Emergency Market Mapping and Analysis (EMMA)

Focused on WASH

Training Report

Documented for: *Oxfam GB Nepal*

Documented by: *Ms. Mandira Singh Shrestha*

February 23 – 27, 2014

Table ofContents

Abbreviations

BH	**Bore Hole**
CFW	**Cash for Work**
CMS	**Critical Market System**
CTP	**Cash Transfer Program**
DEPROSC	**Development Project Service Centre**
DWS	**Drinking Water Supply**
EFSVL	**Emergency Food Security and Vulnerable Livelihood**
EMMA	**Emergency Market Mapping and Analysis**
ENPHO	**Environment and Public Health Organization**
IFRC	**International Federation of Red Cross and Red Crescent**
KUKL	**Kathmandu Upatyeka Khane Pani Limited**
NRCS	**Nepal Red Cross Society**
WASH	**Water Sanitation and Hygiene**

Executive Summary

Emergency Market Mapping Analysis (EMMA) is a toolkit guidance manual for humanitarian staff in sudden-onset emergencies which aims to improve emergency responses by encouraging and assisting relief agencies to better understand, support and make use of local market-systems in disaster zones.

EMMA offers a quick, rough-and-ready analysis with practical recommendations that are suitable for the early stages of emergencies. It does not rely on users having specialist economic or market analysis skills; and it is broad in scope: addressing survival needs, livelihood protection and the transition to economic recovery.

As a part of its National Humanitarian Capacity Building for Urban Risk Management, Oxfam organized a five days training on Emergency Market Mapping Analysis (EMMA) for WASH Champions in the country to enhance capacity of WASH actors for market based intervention during emergency in Nepal. The Program was organized on February 23-27, 2014, at Hotel Summit, Kupondol.

Nineteen participants from various national and international organizations, such as IFRC, NRCS, ENPHO, DEPROSC, Lumanti and Oxfam participated in the training program.
The training was focussed on delivering technical skill to the participants as well as understanding the critical market system (CMS) in current context for improving the market system for better preparedness with regard to meet drinking water need in post earthquake context in Kathmandu. Post training evaluation revealed that It developed a technical response capacity among the participants to carry out emergency market assessment during the disaster situations to help in the emergency response and to capacitate the market system.

Mr.Rajesh DhungeL, working in the capacity of EFSL Regional Capacity Builder, Oxfam GB Asia, facilitated the overall training session successfully. Both the theoretical knowledge and the practical assessments such as group work, presentations, quiz, video show, group discussion and field works were incorporated inorder to enlighten the participants in understanding the purpose of the training.

Towards the concluding session of the training, few guests from Oxfam country programme were invited, during which the participants conducted a short presentation about their learning, observation during field work and their findings from their respected area of intervention.

At the end, participants including the guests discussed on the findings and the guest acknowledged recommendations and committed that most of them can be incorporated in next phase of programming and are useful for post-earthquake response programming.

Background

Objective of the Training

The training aimed at achieving the following objectives -

- To enhance the knowledge and understanding of OXFAM, implementing partners and other stakeholders about the important market aspects of WASH in an emergency situation
- To build the capacity of WASH practitioners on using EMMA tools for preparedness and emergency response
- To prepare a market structure of selected WASH commodity in urban areas for emergency preparedness and informed second phase programming

Methodology

The training was delivered with the combination of different methodologies like lecture, group work, video show, role play and quiz. The first day was introduction to market system and cash transfer programme. Rest of the days were allocated for practicing 9 steps of EMMA (step 2-10) with real case and expected earthquake scenario. The participants were involved in analyzing 3 strands of EMMA (refer to EMMA toolkit for detail). The training ended up with evaluation and certification.

Modules of the Training Session

Workshop introduction and objectives	To introduce the basic theme of the overall session and what the training aims to achieve at the end
Introduction to Emergency Market Mapping Analysis	To understand the EMMA, its core logic, EMMA process and tools of EMMA, Essentials of EMMA Three strands of EMMA – Gap, Market, Response Purpose of EMMA EMMA and Market system Setting analytical questions
Different response options: Cash transfer Programming and In-kind	To learn about cash transfer programs, its modalities, why is it essential, advantages and disadvantages of cash transfer, preconditions , in-kind modality CTP Delivery Options -payment methods -Delivery agents

	Linking market and cash programming
Selecting Critical Markets	Introduction to Critical Market System Importance of market system in Emergencies Selecting critical market system Identifying critical market
Preliminary Analysis	Initial mapping and information needs EMMA logic and process: market analysis concepts and logic Gap analysis Market analysis concepts and logic Market power, environment, supply and demand
Preparation for the field work	Identifying the area of work and analyze situation Preparing questionnaires Division of groups
Field Work Activities	Group visited water suppliers (both private and public); host communities and various actors in the drinking water supply chain
Response analysis and recommendation	• Determine what response logic is most appropriate for chosen CMS based on empirical evidence from field work and available secondary information • Decide what type of direct assistance or other kinds of indirect action, including further investigation, to recommend • Estimate how much assistance is required • Describe when, and for how long, assistance or other indirect support should be provided, and how its impact could be monitored
Communicate results	• The participants prepared brief presentation including context, process, tools and findings among the Programme/Project management team from Oxfam country team.
Evaluation and closing	• The facilitators used mood chart to understand the how the training was effective in meeting individual expectation shared at the beginning of the training. • Each participants were given certificate of participation

Proceeding

Day 1: February 23, 2014

Session 1 (An Introduction)

Session 1 of the training program was an introduction of the basic concept of Emergency Market Mapping Analysis (EMMA), market system, purpose of EMMA, training objectives and what would be the style, methodology and theme for the overall training.

Before beginning the fresh start of the training, the facilitator started the day with the introductory session. The participants were made to introduce their co-participants who were unknown to each other with an objective to develop a friendly atmosphere throughout the training session.

At first, expectations were collected among participants as listed in the box alongside that significantly gave a clear picture of the participant prospects on the overall program.

Secondly, the network game was conducted in which participants were asked to think of tea market system and throw the woolen ball to another participant shouting one work that come in their mind when they think of tea market system. The spider web type of network was formed out of wool. With this exercise facilitator explained how the market system looks like and discussed how it can be affected due to emergency by cutting different connection among participants.

The successive session started with the basics of Market System in which the participants shared its common concept of being as demand and supply, buyers and sellers, network of transport, producer to consumer, transfer of commodity. Facilitator then summarized the market system as a chain of actors operating with different market function under certain market environment; and infrastructure and services.

Having the market system in the community, the facilitator switched on to the essence of EMMA and how it is effective in order to understand the network of market system particularly during disaster with possible interventions to help affected people.

