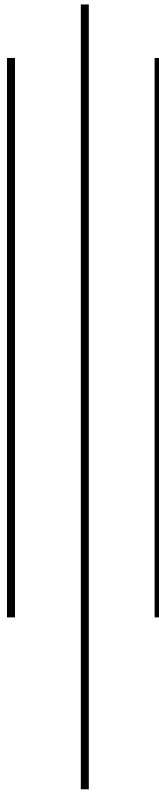




Ward Level Disaster Risk Management Plan

2017



Ward No. 3

Bhaktapur Municipality

2017

Documents : Ward Level Disaster Risk Management Plan 2017

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The plan is prepared under “*The JICA Project for Earthquake Risk Assessment in Kathmandu Valley*”(ERAKV Project) conducted in cooperation with Environment and Public Health Organization (ENPHO) and in coordination with Ministry of Urban Development (MoUD), Ministry of Federal Affairs and Local Development (MoFALD) and Ministry of Home Affairs (MoHA).

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EXECUTIVE SUMMARY

Nepal is one of the disaster-prone nations in the world for various reasons, including its geographical structure, climatic variation and rapid urbanization. Nepal is ranked 11th in the world in terms of earthquake risk and 30th in terms of flood risk. As explained by DPNet-Nepal (Disaster Preparedness Network), people living in the Kathmandu valley is 200 times more at risk than people living in Kobe, Japan in terms of the per capital risk. Around 2.5 million people reside in Kathmandu valley with 614,777 households (CBS 2011). Fire, flood, landslide, epidemics, animal attack and earthquake are the major hazards, which have been affecting the communities almost every year. Among all the hazards, an earthquake is regarded as the most disastrous hazards that affect every aspect of the community, i.e infrastructures, cultures, economic condition, lifestyle etc.

In the perspective to disaster, Ward 3, Bhaktapur Municipality is occupied by clusters with old traditional houses, narrow alleys, pati and pauwa wherein 90 percentage of houses were totally collapsed due to earthquake occurred on 2015. Annually, this ward is affected by one or more than one types of a disaster such as an epidemic, fire burning, windy weather, flood and earthquake. Till the year 2017 (from 1833/34 to 2016/17) earthquake occurred five times which had brought many physical damages and loss of lives as settlement of this ward is dense with old traditional houses. The ward possesses Hanumante River in its southern part, which turns into a flood in each year during the rainy season and causes the destruction of agriculture nearby riverbank and obstruction in schools. Similarly, a fire was an outbreak in 2072 B.S, which completely burnt down 5 HHs along with the destruction physical infrastructure and properties. Therefore, it makes the realization of the importance of disaster preparedness so that the impacts can be minimized and prevented. Besides that, mainstreaming disaster preparedness and risk reduction in development activities helps to lessen damages and casualties. In addition, community involvement in the planning of disaster risk reduction activities and its implementation plays a crucial part in the mitigation of disaster risk and disaster preparedness. Hence, the development of community-based disaster reduction plan is important.

The Disaster Risk Management Plan 2017 of Ward 3, Bhaktapur Municipality was prepared based on “Local Disaster Risk Management Planning (LDRMP) Guideline 2011” under “The JICA Project for Earthquake Risk Assessment in Kathmandu Valley” (ERAKV) in cooperation with Environment and Public Health Organization (ENPHO) and in coordination with the Ministry of Urban Development(MoUD), the Ministry of Home Affairs (MoHA) and the Ministry of Federal Affairs and Local Development (MoFALD).

In the process of formulating a DRM plan of the Bhaktapur Municipality, Ward 2, various risks and vulnerabilities, locally available resources and capacities were identified and analyzed and disaster risk management activities were determined by priority. For the development of community-based disaster risk reduction plan, different methodologies

like meetings with ward office, coordination and collaboration with a representative of different local stakeholders, experts, community people and different local stakeholders, a series of workshops were organized. The DRM plan was prepared based on identifying hazards and vulnerability assessment in active engagement of the community. The plans were categorized into three sections, i.e. before, during and after the disaster. The DRM plan activities can be revised and updated as per need. Meantime, following DRM plan activities were prioritized to for implementation:

- To reform Community Disaster Management Committee.
- Prepositioning of disaster response and relief materials like tarpaulins, ropes, shovel, helmet, ladder, boot etc)
- To setup fire extinguisher in each tole and to form fire control committee and orient them.
- To renovate existing damaged public toilet as per requirement.
- To setup dustbins in every corner of the ward to manage wastes.
- To protect existing water sources and open spaces of the ward.
- To determine the penalty for encroachment of Hunumante Riverbank and to construct retaining wall across the bank.

The DRM plan should mainstream in every annual development plan along with optimum utilizing locally available materials and resources while implementation to support the sustainable development and resilient community. Therefore, the DRM plan is important to a document of the ward.

ACRONYMS

CBDRRM	: Community Based Disaster Risk Reduction and Management
CDMC	: Community Disaster Management Committee
DAO	: District Administration Office
DPHO	: District Public Health Office
DRM	: Disaster Risk Management
DRR	: Disaster Risk Reduction
ENPHO	: Environment and Public Health Organization
ERAKV	: The Project for Earthquake Risk Assessment in Kathmandu Valley
FCHVs	: Female Community Health Volunteers
GOs	: Government Organizations
HHs	: Households
HVCA	: Hazard, Vulnerability and Capacity Assessment
I/NGOs	: International/National Non-Government Organization
IEC	: Information, Education and Communication
JICA	: Japan International Cooperation Agency
KMC	: Kathmandu Metropolitan City
LMC	: Lalitpur Metropolitan City
NRCS	: Nepal Red Cross Society
UNESCO	: United Nation Educational, Scientific and Cultural Organization
WASH	: Water, Sanitation and Hygiene

PART I: INTRODUCTION

1.1. Background

Bhaktapur district is the smallest district among the 75 districts of Nepal whereas Bhaktapur Municipality is the oldest Municipality. Bhaktapur Municipality is one of the cultural cities which is also known as *Bhadgaon* or *Khwopa* and famous for a cultural heritage. Bhaktapur Municipality was established in 2006 B.S with 17 wards but Municipality is limited to 10 wards after the state restructure merging 17 wards into 10 wards. The Bhaktapur Municipality is bounded by Changunarayan Municipality in East and North, Suryabinayak Municipality in South and Madhyapur Thimi Municipality in West.

The ward no. 3, Bhaktapur Municipality was expanded with new boundaries merging the previous ward no 13 and ward no 16. It is bounded by ward no. 5 in East, ward no. 4 in South, ward no. 1 in West and ward no. 2 in North which is spread from Byasi Nagarkot road in North to Arniko highway in South. The city has an area of 0.242 square kilometres with 1100 HHs and 7500 total population in average and about 97% literacy rate in average. Bhaktapur Durbar square which is listed in World Heritage Site, District Administration Office (DAO), District Court, Nepal Police and many other authorities are situated in this ward. Majority of the population are involved in agriculture, tourism business, wood carving, mason and government jobs.

