chart for PCMA

Make the monitoring inclusive and integrated as beneficiary level monitoring, community level (CDMC) monitoring, content monitoring and process monitoring. Risk monitoring should be considered a primary stage for the overall CVA and market based planning framework. Make indicators specifically the issues of protection, gender, equity, accountability in presence of local actors, beneficiaries and decision makers. Planning for monitoring and evaluation must start at the setup and early planning stage.

Monitoring and evaluation must be based on the indicators established in the logical framework that links the characteristics of the market such as the inflation, demand and supply, critical markets, policy and environments, major infrastructures and key actors. Make inclusive of commonly agreed criteria for the effectiveness and efficiency in connection to the Core Humanitarian Standards (CHS) compliance in the monitoring framework.

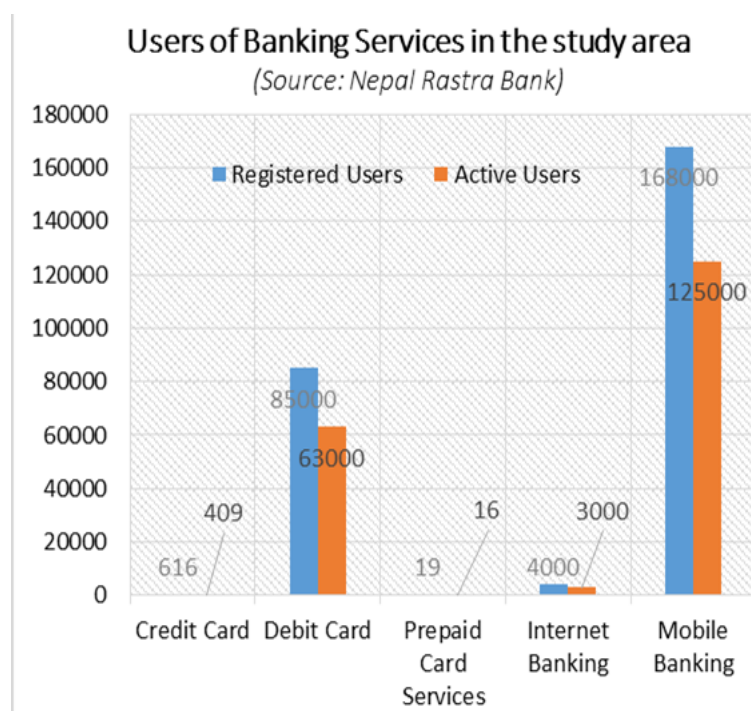
In the case of multipurpose cash grants (MPG), indicators should be broad enough to allow for capturing the multiplier effects. Make sure that the monitoring team is trained, and tools are tested. Gather baseline data before or at least at the time of the first round of encashment. Combine both quantitative and qualitative data from different sources, to allow for triangulation.

## SECTION 10: ANNEXES

### 10.1 ANNEX A: ACCESS TO THE FINANCIAL SERVICES

All the banks are operational with full application of COVID-19 safety regulations. The cooperatives, remittance companies and other FSPs are equally in the front line to serve the clients. Banks have developed specialized mobile applications to facilitate the regular services. This has given an opportunity for linking people with an efficient banking system, and engaging them to have digital based financial services so that they start benefiting from other services of banks and financial service providers, and is in a rapid growing trend at the urban centers such as Mahendranagar Bazar. However, only 55% of the respondents from Beldandi Rural Municipality, which is among the highly vulnerable to floods requiring more early actions and investments have used the banking services. It is well functional in other municipalities and has been significantly increasing in recent years due to governments' plan for transferring social security allowances to the beneficiaries' bank accounts.

Online payment systems such as mobile wallets and bank's online apps have been proved very successful to operate through the home delivery services for several existing and new traders, specially the grocery suppliers of Bhimdatta Municipality. Key service providers are Khalti, E-Sewa, IME-Pay and Prabhu Pay. IME pay and Prabhu Pay have established a wide range of networks of their interoperability digital payment systems across regions including the bulk humanitarian cash payment system in Nepal.



This research finds that 100% of these service providers have followed government's mandatory provisions including the Know Your Customers (KYC) and have brought newer and contextualized financial services. Additionally, more than 80% of these financial service providers mentioned that they are in position to develop, expand and serve with digital payments for all sorts of cash transfers. This includes the payments to farmers for purchase of vegetables and bulk payments to a large number of beneficiaries affected by disasters or the people entitled for social security allowances.

All 10 such FSPs interviewed during this study have presented a positive response for collaborations to go for the humanitarian and regular development interventions that can integrate the CVA modalities.

## 10.2 ANNEX B: PCMA TEAM

This study was undertaken by a team of experts having experience in conceptualizing and designing market based interventions. Under the leadership of a senior humanitarian and development expert, the PCMA team accomplished this study taking almost three months during the core times of monsoon in the year 2021. The team members are presented in the following chart.