EXPECTATIONS DRAWN BY PARTICIPANTS……

- *To be familiar about emergency market mapping tools*
- *To be able to use emergency market mapping tools and techniques*
- *Analysis of tools and detail methodology*
- *Basics of EMMA and analysis in details*
- *EMMA the subject is very new so looking forward to it*
- *To be able to use practical tools and access it properly*
- *How market (cost benefit) aspects can introduce in WASH emergency*
- *To determine emergency market analysis*
- *To understand the aspects of market mapping for WASH during mega disaster*
- *To understand process of market in emergency*
- *How to include cash transfer modalities in WASH program*
- *To discuss "willingness to pay" success, "trader assessments" and "vulnerability ranking criteria"*
- *To be able to conduct a WASH EMMA training in Myanmar and lead a WASH EMMA study in Kadin, Myanmar*
- *Associated Risks with EMMA*
- *To learn something new and help people in need*

Activity 1: Presentation on Mapping Water Market

Followed by conceptual understanding about market system, facilitator allow participants to brainstorm about drinking water supply market system by showing pictures of different water supply system including gravity flow, tinkering, bottled water, etc. Four groups were formed and each group was asked to prepare a market system for a chosen water supply system. Two of the groups prepared a map depicting various sources, while one developed map for water supplied through hand pump and other used bottled water supply market system. One group was requested to explain the map drawn by other group and later on the respective group was given time to add information that the reader of the map could not read. Facilitator highlighted how the same process can be communicated in different ways. However, one should be able to make the reader understand the market system clearly from the map.

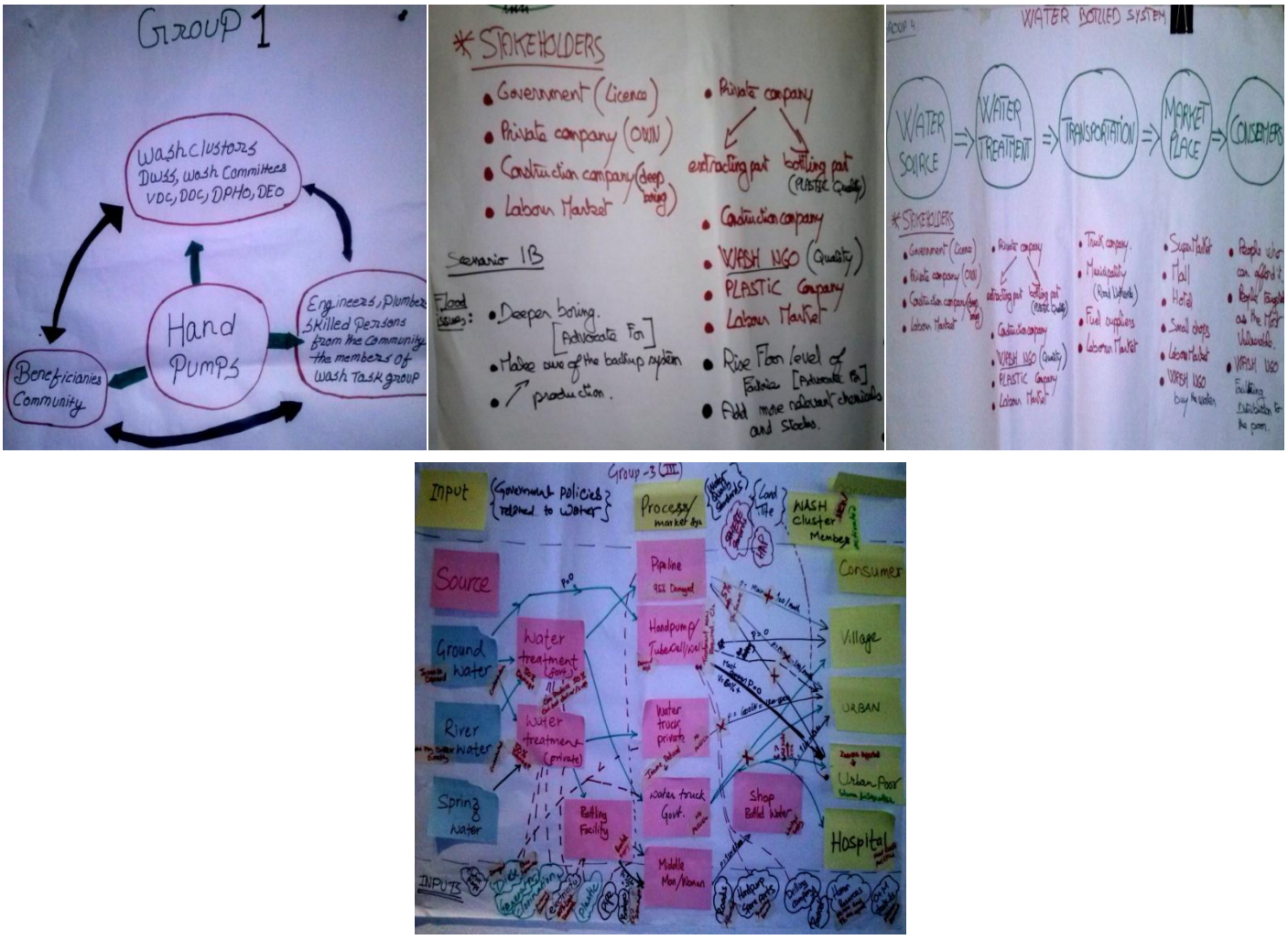


Figure: Market maps produced by different groups

Followed by group presentation facilitator recapitulated the conceptual understanding of market system referring back to the output from the group work and shared standards EMMA map and explained each layer of the market map and highlighted way to interpret baseline and emergency maps.

Activity 2: Second round of Presentation

After presenting concepts of Cash transfer program, including terminologies and different modalities of CTP, participants were divided into three groups. Each group were given task to identify advantages and disadvantages of different cash transfer modalities pre-conditions and appropriate time to use given modality during different phases of disaster management cycle. Facilitator emphasizes the fundamental difference in conditional cash grant and CFW and explained CFW need to qualify "CAVES (Community participation, Assets creation, Vulnerability consideration, Entitlement and Seasonality)." Followed by group work team leader from each group presented their work on following modalities.