Clusters namely Khauma, Jhyasimala, Kolachhen Lachicha, Nasmana, Ghatkha, Ichhu, Laskudhoka, Mulakhu, Thathucha, Nanichowk, Durbar area, Bansagopal, Dhyonani, Munani, Dumalacha, Tekhacho, Degamana, Tekhapukhu, Barahi, Malacha, Dole, Barahisthan, Mangal Tirtha and Tapalachi are the core settlement areas with majority of newar castes namely: Hada, Sakha, Sharma, Kayastha, Karmacharya, Bhuju, Pradhananga, Malla, Pradhan, Balla, Mul, Bhomi, Daibagya, Joshi, Shrestha, Manadhar, Rajupadhaya, Madhikarmi, Munankarmi, Maske, Shakya, Bajracharya, Buddhacharya, Jochhen, Sibacharya, Gora, Twayana, Suwal, Duwal, Bhaila, Silpakar, Silakar, Acharya, Bamanu, Sadha, Gaaru, Bakhunchhen, Chengutala, Mulguthi, Shakhakarmi, Gwayamaru, Gosain, Basukala, Dhukhwo, Birbal, Saiju, Matang, Swangamikha, Prajapati, Awal Chauguthi, Sahi, Chakumarni, Kharbuja, Kilambu, Dhoji, Phaju, Koju, Gwachha, Nayabha, Baidhya, Thimi, Swanepa, Waeju, Bati, Nakarmi, Wayeju, Sitikhu, Khatakho, Boyeju, Jakibanjar, Twati, Potamahag, Jadharee, walla, Kisiju, Lamaju, Gongga.

Unlike its unique and cultural identity, the ward holds various disaster risk elements. Narrow alleys, old traditional houses, unmanaged electric wires and encroachment of riverbanks for the agricultural purpose are the risk factors that can trigger to lead disaster in the community. The community undergoes suffering from different kinds of disaster each year due to lack of adequate disaster preparedness in community level. Therefore, community-based disaster risk reduction activities are crucial to the ward for combatting with disasters that are prevalence each year. With this view, DRM plan of Ward 3, Bhaktapur Municipality, is prepared on the basis of *Local Disaster Risk Management Planning 2011* through enhancing community's capacity and engaging them actively and directly so that the plan can be implemented properly and effectively.

1.2.Objectives of Plan

The main aim of the plan is to reduce the impact of disaster through optimum utilization of local resources available in the community, enhance the capacity of human resources and an effort to achieve minimum characteristics of disaster resilient community in coordination and collaboration with different government and local bodies along with communities, and relevant stakeholders as well as to involve communities in the implementation of disaster risk reduction activities in an effective and accountable way. Besides that, the specific objectives of the plan are as follows.

- To identify and analyze potential hazards, vulnerabilities and existing local resources and capacities of the community.
- To provide guidance for the formulation of the DRR activities prioritizing disaster risk management in building disaster resilient community.
- To develop a pathway for coordination and collaboration among local intuitions, clubs and relevant stakeholders.
- To institutionalize disaster risk management work and mainstream it in the periodic and annual development activities at local level.

1.3.Rationale and Significance of plan

Disaster risk management plan is essential to express disaster risk management process in a managed way. Formulation of disaster risk management plan plays a crucial role in the sustainability of annual development programs at the local level. Every community is sensitive to disaster. The consolidation of disaster risk management plan into development programs enable an opportunity for community people to actively engage in development activities. Hence, disaster risk management plan reserves significant position in the development of the community. The importance of the disaster risk management plan is further justified by following points.

- Encourages community participation in vulnerability and capacity assessment of the community.
- Helps to institutionalize disaster risk management in the community.
- Minimizes impacts of disaster through the implementation of before, during and after disaster plans.
- Utilizes locally available resources and capacities for disaster risk mitigation.
- Creates an opportunity for coordination and collaboration among local intuitions, community and prevalent stakeholders.
- Assures a humanitarian assistance during a disaster in the disaster-affected area.
- Helps to disseminate essential information effectively to the targeted population in the community before, during and after a disaster.
- Allows accountability and transparency on activities during a disaster as roles and responsibilities are defined in the DRM plan on the basis of area and subject.

- Helps to aware disaster-affected communities of their rights and responsibilities.

1.4.Limitation of plan

Every plan and program, whether prepared by the government or non-government or local intuitions have its own limitation despite its significance. Henceforth, this plan has the following limitation as listed below:

- As the plan is an important part of the annual development plan, its formulation should be integrated with development programs in the community.
- The planning of disaster risk management plans should be guided by *Local Disaster Risk Management Planning Guideline 2011* which is endorsed by the government of Nepal.
- The financial requirement for the formulation of the plans needs to be managed through prioritizing the plans and endorsing it in government local bodies.
- In an implementation, monitoring and evaluation of the plans, the community may lack trained human resources.

1.5.Methodology

The plan was prepared on the basis of Local Disaster Risk Management Planning Guideline 2011 participatory planning process wherein direct and inclusive participation of municipal and ward authorities, representatives from political parties and local intuitions and community people were ensured. Following procedures were adopted for the preparation of the plan.

Preliminary program: Various levels of coordination meetings and interactions were conducted formally and informally as per necessity with the municipality, ward authorities and different relevant stakeholders to prepare DRM plan. With the main aim to enhance knowledge on disaster risk management, 3 days municipal level training on disaster risk reduction was conducted where representatives from all three municipalities (Lalitpur Metropolitan City, Budhanilkantha Municipality and Bhaktapur Municipality) along with ward authorities, CDMC representatives participated. The training was focused on the local disaster risk management planning process.

Series of the workshop: The DRM plan was formulated through three level of community workshops. the workshops were conducted with the active and direct involvement of community people, ward authorities, representatives from municipality and representatives from local level stakeholders.

1. The first community workshop was focused to disseminate knowledge on disaster-related terminologies as well as knowledge on assessment of hazards, vulnerabilities and capacities. Besides that, the participants were engaged in identifying potentials hazards and vulnerabilities and existing capacities through using different tools as guided by *Local Disaster Risk Management Planning Guideline 2011*. Different disaster-related data were obtained on the basis of Hazard Ranking, Historical

Timeline, Problem Tree Analysis, Seasonal Calendar, Stakeholder analysis and Hazard analysis.

2. The second community workshop was highlighted in the preparation of community-based DRR Map with identifying existing risks and capacities. More in depth information and data related to disaster risks and capacities were obtained through *Town Watching* method in this workshop. The participants were directly mobilized in every corner of the ward to further identify the potential hazards and analyze disaster risks and vulnerabilities. After analyzing the hazards and its risks, DRM plans that can be formulated at a community level were prepared by the community participants. The plans were prepared in three sections (Before Disaster, During Disaster and After Disaster) to mitigate risks and impacts of the disaster.
3. The third community workshop was emphasized on the revision and update on three components specifically on HVCA data, community-based DRR map and the DRM plan. Besides the revision and update, the DRM plans were prioritized for its effective implementation.

Hazard, Vulnerability and Capacity Assessment: Community people actively engaged in the identification of potential hazards and vulnerabilities and existing capacities of the community. With collective consultation and working in-group during workshops has made clarity for further assessment of identified hazards, vulnerabilities and capacities. *Town Watching* method helped the community people in analyzing hazards, vulnerabilities and capacities available in the locality. Frequent discussion and interaction with relevant stakeholders have also assisted in the verification of data generated from hazard, vulnerability and capacity assessment.

Formulation of Disaster Risk Management Plan: Disaster Risk Management Plans are completely prepared for community participation. While formulating DRM plans, the participation of different stakeholders like women group, local clubs, CDMC members etc was ensured. The plans are mainly focused on mitigating risks of identified vulnerabilities and hazards.

1.6. Plan Implementation Strategy

The plan prepared by the community will be endorsed by CDMC from ward office as well as from municipality through required process and formality.

Budget Allocation

- Budget allocation for plans defined by approved DRM plan will be implemented as much the capacity.
- For the implementation of the approved DRM plan, different level of coordination will be done with relevant government bodies, local bodies, Nepal Red Cross Society, I/NGOs and donor agencies.

Plan Implementation

- Community Disaster Management Committee will be authorized body for the implementation of approved DRM plan.
- Community Disaster Management Committee will implement the approved plan in support from ward office, community, local institutions and the private sector.

1.7. Monitoring, Evaluation and Review

- The monitoring and evaluation of the implementation of the approved DRM plan will be done annually during the monitoring and evaluation of ward level policies and programs.
- The revision and update of the approved DRM plan will be done once a five year through the large-scale program.
- Organizations working for the implementation of DRM plan will present reports to CDMC and Ward office.
- CDMC will organize regular meeting periodically for updated and review on DRM plan.

PART II: HAZARD, VULNERABILITY AND CAPACITY ASSESSMENT

Hazard, Vulnerability, and Capacity assessment of Ward 3, Bhaktapur Municipality is analyzed in the participation of the community, stakeholders of community and ward officials to identify the unique status of the ward in disaster risk using following HVCA tools.

- Hazard Ranking
- Problem Tree Analysis
- Hazard Analysis
- Mobility Mapping
- Hazard calendar
- Stakeholder Analysis
- Historical Timeline
- Town watching
- Vulnerability and capacity
Identify mapping

2.1. Hazard Ranking

Hazard ranking is an effective tool to rank hazards of community, which has alarming potential to cause more damage to life and property from disastrous outcomes in the community. Simultaneously, the hazards are ranked by the community on the basis of proportion and territory damage.

Table 1 illustrates the major hazards of Ward 3, Bhaktapur Municipality. The finding of hazard ranking showed earthquake, fire, flood epidemic, windstorm, animal attack, and road accident as the major hazards that can occur in the ward. According to the ranking, the community is at greater risk from these aforementioned disasters.

Table 1: Hazard mapping of Ward 3, Bhaktapur Municipality

Hazard	Earthquake	Fire	Flood	Epidemic	Windstorm	Animal attack	Road accident
Earthquake		Earthquake	Earthquake	Earthquake	Earthquake	Earthquake	Earthquake
Fire			Fire	Fire	Fire	Fire	Fire
Flood				Flood	Flood	Flood	Road accident
Epidemics					Windstorm	Epidemic	Road accident
Windstorm						Windstorm	Road accident
Animal attack							Road accident
Road accident							
Total	6	5	3	1	2	0	4
Rank	1st	2nd	4th	6th	5th	7th	3rd

According to the Hazard ranking tools, damage to life and property due to the earthquake is higher than other hazards hence is ranked the first position in comparison to all the hazards. Similarly, Fire can trigger disastrous event as Ward 3 has core and old traditional settlement which even helps to spread and catch the fire badly and damage life and property and hence, positioned as 2nd rank among all the identified hazards. Likewise, Flood is ranked as 3rd in compare to the other hazard as it comes every year and damage life and property including agricultural land and crops. The epidemic is ranked as 4th while windstorm and animal attack are ranked as 5th and 6th position respectively in comparison to all the hazards. Lastly, Road accident is a spot as a least disastrous event in Ward 3, Bhaktapur Municipality even though it damages life and property seriously.

2.2. Hazard Calendar

A hazard calendar is a timeline prepared for different hazards throughout the year. It usually helps to find out the probability of occurrence with of a particular disaster in a particular month/s of the year. The hazard calendar of Bhaktapur Municipality ward no. 3 is shown below:

Table 2: Hazard calendar of Ward 3, Bhaktapur Municipality

Hazard	Month											
	Baishak (Apr-May)	Jestha (May-Jun)	Asar (Jun-July)	Shrawan (July-Aug)	Bhadra (Aug-Sept)	Ashwin (Sept-Oct)	Kartik (Oct-Nov)	Mangsir (Nov-Dec)	Poush (Dec-Jan)	Magh (Jan-Feb)	Falgun (Feb-Mar)	Chaitra (Mar-Apr)
Earthquake	High Risk	High Risk	High Risk	High Risk	High Risk	High Risk	High Risk	High Risk	High Risk	High Risk	High Risk	High Risk
Fire	High Risk	High Risk	Low Risk	Low Risk	Low Risk	Low Risk	Medium Risk	Medium Risk	Medium Risk	Medium Risk	Medium Risk	High Risk
Flood	Low Risk	Low Risk	High Risk	High Risk	High Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
Epidemics	Low Risk	Medium Risk	High Risk	High Risk	High Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
Windstorm	Medium Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Medium Risk	High Risk
Animal attack	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
Road accident	Medium Risk	Medium Risk	Medium Risk	Medium Risk	Medium Risk	Medium Risk	Medium Risk	Medium Risk	Medium Risk	Medium Risk	Medium Risk	Medium Risk

Indicator		HIGH RISK		MEDIUM RISK		LOW RISK
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Above table shows that Earthquake, Fire, Flood, Landslide, Animals attack, Epidemics, Windstorm and Road accidents were major hazards that can occur in ward no. 3 of Bhaktapur Municipality From the hazard calendar earthquake, fire, animal attack and road accident may occur in

every month. Besides that earthquake remains high risk throughout a year while the risk of fire is high in the month of March to June but remain medium in October to February and remain Low in the month of June to September. Similarly, the risk of animal attack is low throughout a year while the risk of road accident remains medium throughout a year. Flood generally occur in the month of Asar, Shrawan and Bhadra (June, July, August and September). Likewise, the risk of an epidemic is high during Asar, Shrawan and Bhadra (June, July, August and September). In the same way, Windstorm occurs in the month of Baishak, Falgun and Chaitra (February, March, April, May).