1. Cash and commodity vouchers
2. Cash grant
3. Cash for work

Group 1: Cash and Commodity Vouchers	
Presenter	Ms. Janakee Kiran Shrestha, Oxfam,
Preconditions	• Cash and commodity voucher should be used where there is availability of market • Precondition for cash and commodity vouchers requires community sensitization • Preconditions of commodity vouchers- Demand and supply is essential and local traders must be available and readiness of the traders to use the commodity vouchers
Advantages	• Dignity of affected people is maintained • Circulation of money and empowerment of affected community • Support beneficiary traders to recover quickly
disadvantages	• With Cash voucher misuse of money, strengthening of local market is at risk • Less freedom of choices and priority may not be addressed • Less flexibility in terms of choosing traders
Timing	• Appropriate in later phase on first phase response or early recovery stage

Group 2: Cash Grant	
Presenter	Mr. Yadav P. Dhakal, IFRC
Preconditions	• Market is semi functioning or fully functioning at that point of time only cash grant because the accessibility and feasibility of

	goods within that market is at top priority • If materials are not available, then cash grant seems to be impossible in the statistics system.
Advantages	• Flexibility of choices • Easy to manage cash and less time consuming because if we implement voucher system then it may take time Sustainability of the local market and • dignity of the beneficiaries.
Disadvantages	• Lot of risks to identify if the beneficiaries will utilize the money for certain things or not • Diversion to non basic need items, that is while distributing cash to the beneficiaries, the leader of the household is generally men and they receive the money and that may be misused rather than buying necessary things to their family.
Timing	• All stages of emergency response. Unconditional in the very early stage and gradually shift towards conditional cash grant as the time passes

Group 3: Cash for Work (CFW)	
Presenter	Mr. Shushant Sharma, Lumanti,
Preconditions	• and Wide range of participation from the community is needed in order to succeed in the CFW program • Labor intensive work • Availability of cash
Advantages	• It helps to develop community assets to support livelihoods • If people have the availability of money then they are able to buy goods in the market. • Socialization in the community are likely to help people in few disaster situations
Disadvantages	• It increases dependency and may create difficulty to engage people as they may be in different trauma situation right after disaster • Difficult to involve PWD/women/children headed households • Non working group of people may benefit from CFW program without working and high admin cost for the donors may happen
Timing	• Early recovery, rehabilitation and reconstruction, disaster resilience structures during preparedness phase as well

Followed by above sessions targeted for conceptual clarity on market system and CTP facilitator discussed about linking market assessment with CTP. The presentation on market channel and how the market situation resembles to the traffic light and under each market context what could be the appropriate CTP options. He emphasized that

the market channel overlooks the safety of beneficiary, which need to be considered while designing the CTP in emergency context. Furthermore, it was highlighted that market channel for one commodity/service doesn't apply for all. If the assessment reveals Red channel for one commodity/service then at the same time in a same geographical area it might be green/amber for other commodity/services. The market channel is not static and keeps on changing so market monitoring should be a continuous process before and during CTP interventions. The presentation was followed by group work on four different scenarios. Participants were asked to identify market channel, appropriate response option and process, and information gaps for decision making. Each group visited the scenarios pasted in the wall and wrote their answer on the space available beneath each scenario.

Day 2: February 24, 2014

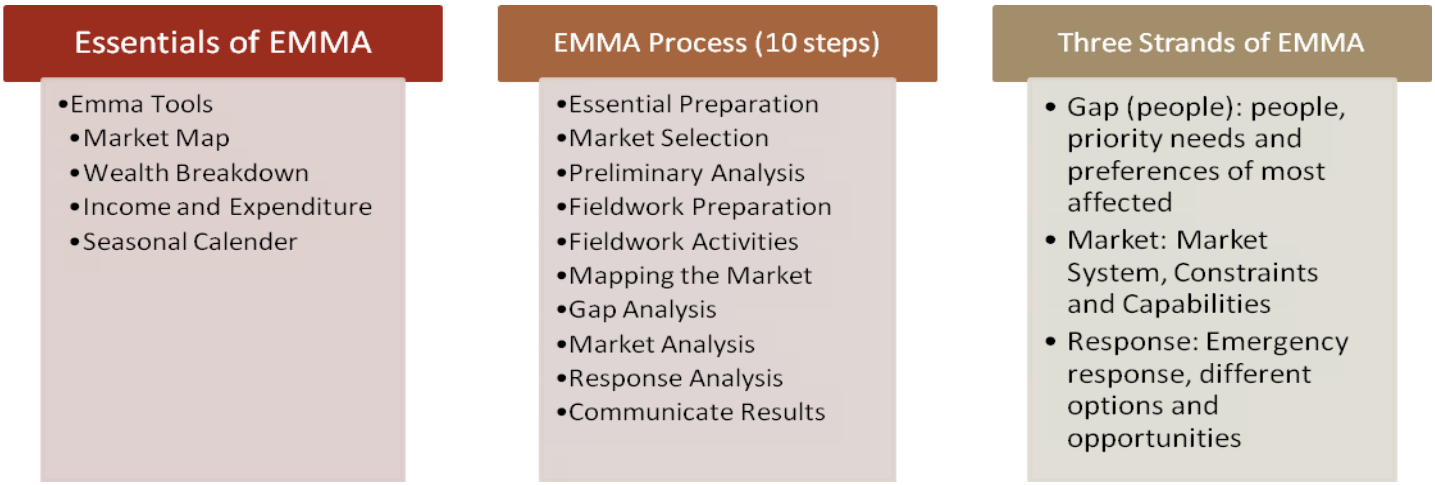
Activity 1: Reflection session

Before starting the day, reflection on previous day was conducted. The participants in different groups discussed about learning from the first day, area for improvement and what went well. The participants identified the followings:

Learnings from Day 1	Areas for Improvement
•Basics of EMMA • Three types of Cash Transfer Modalities •Market Chain System •Effect of Disaster on Market System •Market Mapping •Scenario Development	•Facilitation by atleast two facilitators •Long hours of session •Heavy Content •Entertainment Factor

What went well?
• Time management • Facilitation • Effective content • Group participation • Discipline

After the reflection on the activities from the day 1, the day began with the video show that highlights how market assessment is important for better response and how different modalities of cash transfer programme works in the field. Then the facilitator began the session with the overall prospects of EMMA. The facilitator clearly described the followings during the session –