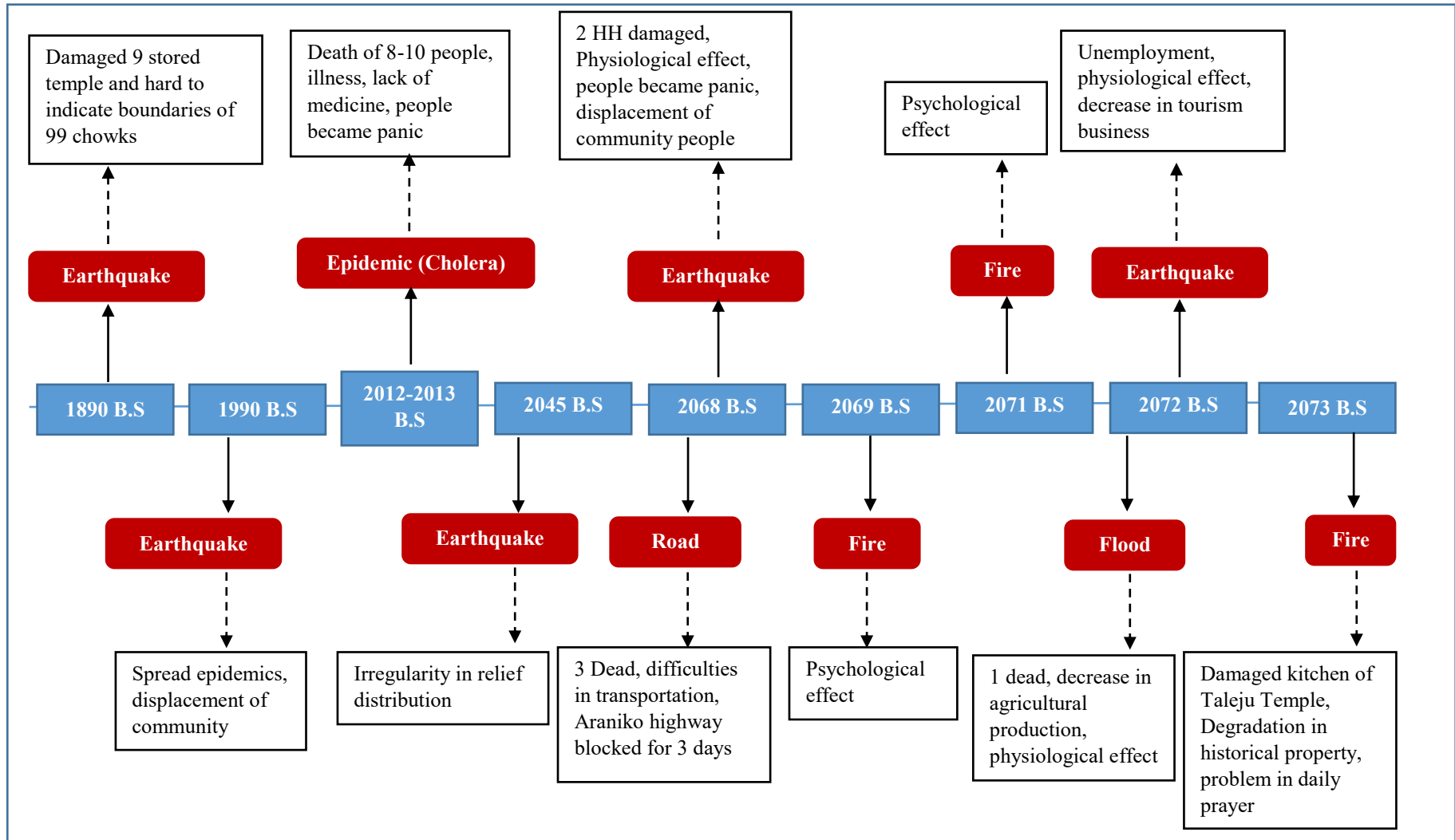
2.3. Historical Timeline

A historical timeline is a tool to gather information on which disasters in the past brought about what kind of suffering in the community. Through this, information about the tendency of recurring hazards, the damage caused by them and their impact can be projected. The historical timeline of disasters is given below:

Table 3: Historical Timeline of Ward 3, Bhaktapur Municipality

Year(B.S)	Hazard	Loss/Damage	Impact
1890	Earthquake	9 store temple totally damaged	It became hard to indicate boundaries of 99 chowk
1990	Earthquake	Human and property	Seemed epidemics, displacement of community people
2012/2013	Epidemics(cholera)	Death of 8-10 people	appeared terror and people became panic, lack of medicine
2045	Earthquake	Human and property	Irregularity in relief distribution
2068	Earthquake	Totally damaged 2 house	appeared terror and people became panic, displacement of community people
2068	Road accident	Death of 3 people	Difficulties in transportation, highway blocked for 3 days
2069	Fire	Moderately damaged o 1 house	Mentally disturbed
2071	Fire	Moderately damaged o 1 house	Mentally disturbed
2072	Earthquake	90% HHs damaged, the death of 8 people, 15 number of cultural Heritage totally damaged	Unemployment increased in mental anxiety, decrease in tourism business
2072/2073	Flood	Death of 1 person, loss of property	Shrinkage in agricultural production, mentally disturbed, loss of fertile agricultural land
2073	Fire	Damaged in kitchen of Taleju Temple(Suwal House)	Degradation in historical property, problem faced in regular worship/prayer, poor economic condition

Figure 1: Historical Timeline of Ward 3, Bhaktapur Municipality



According to the historical timeline, it shows the incidents from 1890 (1833/34) to 2073(2016/17). Till the year of 2073(2016/17) earthquake was for five times which had brought damages and loss of lives. In the recent earthquake (2072 B.S) had damaged 90% of houses in ward 3 and had damaged many heritages sites within the ward and outside the ward. Similarly, the fire has also destroyed in the past years. Most of the time, the fire had burnt down the whole house in different years. Recently in the year of 2073 (2016/2017), a fire took place in the kitchen of the temple which had degraded the monument. Similarly, the death of 3 people during a road accident in 2068 (2011/12) had blocked the highway for three days because of protest from local people. Likewise, in the year of 2012/2013 (1955/56), an epidemic (Cholera) was out broken which took lives of 8-10 people and led the community people to live in panic and terror.

2.4. Hazard Analysis

Hazard analysis tool helps to identify the causes and impact of the disaster. Similarly, it helps in finding out the time interval of disaster, impact level and capacities to cope with any disaster. Hazard analysis of ward number 3 is given in the below table.

Table 4: Hazard Analysis of Ward 3, Bhaktapur Municipality

Hazard	Type	Sign of Danger	Impact Level	Time Interval	Season	Impact Area	Impact Level
	<i>Natural or Manmade</i>	<i>Technical or Traditional</i>	<i>Rapidly or Slowly</i>	<i>Time duration</i>	<i>Time and Year</i>		High, Medium, Low
Earthquake	Natural	Unusual sound of birds, dog barking and climate change, movement of ground	Rapidly	Unknown	Anytime/12 Months	Economic, Social, Physical, culture, psychological, Human	High
Fire	Manmade	Fire smoke flame and smell	Slowly or Rapidly	Anytime	Might be in any season but mostly in Chaitra, Bhaishak and Jestha	Physical, Economic, Human	Medium
Road Accident	Manmade	Unknown	Rapidly or slowly	At any time	Might be at any time but mostly at morning and evening time	Human, Physical, Human, Political	Medium
Flood	Natural	Intensive rainfall and climate change	Slowly	Once or twice a year	In rainy reason mostly in the month of Asar, Shrawan and Bhadra	Agricultural land and crops, Human, road	Medium

Windstorm	Natural	Climate change	Rapidly	Once or twice a year	Mostly in the month of Chaitra	Physical, Economic, Human	Medium
Epidemics	Manmade	Environment pollution and increase in sickness, unmanaged waste materials	Slowly	At any time	Mostly in the month of summer season Asar, Shrawan and Bhadra	Human health, and economic	High
Animal attack	Manmade	Dog barking, dogs chase	Slowly	At any time	Almost all season	Human, Economic, Psychological	Medium

Earthquake is the main hazard among natural in ward 3. As the occurrence of the earthquake was unpredictable, it destroyed the community haphazardly. The community people of ward 3, Bhaktapur Municipality believed that continuous barking of dogs, unusual sound of birds, movement/shaking of ground level and changes in weather might be the sign of an earthquake. Earthquake directly effects human, animals, social structure, and economic loss of entire ward at a rapid speed.

Fire is another hazard of ward 3. As fire is a man-made hazard, it causes due to human ignorance. It might occur mainly in festive season (Dipawali) (Kartik, Mangsir-October, November and December) and in the dry season and windy season as well like Poush, Magh, Falgun, Chaitra, Baisakh and Jestha (December, January, February, March, April, May, June). Loss of agricultural crops, human and animals, economic loss, mental disturbance and structural destruction are the impacts of fire.

Since the small length of Araniko Highway lies in Ward 3, Road accident in the highway was indicated as one of the hazards of Ward 3. Road accident may occur at any time causing human and economic loss. They had not listed any capacity to cope with a road accident.

As urban flooding was mentioned as other major natural hazards seen in this ward during heavy and regular rainfall. It is witnessed that the flood has brought impacts on human losses, difficulty in transportation, economic losses and effects in agricultural lands and crops.

Windstorm is a natural hazard mainly occurred in a windy season like Falgun and Chaitra, (February, March, April). It is also one of the hazards which damaged physically, socially and economically.

Likewise, the epidemic is another listed hazard in this ward which occurred during climate change and unmanaged waste materials. Spread of epidemic directly effect in human health whereas indirectly in economic condition.

The animal attack in the sense of street dogs is another listed hazard. People of Ward 3 have been living under threat of street dogs. Uncontrolled street dogs have affected the strangers and community people while walking on streets and staying outside the homes.

2.5. Problem Tree Analysis

The problem tree analysis tool is used for analysis of the origin of the disaster, its causes and impact in the community. In this method, the tree trunk is considered to represent the problem, the roots as cause and the branches and leaves as the impact, thereby helping to pin down the realities. This tool is used for disaster risk management by identifying the root cause. Shortage of safe drinking water, unmanaged electric pole and wires and poverty are the main problem in this ward 3, Bhaktapur Municipality. The problem tree of ward 3 is shown in figure and table:

Figure 2: Problem Tree Analysis of Ward 3, Bhaktapur Municipality

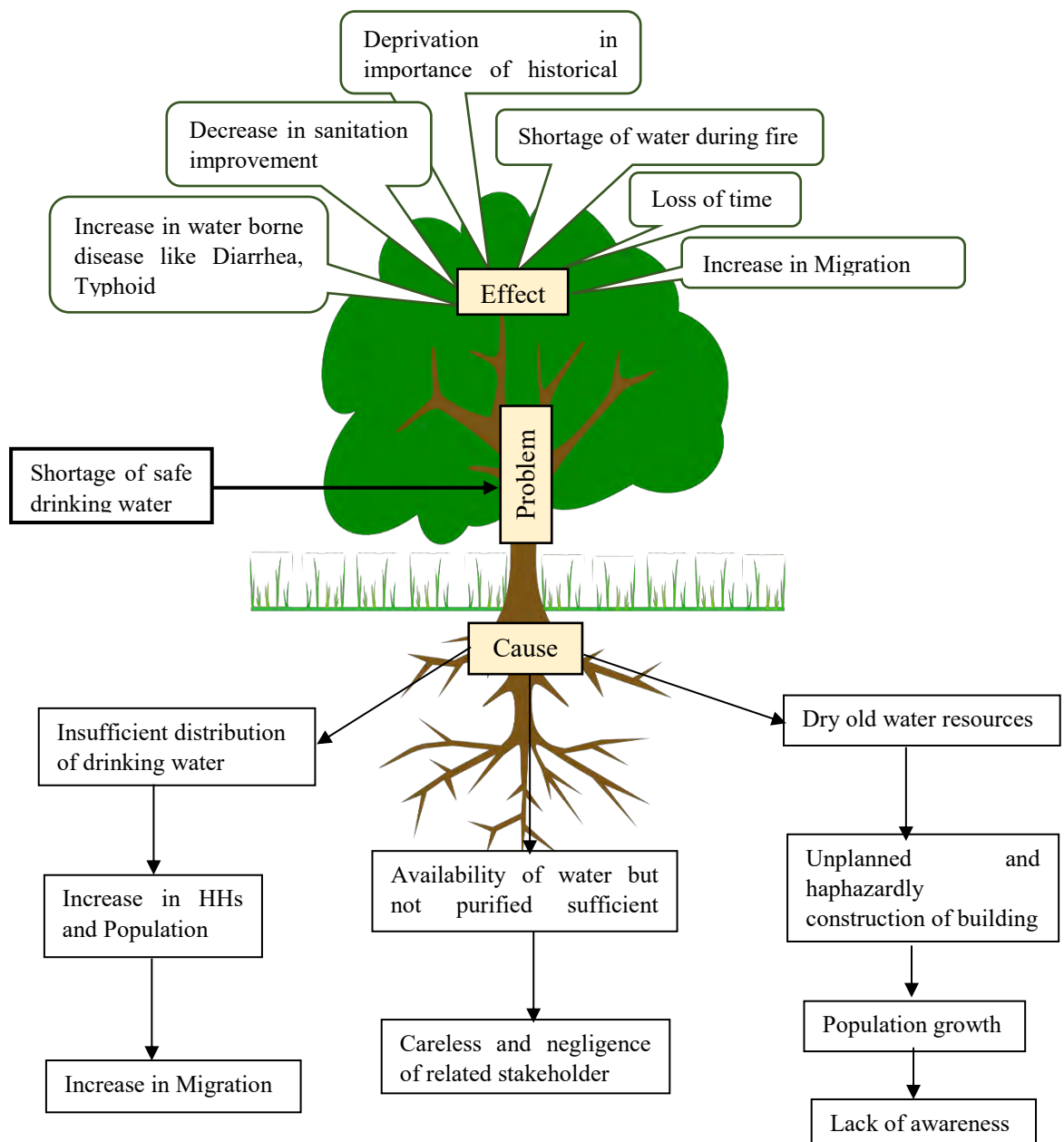


Figure 3: Problem Tree Analysis of Ward 3, Bhaktapur Municipality

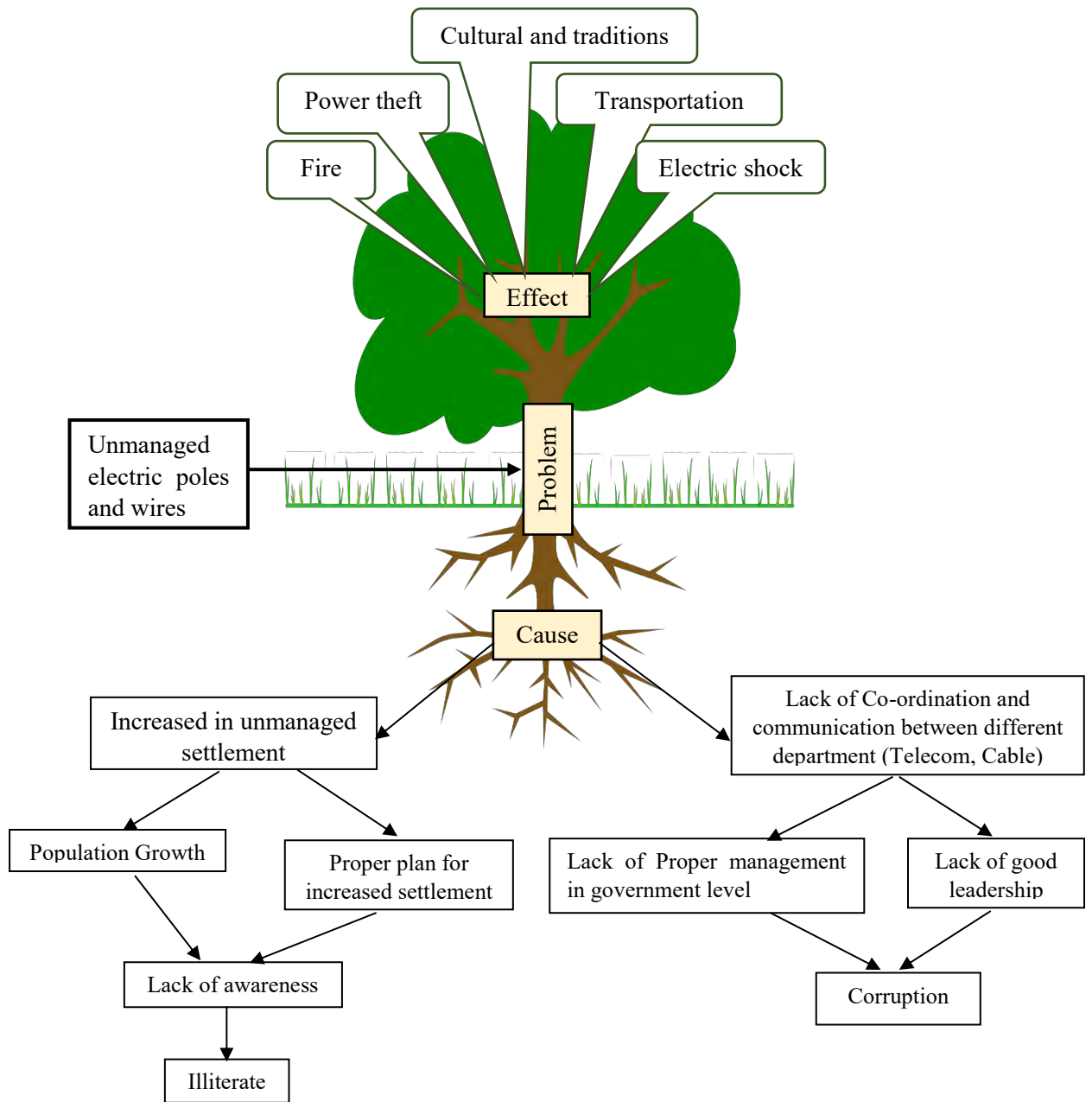


Figure 4: Problem Tree Analysis of Ward 3, Bhaktapur Municipality

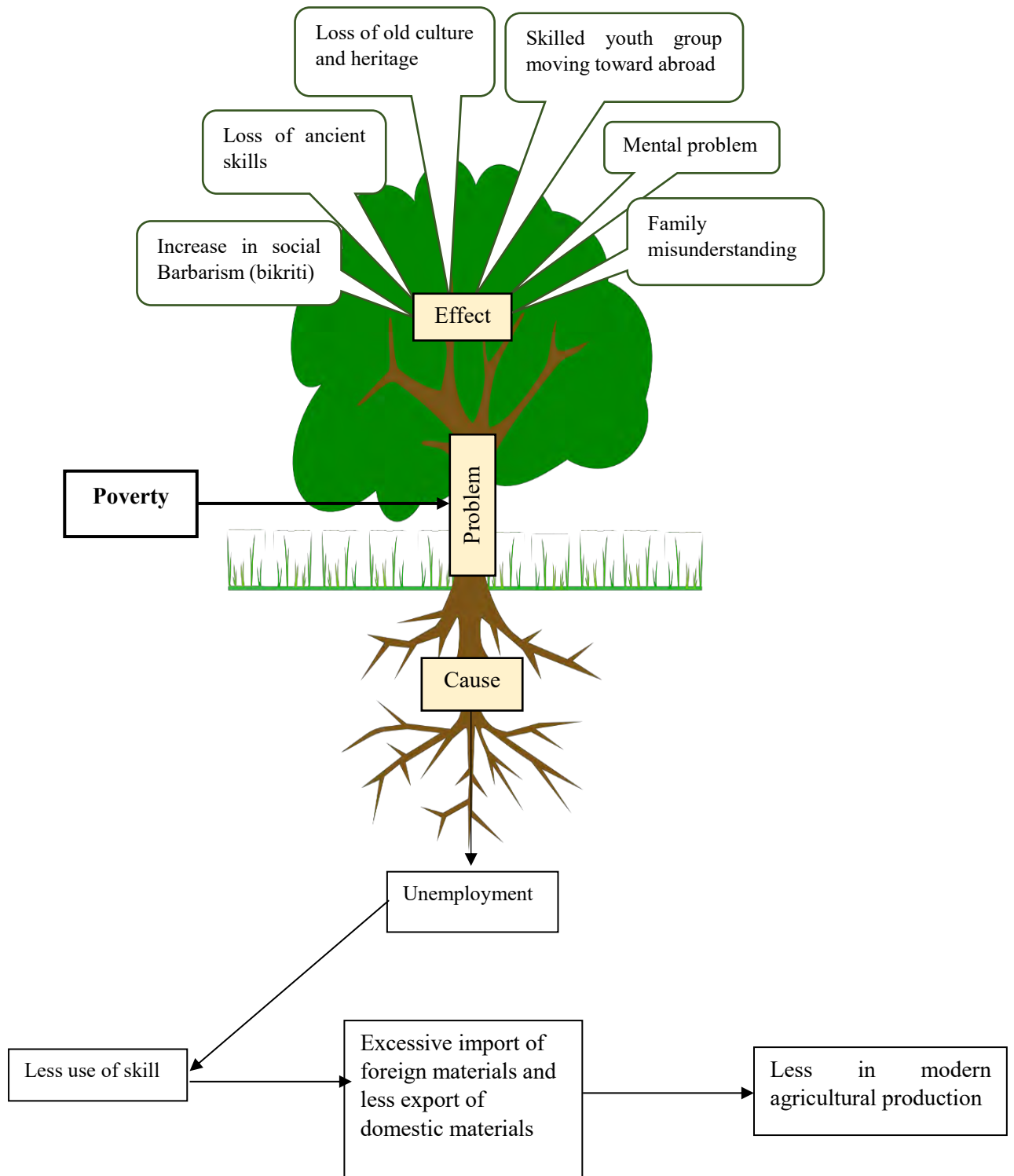


Table 5: Problem tree Analysis of Ward 3 in Tabular Form

Problem	Main causes of a problem	Effect in community
Shortage of safe drinking water	<ul style="list-style-type: none"> ➤ Insufficient distribution of drinking water <ul style="list-style-type: none"> • Increased in HHs and Population • Increased in migration ➤ Availability of water but not purified sufficient water <ul style="list-style-type: none"> • Careless and negligence of related stakeholders ➤ Dry old water resources <ul style="list-style-type: none"> • Unplanned and haphazardly construction of residential building • Careless and negligence of related stakeholders • Population growth • Lack of awareness 	<ul style="list-style-type: none"> ➤ Increase in waterborne disease like diarrhoea, typhoid ➤ Decrease in sanitation improvement ➤ Deprivation in importance of historical taps ➤ Shortage of water during fire ➤ Loss of time ➤ Increase in migration
Unmanaged electric poles and wires	<ul style="list-style-type: none"> ➤ Increased in unmanaged settlement <ul style="list-style-type: none"> • Proper plan for increased settlement • Population growth • Lack of awareness • Illiterate ➤ Proper coordination and communication between different service provider like Telecom, cable, electricity authority <ul style="list-style-type: none"> • Lack of proper management in government level • Lack of good leadership • Corruption 	<ul style="list-style-type: none"> ➤ High risks of Fire ➤ Electric power theft ➤ Culture and tradition ➤ Transportation ➤ Electric shock
Poverty	<ul style="list-style-type: none"> ➤ Unemployment <ul style="list-style-type: none"> • Less use of skills • Excessive import of foreign materials and less export of domestic materials • Lack of idea in modern agricultural production 	<ul style="list-style-type: none"> ➤ Increase in social barbarism (Bikriti) ➤ Loss of ancient skills ➤ Loss of old culture and heritage ➤ Migration of skilled youth group to foreign countries ➤ Mental problem ➤ Family misunderstanding