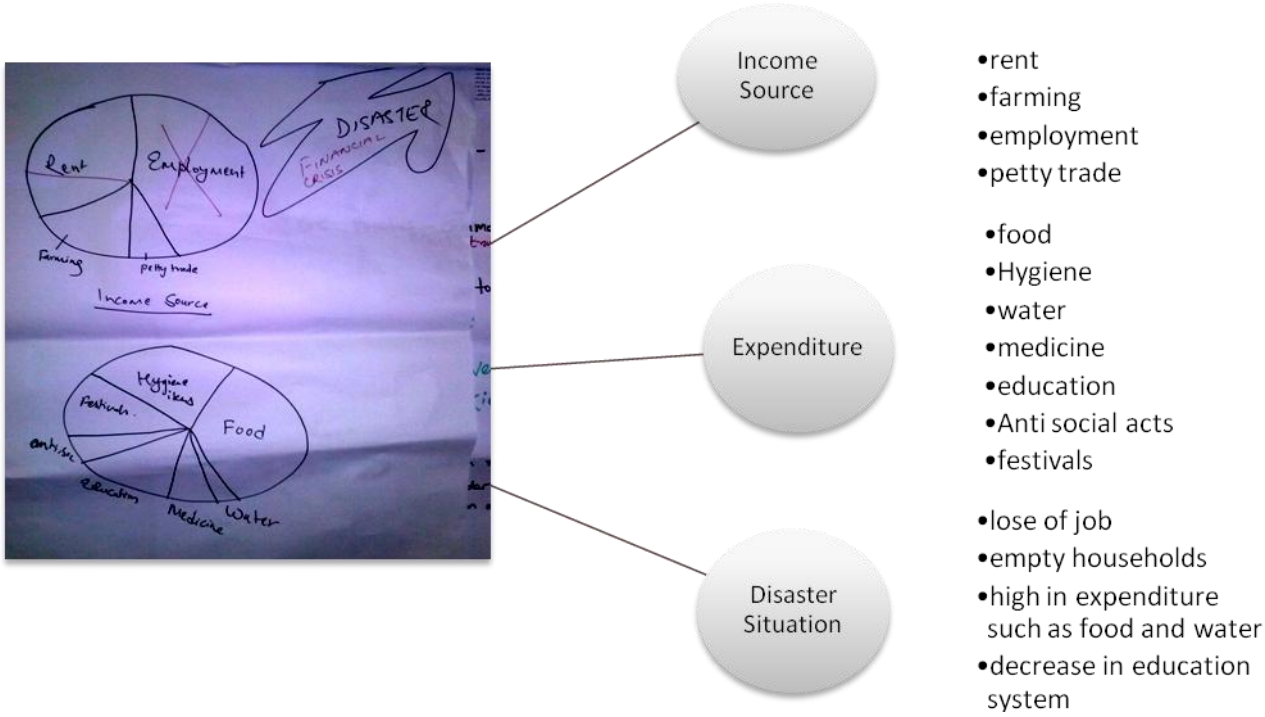
Activity 3: Group work

Based on the given particular cases of emergency situation, the participants conducted a group work in which they recognized the usage of EMMA and how it helps to identify the needs during the disaster situation.

Case type	**Key Issues Identified by the groups**
In the village, 5 million have been affected by flood and food crops have been destroyed. Humanitarian agencies are distributing foods and local traders are resilient and have capacity to help people in situation	➢ Identify the capacity of local traders and what supply chain exists ➢ Quantify the availability of local products and needs in the affected areas ➢ Identify the good that needs to be imported from external market system ➢ Support to make decision on how combination of in-kind and CTP interventions will be effective
Earthquake in highland and possibility of procurement of culturally acceptable Cloths but humanitarian agency focusing on importing cloths from outside.	➢ Identify the actors involved in the clothing market ➢ Explore possibility of bringing in the market from low land to upland through market fair and CTP ➢ Apply seasonal calendar for the intervention of the purchases ➢ Knowledge on the existing infrastructure in the locality ➢ Identify the supply and demand process <u>Absence of EMMA may result in –</u> ➢ Inappropriate responses and culturally unacceptable clothing items ➢ Less opportunity of community participation ➢ Adverse effect to the cloth manufacturer
Damage of costal paddy field and planting season is approaching. Agency is willing to support power tiller but worried about environmental factors	➢ Know the availability of paddy labourers, spare parts and local practice ➢ Better understand number of power tiller already available in the area and identify need of power tiller vs service voucher

EMMA tools:

During the session facilitator explained about different tools of EMMA (market map; wealth breakdown; income expenditure analysis; seasonal calendar and response framework). He emphasized that how information from income and expenditure pattern helps to identify critical markets for WASH commodities and/or services. The facilitator assisted in developing the chart representing the income, expenditure and disaster situation analysis and its consequences.



Seasonal Calendar: The fourth body in EMMA tool is the seasonal calendar, in which the facilitator assisted in developing the seasonal map of relevant for WASH how seasonality influence disease outbreak, capacity of affected people for WASH services, etc. Some of the examples shared are as follows -

1. Ground water
2. Water consumption
3. Water quality or contamination
4. Expenditure/income/crisis
5. Water reliability

Selecting Critical Market System:

Facilitator explained CMS and presented the methods to select CMS. The importance of this step in EMMA was emphasized as selection of wrong CMS would spoil the whole effort done by EMMA team. The reason assessing one market at a time was discussed and facilitator suggested the if there is a need to assess more than one item then the team need to collaborate with other humanitarian

actors to cover some of the identified CMS or investing on capacity building for simultaneous assessment by multiple team.

- In an emergency, **critical market systems** are those that had, have, or could have a major role in ensuring the survival and/or livelihoods protection of the target population.
- To select the most appropriate critical market system to support, agencies need to consider immediate priorities **and** other livelihood, asset, and income related needs.

Why is it essential

➢ **Ensuring survival:**

- Providing essential items or services to meet basic needs (vaccination, water, bucket, etc)

➢ **Protecting livelihoods:**

- Preventing adoption of negative coping mechanism by providing necessary WASH facilities
- Providing jobs and opportunities for wage labor, or linking to buyers for their produce to secure income required for necessary WASH services

How to identify CMS?

The participants were divided into two groups and one group was asked to think of survival need and other to consider the livelihood protection needs and purely brainstorm among the group members to come up with long list of WASH services/commodities. Based on the long list each team was asked to unanimously choose 5-6 potential commodities/services to rank based on following criteria;

- Most significant or urgently relevant market systems (high priority unmet needs / key livelihoods strategies majorly disrupted)
- Most affected market systems
- Agency / donor mandate, and competencies
- Seasonality and timing
- Government and other actors' plans
- Emergency response feasibility
- Gender
- Importance of Do no harm through in-kind support

The first six criteria were the standards ranking criteria suggested in EMMA toolkit and the gender is consider in most of the EMMA exercise done by EFSVL team. The importance of Do no harm was suggested for the WASH commodity/services as it was agreed among the team that the distribution of some of the WASH items without market assessment will have less impact on traders as some of the items in the hygiene kit are traded with multiple items and reducing volume of sale for particular item (eg. Nail cutter) will have negligible impact on

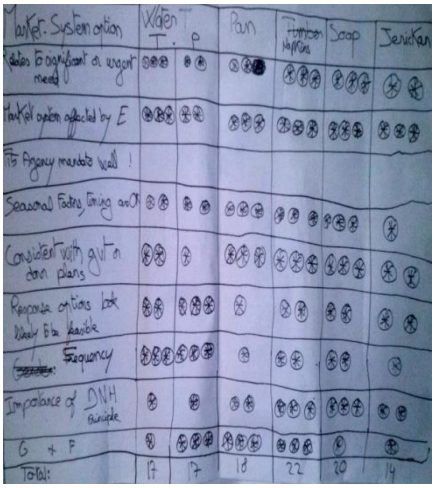


Fig: Ranking exercise to select CMS

livelihood of the local traders. Through this exercise the team working on survival need identified drinking water supply and the other identified sanitary pad.

Setting Key Analytical Questions

Assuming earthquake scenario based on Oxfam in Nepal's contingency plan. The participants continued working in the same group to develop the key analytical questions based on the guidance from the facilitator and suggested following questions for respective CMS.

Questions on Drinking Water Supply	Questions on sanitary pad
➢ **What are the existing capacities of water suppliers to fulfill the needs of the target beneficiaries?** ➢ **What kind of support is suitable? Cash or In-kind?** ➢ **What are the main constraints and alternative interventions to meet the demand for drinking water?** ➢ **What will be the possible exit strategy to discontinue water trucking how will we do that?**	➢ What capacity does the sanitary napkin market system has to supply the local community in the camp? ➢ How the target communities will access sanitary napkins? ➢ Are there any interventions in the sanitary napkin supply chain that could speed recovery of the system?

Preliminary Analysis: Group work on Seasonal Calendar and Water supply system

Group work on the water supply market system and the seasonal calendar was done being based on their own realistic assumptions and technical logic. Electricity is taken as the major hindrance for the water supply system in Kathmandu valley. During the plenary sharing the participants drew following comments-

- The chart shows clear linkage in the different source of water being treated through reverse osmosis and chlorination and then being supplied in various forms like bottle water system, water tanker, water trucking system to be reachable to the consumers in the various parts of the city
- The chart well incorporated the stakeholders, infrastructures and Point of Use Water Treatment (POU)
- The chart mentioned the center water treatment and the filtering methods like reverse osmosis and chlorination has been added which clearly defines the water treatment system.
- People may not treat the water all the time acquired directly from the source which for the experts might be the area of intervention for the PHP team

- Awareness program can be done in case if people are not treating the tap water since the water from the tap sources are usually of not good quality

Fig: Preliminary analysis of Water supply System and the seasonal Calendar by two groups

Day 3, February 25, 2014

Activity -1 Quiz Contest on EMMA and its tools

The beginning of the session started with an interesting quiz contest among the participants. The facilitator divided the group into three namely – International Group, Caravan Group and Vulnerable Group. Each group was asked to prepare five questions from the earlier two days and select toughest three for the quiz contest and keep aside two questions as buffer questions, to be used in case the question is already asked by other group or tie between two groups. International group became the ultimate winners in the game by giving correct answer to the two quesitons. The questions asked are as follows:

Gap and Market Analysis

Activity -2 Talk Show on Drought in Harshin

To practice gap and market analysis a real case from Ethiopia was given to the participants to brainstorm and discuss possible questions for National Television Talk Programme. Activity carried out as a talk show during the session was an interesting approach to discuss the reflections on how to address the needs and quickly respond to the need with doing less harm. The facilitator invited four participants to share what they understand and test their ability in tackling the questions related to gaps and need of the drought affected families in the given case. Each group identified following people to volunteer as an interviewee in the talk programme facilitated by training facilitator.

Volunteers:

1. Mr. Nutan Dev Pokharel

2. Mr. Prajwol Shrestha
3. Mr. Krishna Neupane
4. Mr. Asif Mohamood

Talk show on "Drought in Harshin"	
Q) Could you define your responses for the drought affected people since last three months? **Q) Do you think your intervention is sustainable?** **Q) What is your critical view on the Oxfam bearing all the cost? Expenses could have been reduced by not just spending on water truckers but can be by diverting among the beneficiaries. What is your critical view on it?** **Q) As per the report, it is clear that your target is 60 pc of the people in the community and as per your report, they are in position of needs, but there are some other issues that I think water supply is not the major issue in this case do you all agree with that?** **Q) Why you think cash for work CFW is suitable instead of giving money to the truckers?** **Q) There are significant numbers of families that are not being able to access the water even by paying. In this case how do you ensure that every people in Harsin will get access to water?**	
Mr. Nutan Dev Pokharel	Key issues discussed: ➢ "There are altogether 105 thousand populations. We have been requested by DDP to support 5.5 liter per person in the drought area. We are covering 60pc population through water trucking to provide water to the people. ➢ Our concern is just to provide the essential needs such as water"
Mr. Prawzol Shrestha	➢ One of the ways for the sustainable approach for this is water trucking or the actions will be through providing capacity building and improving the government network even by the water ➢ After the screening of the scenario of the disaster, main sources found are- boreholes ➢ Before there used to be rainwater holding tanks which were the main sources of the supply. Still there might be chance to rehabilitate or re capacitate the rain holding tanks for supply of the water that will also help to reduce the cost ➢ The water from the private pump is more expensive than the water from the community pump. ➢ We have prepared some strategies like DDP has announced the forecast that there will be rain after three months but before that there is no water and even there is a pond they are dry. So what can we do is that Oxfam will support till the next certain time like 4 months and if it rains in two month Oxfam may stop support

Mr. Krishna Neupane	➢ We realized that the around 44 thousand liters per day was deficient and therefore we asked agencies to mobilize some external trucks. And so far the sustainability is concerned; we have suggested Oxfam and other agencies to adopt ways such as CFW to encourage people in creating more ponds. ➢ If people construct better ponds to collect and store more water and then the water problem can be solved. ➢ Mobilization of some volunteers within the community to help themselves
Mr. Asif Mohamood	➢ When we started our activities by water trucking and tinkering for the affected population, we utilized different options and based upon our funding and keeping in view the other organization resources, we only targeted the 60pc of the total population which was almost 115,000 liters per person per day. ➢ The way that EMMA exercise conducted with different organizations, the conclusion came from the community is well that we formulated through different wash communities ➢ mobilized some of the volunteers who would be taking care of the water facilities for the women households ➢ During the EMMA exercise it was also identified that plastic tanks can be used among the user group in the community so that everybody has the access to water

The participants were able to articulate gaps and market capacity to address the gap. They also articulate the need for strategy to think of phase over of water trucking from the initial days of planning intervention. Facilitator recapitulated the discussion by highlighting that in a given case income was serious problem than water and agencies need to prioritize mechanisms to increase employment opportunities and recover farming before start of rainfall.

Field Work Preparation

Activity -3: Preparation of Questionnaire for Field Work

Analytical questions were further broken down into smaller questions, identifying possible key responders. The participants were divided into two groups to prepare interview checklist for community focus group discussion and interview with actors.