As per the problem tree analysis, the main problem of ward 3, Bhaktapur Municipality is inadequate of safe drinking water as water scarcity is increasing day by day. People in the municipality are compelled to use water from sources that seem contaminated which lead to increase in waterborne disease (like diarrhoea, Typhoid), lack of proper conservation of historical taps leads to dryness of the taps. Lack of water purification technologies, population growth, unplanned new settlement and careless and negligence of the government, drinking water authority are the main causes of safe water scarcity in the community.

Another major problem of ward 3 is unmanaged electric poles and naked wires which might lead to electric shocks and high risk of fire as the settlement of the ward is dense

with full of old traditional houses near to the electric poles and transformer. Increased in unmanaged settlement and lack of coordination and communication among service providers are the main causes of unmanaged wires. It also results in deprivation in cultural heritage and difficult in transportation.

Poverty is another common problem in ward 3. Unskilled human resources, excessive import of foreign materials and less export of domestic material, lack of idea in modern agricultural production and marketing are the leading factor for unemployment, which results in loss of ancient skill, loss of cultural heritage, migration of skilled youth groups to foreign countries and mental problem and social barbarism.

2.6. Town Watching / Transect Walk

Town watching is a tool similar to transect walk wherein community representatives visit clusters of the ward to observe hazards of the ward. This tool is used to triangulate the interferences from vulnerability mapping and problem tree analysis in the course of vulnerability and capacity assessment. Unlike other tools, this tool helps to generate real-time data regarding the risks, vulnerabilities and capacities. Using this tool helped Ward 3 to verify the VCA data through direct observation in the field, to update DRR map of ward 3 that developed during risk assessment and to collect the experiences of disaster victims of Ward 3, Bhaktapur Municipality.

2.7. Vulnerability and Capacity Identification Mapping

It is always important to identify potential hazards, vulnerabilities, risks as well as existing capacities of the community. Preparation of map indicating potential hazards, vulnerabilities, risks as well as existing capacities of the community makes the community people aware of disaster risk reduction and helps to plan for the disaster risk reduction. Community participation is crucial to make the map more informative and



Figure 5: Vulnerability and Capacity Map of Ward 3

effective.