Nature of questionnaire: Group 1 (Stakeholders)	➢ basic information about establishment, human resource etc ➢ existing capacity type, tankers or helpers, expertise ➢ key infrastructures ex: mass chlorination techniques ➢ number of tankers tanks operating system ➢ total capacity of tanker delivering distributing water in different places ➢ fuel storage capacity , consumption of fuel during post emergencies ➢ Bore- hole station at Sundarighat, depth and material used for boreholes

	➢ Hours they operate and how often they maintain it ➢ Geographical coverage of water supply ➢ tanker fling stations ➢ Existing sources of water supply energy backups like generators. ➢ boring and refilling stations ➢ General information on single owner nature of business tanker ➢ general information on source of water ➢ if season affects the water extracting process ➢ cost elements involved, what are the type of treatment and cost machinery system they are using ➢ production capacity how much they are treating capacity for the early f fillers ➢ Truck pickup or tricycle how much cap they have delivering capacity sites ➢ type of customers they are serving along with the quantity and price such as with hotels, restaurants or households ➢ Margin of profit ➢ Quality in water if treated or not ➢ How they are well equipped with spare parts, generators
Nature of Question for Community (Focus group discussion)	➢ primary treatment water source type and how many household getting quantity of water ➢ how many liters they get and cost and expenditure rates ➢ any other sources tertiary options ➢ Information on income sources to ask common livelihood, range of income details on expenditure on water for well ranking ➢ People's perception on quality during seasonal changes and how they are treated ➢ How they perceive sources to be applied during earthquake situation ➢ Water point in area that doesn't function and how people maintain if any ➢ Coping strategies in past if yes what when and how they cope with the problem.

Day 4: February 24, 2014

Field Visit

Field work was an essential part of the training session for the data collection in which the participants had to identify if their assumption while doing preliminary assessment is true to the reality? The team visited neighboring communities in both the IDP camp sites covered by URM project. They interviewed drinking water suppliers in the drinking water supply market system and public water supply corporation (*Kathmandu Upatyeka Khane Pani Limited*), the participants were able to draw the baseline market system map and identify constraints and possible area of intervention for better preparedness for earthquake. Hence the participants were divided into four groups-

1. The Actor (Private Tanker) group, Taukhel, Lalitpur
2. The community group, Kirtipur
3. KUKL group, Sundarighat
4. The Community Group, Lalitpur -15

Market mapping

Activity: Field Work Analysis:

After the field work, the participants gathered back again to discuss regarding the outcomes of the field assessment and finalize map and seasonal calendar. The groups revisited the map drawn during preliminary analysis and reflect within the team about changes they observed. They also identified key words that they find relevant to improve drinking water supply system and noted in the colored chart as shown in figure below.

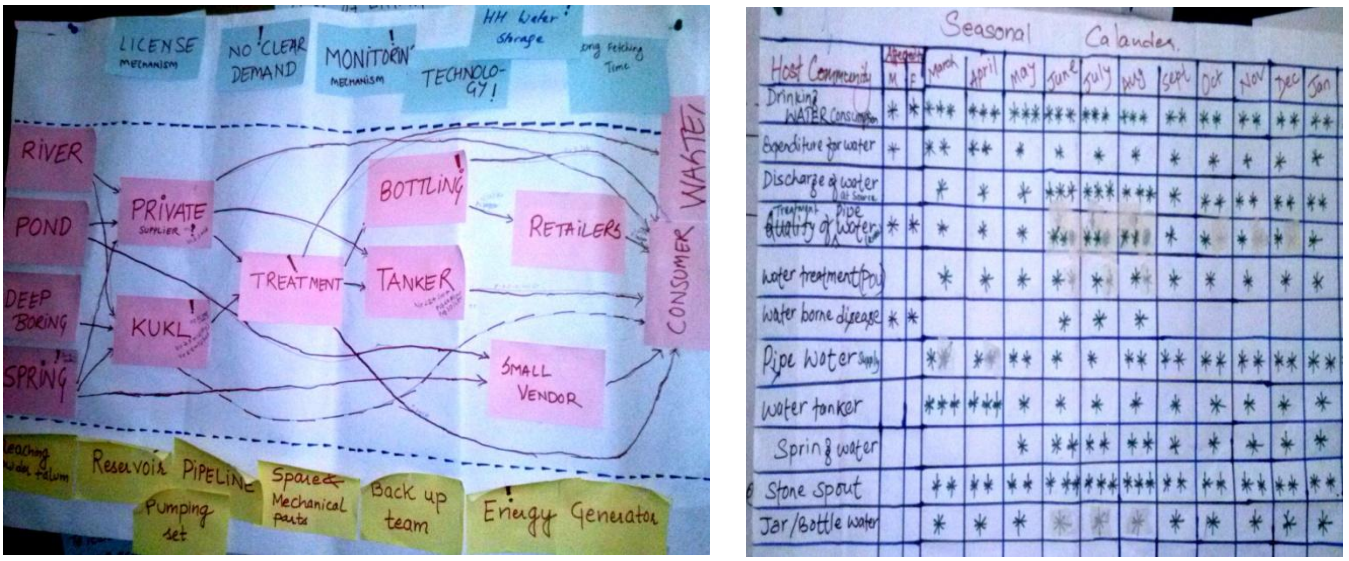


Fig: Baseline market supply system of drinking water in the camps and seasonal calendar

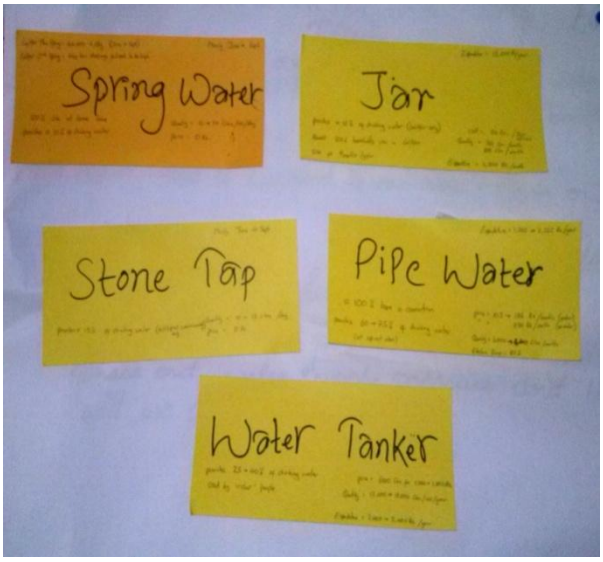


Fig: Colored cards with example of key words identified by participants

Day 5: February 27, 2014

Activity 1: Response Analysis

The last day of the training session began with the analysis of three strands of EMMA (Gap, market and response analysis). Facilitator explained gap analysis (qualitative and quantitative) table for quantitative gap analysis and response option framework among the participants. The participants worked in two different groups on gaps and possible response options referring to the identified gaps, market system map, seasonal calendar and key words in the colored cards. In each team they identified challenges and discussed the way out and developed response options in the response option framework. From the response options they identified response recommendations for Oxfam Urban Risk Management team to carry forward for better preparedness against earthquake.

The gap analysis and response recommendations for each camp site are given below;

Lalitpur IDP camp site (Nepal Agriculture Research Council)

GAP ANALYSIS (see annex for detail calculation)

Target Group	HH in Need	HH Shortfall	Other Aid	Total Gap	Likely Gap Duration	Preferences for Help
Lalitpur Camp IDP Community	30,000 ppl 6,000 HH	No shortfall for drinking	Oxfam BH in Camp	None for drinking water	Until response provides additional water source/delivery	Unkonwn
Drinking Water	150,000 l/day	(184,000 l/day) available	180,000 l/day estimated	-		
Total Water	450,000 l/day	266,000 l/day shortfall (2,660 HH)		86,000 l/day		

RESPONSE RECOMMENDATIONS

#	Activities	Risks & Assumptions	Timing Issues	Effects on Markets and Population	Indicators
1	**Pre**: Work with KUKL to map the existing pipe network in Kathmandu Valley and conduct earthquake impact assessment	Technical capacity is available to create map Map leads to improved options for utilising and repairing pipe network post emergency	Will take years to complete	None	Map of KUKL pipe network create with hydraulic modelling Earthquake vulnerability assessment of network completed
2	**Pre**: Conservation and Improvement of Lalitpur spring sources – cash grant to community and technical support from NGO	Spring is within walking distance of camp Emergency occurs during monsoon season when spring is operational	Spring is seasonal, monsoon only	None	No. Of spring sources protected. TTC &NTU of spring samples
3	**Pre&Post**: Form standby/framework agreements for water treatment, jerry cans, buckets, tankering companies. And distribute water storage containers after emergency	Suppliers are willing to sign agreements with no guarantee of supply. Multiple suppliers needed due to earthquake risks.	Agreement need to be renewed annually	None, supports market	No. Of suppliers with framework agreement created for water storage containers and water trucking
4	**Post**: Tankering of chlorinated water into camp tanks – in kind, by NGO	Roads remain usable post earthquake. Sufficient tankers are available and undamaged post earthquake. Sources are undamaged by	Post earthquake roads need to be cleared (1-4	Increased demand on water trucks & chlorine. Price increase.	Quantity of treated water delivered to camp per day. % HH's drinking treated water

		earthquake. Post earthquake tankers could supply untreated water	weeks?)	Competition between NGO's?	
5	**Post**: Repair of damaged water supply sources and infrastructure	Sufficient human resources available. Materials and tools available in market or contingency stock. Sufficient fuel/electricity.	It will likely be slow.	Pipe system damage = increased trucking demand. Repair increases water availability = lower/stable price.	Increase availability of water for Lalitpur

Kirtipur IDP Camp site (Tribhuvan University)

Gap Analysis

Target Group	HH in Need	Discharge of water	HH shortfall	Additional sources	Total gap	Likely gap duration	Preference for help
IDPs (70,000) 14000 HH	**Drinking** Total population*5litre/day (350000L/day) Population=70000 **Other purpose** Total population*10 litre/day (700,000 L/day)	**Available drinking water in TU** 12000 Litre/day (tankering) 172800 Other Purpose Litre/day *Note:* *1 Deep boring/1litre per sec = 86400 Litre X 2 shallow well in TU*	**Drinking Water:338,000 Litre/day** **Other purpose:** 527,2000 Litre/day	No	**Drinking Water:338,000 Litre/day** **Other purpose:** 527,2000 Litre/day	3 months (till emergency period)	In kind Through tankering

Response recommendations

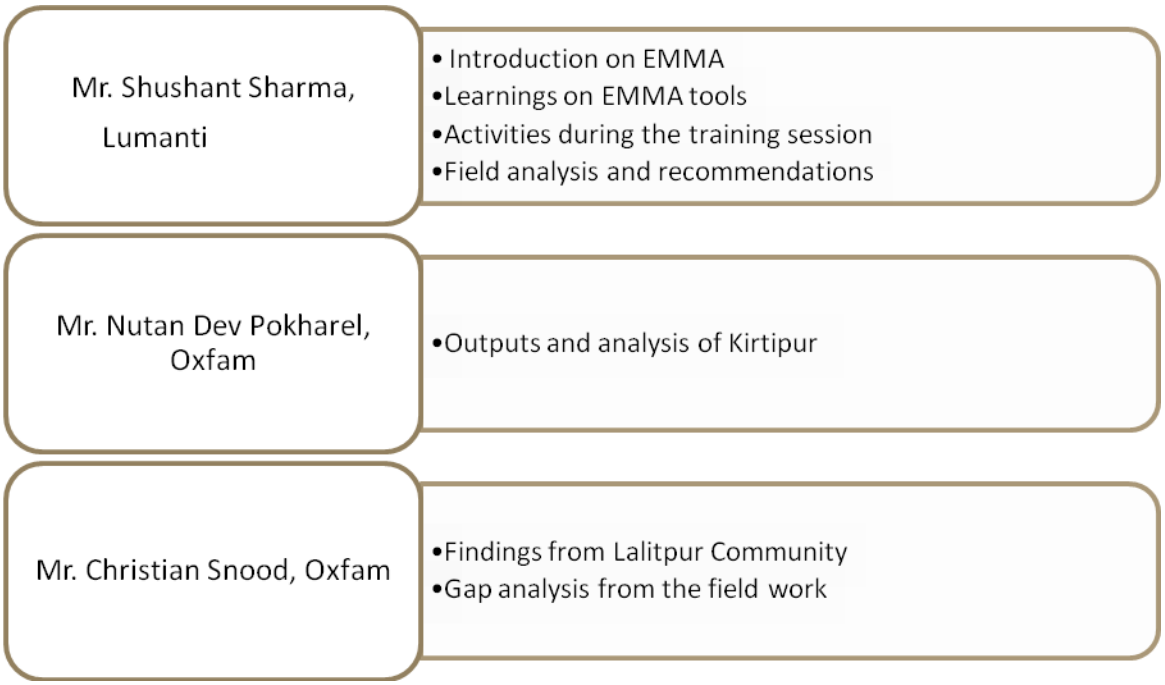
Activities	Risk and Assumptions	Timing issues	Effects on market and population	Indicators
1.Strengthening the capacity of stakeholders for effective supply of water pre and post emergency				
1.1 *GIS mapping of road network ,existing pipelines and water sources*	- Stakeholder interest to conduct the study -Political instability - Lack of Participation from concerned stakeholders	3-4 months	No effects	Detailed study report on *road network ,existing pipelines and water sources*
1.2 Training on EWASH to KUKL and Private Tankers	Private tankers are willing to take trainings.			# No of people are trained on mass chlorination, # No of filling station are doing mass chlorination.
1.3Support in Development of EWASH Plan for KUKL and Private tankers	- lack of information on existing pipe networks - Concerned agencies are reluctant to provide specific information on water demand			# of EWASH plan developed
2 *Protecting and retrofitting of existing water sources, community water storages tanks.*				
2.1 Fencing for protection of existing spring water sources				
2.2 Awareness raising through mass campaigning				
2.3 Support DMC for retrofitting of Community water tanks				

Activity 2: Presentation on overall training sessions

Towards the afternoon, the participants presented the work capturing how EMMA tools are useful during the disaster situation, learning from the training, activities carried out by the participants, process and recommendation. Three Oxfam staff from Humanitarian team of Oxfam were invited to observe, discuss and comment on the findings and outputs.

Guests:
Mr. Bimal Gadal, HTN/DRR Coordinator, Oxfam
Mr. Sunil Gurung, Program officer, Disaster Risk Management
Mr. Shree Bhakta Basnet, Project Manager, Oxfam

The following participants contributed in the presentation session-



Training Evaluation:

The five days long training session on EMMA finally ended up with some feed backs and few words drawn by the participants. At first, for the overall evaluation of the training, the facilitator requested the participants to recall their expectations they had on the first day and select the pictures on the mood chart based on the level of satisfaction on how their expectation were met during the training. All the participants, except one voted for smiley face in the mood chart. The one vote was for the normal face and the column with sad face was empty. After evaluation facilitator suggested participants to go through the EMMA and CaLP website, requested them to join the D-group and be expert on EMMA through self-learning, exchanging ideas through websites and practicing.

Concluding note:

In simple term, Emergency Market Mapping Analysis (EMMA) and its tools, is a comprehensive technical aspect that is required to perform during the post-disaster situation which aims to strengthen the livelihood of people through mobilizing the existing sources such as market and water resources to address the practical needs of people. Each modules of the training session left a remarkable impact on the participants to work efficiently nationally and internationally whose common goal is the humanitarian act and partnership to response in the emergency situation.

Annex 1 Calculation for Gap Analysis for Lalitpur IDP camp sites

CURRENT SUPPLY

#	Water Source	Distance from Camp	Discharge Capacity	Daily Capacity (litres/day)	Comments
1	Oxfam Deep BH	In camp	2 l/s (estimated)	180,000	Not currently operational, cannot include in current availability
2	Main Lalitpur Spring	5 km	44,000 l/day (monsoon only)	44,000	Seasonal, therefore do not include in current availability
3	Pipe Supply Network	Within 5km	>1,000 l/HH/month for 6,000 HH (camp) for 30,000 HH (all of Lalitpur)	200,000 (1,000,000)	Assume not available after earthquake due to damage
4	Jar	<500m (shops)	30% of HH buy 600 l/month 30% of 6,000HH = 1,800 HH	**36,000**	Assume non-disrupted, include in availability
5	Water Tankering	In camp	60% of HH buy 15,000 l/year 60% of 6,000HH = 3,600 HH	**148,000**	Assume non-disrupted, include in availability
6	2 no. Tubewells	< 1km	Unknown	Unknown	From study – discharge unknown.
			TOTAL	**184,000**	

Annex 2: RESPONSE OPTIONS FRAMEWORK

Lalitpur IDP camp sites

Response Option		Feasibility	Advantages	Disadvantages	Timing
Pre-Emergency Response Option	Conservation and Improvement of Lalitpur spring sources – cash grant to community and technical support from NGO	Very feasible	More water available during emergency and protected quality	Community subcontracts and no ownership	5 months for 5 major springs (3 Kitipur and 2 Lalitpur). Could start after further consultation (2 months?)
	Investigate reason for bad taste of Lalitpur borehole and options for treatment/remedy	Investigation feasible but treatment may not be	Potential additional water source post-emergency	No guarantee	1 year
	Sensitisation of chlorine taste and use and promotion of POU options – NGO leads directly – focus on 65,000 people in Kitipur first due to not using treated water	Medium	Current disease burden could be reduced and pre-sensitisation	Sensitisation may not work in initial post-emergency phase	1 year +
	Work with KUKL to map the existing pipe network in Kathmandu Valley and conduct earthquake impact assessment	Low – high human resources and technicality, requires advocacy	Help with redirecting water and faster to repair network post emergency	Long time. Required continuous updating	2 – 3 years +
	Advocate government to ensure water supplies follow national quality standards and licensing of water sources for tankers	Medium	Ensure quality and sensitise operators	System may be ignored in emergency situation	1 year +
	Stock piling of water storage containers (jerry can and bucket)	Medium High	Will not rely on market to supply large quantity post-emergency + fast to respond	Storage space required	<6 months
	Form standby/framework agreements for water treatment, jerry cans, buckets, tankering companies	High	Speeds up response	Standby agreement can take time and needs to be renewed every 6-12 months	3 months
	Contingency planning of critical market issues in pre-emergency time, based on EMMA – NGO with government	Medium	Preparedness measures taken and baseline exists	Can be too vague and not specific enough	6 months
Post-Emergency Response	Repair of damaged water supply sources and infrastructure	Medium	Sustainable solution	Could be very slow (e.g. repair pipe network)	1 – 12 months +
	Distribution of water collection containers (jerry can and bucket)	High - Traders may not have capacity post emergency	People will get containers quick. Can be stockpiled.	No significant	If in stock 1 week
	Tankering of chlorinated water into camp tanks – in kind, by NGO	Low – Depends on damage to roads	Quick response solution	Equal access to all groups	3 days
	Establish water quality monitoring programme – work with government	High			Within first 1-2 weeks

Kirtipur IDP camp sites

Response option	Feasibility	Advantages	Disadvantages / Limitations	Timing
1.Building capacity of water tankers for water quality treatment (mass chlorination)	High	-After Training, they will be able to treat the water	-not sure they are going to do it. (quality control)	Before disaster: -2 weeks (series of training) -results few months
2.GIS mapping: Road network, water sources, infrastructures	High	-proper knowledge on the environment -strengthen community knowledge -To know the capacity of the water sources -Facilitate elaboration of right contingency plan (alternative roads during emergency situation)	-keep updating the information. -need to train someone or require technical expertise.	-1 month before a disaster
3.Advocacy to government to improve the water supply system	Medium	-sensitise government about the current situation -Community people will have water in their own HH	-Not sure to see result	- 1 to 2 month for advocate to government -Results: 1 year ?
4.Raise awareness level of community people about water treatment options	High	-able to treat the water in order to have potable water. -proper hygiene practices -less diseases	-Hard to change mentality	We can start soon And provide higher support during raining season
5 Strengthening and retrofitting of existing community water storages tanks,	Medium	-Improving time consumption of woman to fetch water -continues supply of water during emergency	-really high cost -community might want other facilities to be retrofitted - Government might choose other options (school, community buildings…)	6 months to 1 year (depends on the community)
6. preserve water sources (kuwa, dug well, stone spout)	Medium	-improve water quality -higher quantity of drinking water are available	-influence the local environment - more infrastructures, less recharge -could rise conflict among water users	4 to 6 months
7.Retrofitting of existing water storages tank of KUKL				
8.Baseline study on demand of water in				

Kathmandu valley				
9.Support to develop the KUKL's Contingency plan				
10.Stockpile of water treatment				
11.Raise awareness level of community people about rain water harvesting				