This tool is adopted mainly to indicate potential vulnerabilities and capacities of Ward 3 so that the community people can be aware regarding vulnerabilities and capacities in future. A map of ward 8 with ward boundary was provided to community people and an indication of possible vulnerabilities and capacities were indicated accordingly. Possibility areas of the flood, fire source, narrow alleys and tall buildings etc are indicated as the vulnerable sites of the ward while water sources like public taps, water tanks, health centre, open spaces that can be used during disasters etc are indicated as capacities. The data that were inputted in the map are verified through town watching method with direct observation. The map is finalized through series of meetings, follow up with relevant stakeholders. The map will guide the community people to find out the vulnerabilities and available capacities with exact locations within the community.

2.8. Capacities of Ward

The capacities are categorized into different resources based on nature such as natural resources, economic resources, physical resources, human resources, and institutional resources. Community forests, rivers, open spaces, well and spout water are regarded as the capacities of the ward. Similarly, community buildings, health facilities, schools, temples etc are included in physical resources of the ward. Likewise, different factories and cooperatives are indicated as economic capacities of the ward. Each capacity of ward could help in many ways during a disaster. Open spaces, human resources, institutions and water resources are important capacities available at Ward 3, Bhaktapur Municipality that could help to cope with disaster.

Table 6: Identified capacities of ward 3, Bhaktapur Municipality

List of Capacities	Name and Location	How many? / Area occupied	Condition of capacity	How could available facility be helpful during disaster
Natural resources				
Well	Bansagopal-1, Tekhacho, Durbar Area-3 Kaminani, Dhyonani, Munanni-1, Kolachhen-5, Lachicha-3, Mulakhu-4, Ghatkha-5, Ichhu-4, Mahadev Chowk-1, Nasmana-1, Dumalacha, Santabahal-1, Malacha, Thathucha-1, Jhyasimala-1, Bigyan Chowk, Dole-1, Tekhapukhu	40	21 number of well in use and rest of wells need to repair/maintenance	Use for drinking water using PoU option and another household purpose at the time of disaster and emergency
Stone tap	Barahisthan-2, Nasmana-2, Durbar area-1	5	2 no. of the tap in use well-functioning, need to search water resource for other taps	Use for drinking water using PoU option and another household purpose at the time of disaster and emergency
Ponds	Tekhapukhu-1, Durbar area-3 Nasmana(Mangalkunda)-1, Degamana-1	5	Except for pond, at Durbar area all are in use	Use for Household Purpose and to control fire
River	Hanumante river	1		
Open space	Durbar area (4 ropani), Playground of Padhma School, open space of Nasmana area, open space near to Tekha Pokhari, Degamana chowk, Bahakiba area, Barahisthan area, Near to Gyan Tara School, Degamana Chowk	7 open space located in a different area	Both public and private area	Both public and private open space can use in time of disaster, sufficient open space is available in a ward no need to go outside in search of open space
Social Resources				
Pati/Pauwa	Durbar area-3, kolachhe-2, Ichhu- 3, Nasmana-3, Ghatkha- 2 Degamana-1, Bansagopal-7 Thathucha- 1, Lachicha-1, Barahisthan-4, Mulakhu-1, Tekhacho-6 Dumalacha-2	30	3 no. need to repair	
Temples	Durbar area-Bansagopal, Nasmana, Kolachhe Mulakhu, Tekhacho	22	Some of them were destroyed by earthquake and are	

			in under construction	
Community building	Bansagopal, Kolachhe	5	Permanent concrete building	Building can be used in disaster to distribute and store relief materials
Public taps (distributed water from Bode and Nagarkot)	Bansagopal, Nasmana Degamana, Dole, Malacha, Tekhacho, Mulakhu, Kolachhe, Thathucha, Ghatkha, Lachhicha, Ichhu, Jhyasimala	16	Well-functioning	Use for drinking water and another household purpose during disaster and emergency
Government offices	Within ward	District police, District Administration, Nepal Scout, District Court, District Coordination Committee, District Research Center, Municipal Development Committee, National Art Museum, Nepal Armed Force		Helps in coordination and communication with another stakeholder to support
Physical Resources				
Public toilets	Tekhadole,-1 Durbar area-2,	3 no. of toilet	All are in good function	Use toilets at the time of disaster
Bridge	Hanumante bridge	1 (300 m length)	Permanent	
Community Health Center	Ghatkha	1	Providing health services	Availability of health services, medicines and first aid
Schools	Bal Mandir school, Shree Padhma higher S. S, Mega S. School, Gyan Tara English School, Mahendra Bidhya Ashram, Glitter Future Star English School, Future Star English School, and Jenith English School	8	Providing proper education	Open space/school ground and WASH facilities can be used at the time of disaster
Road (Highway)	Arniko Highway	1 (300 m length)	Black topped	
Sewage/drainage line	Entire wards	Average 90% coverage		
Financial resources				
Pharmacy	Ajima Washa Pasa, Kumar Ausadhyalaya	2	Well function	Provide medicine during disasters
Disaster Management Fund	Disaster management committee	20 Thousand only	Need to increase amount/fund	Fund support for needy people during disaster
Cooperatives	Taleju Saving and Credit Cooperative Limited,	8	Active	Help in relief materials, provide

	Samajdhari Saving and Credit Cooperative Limited, Pooja Saving and Credit Cooperative Limited, Yakti Ajima Saving and Credit Cooperative Limited, Nitya Nath Saving and Credit Cooperative Limited, Puja Saving and Credit Cooperative Limited, Bhasa Sewi Saving and Credit Cooperative Limited, Kamana Agriculture Cooperative Limited			loan in need, help in coordination
Human resources				
Trained mason	Within ward	80-100 people		Support for reconstruction
Carpenters, Masons, Tourism business, Agriculture, Sculptures		Carpenter-27%, mason-13 %, Tourism business- 5%, Agriculture- 60%, others- 5%		Support for reconstruction
Engineer	Within ward	Around 30 people		
Doctor	Within ward	Around 5 people		
Nurse	Within ward	Around 35 people		
FCHVs	Within ward	Total 9 (Sangita Karmacharya- 9849931700 Buddha laxmi Makaju- 9841042836 Maiya laxmi Prajapati- 9803021912 Rajani Prajapati- 9849100557 Maiya Dhoju- 9841849450 Maiya Twayana- 9843452992 Sabina Twayana- 9849170780 Bishnu Kesari Lawaju- 9841543036 Sabi Shilpakar- 9843025510	All are Active	

2.9. Vulnerabilities of Ward

Along with capacities, there are such factors too that could increase loss and damages due to disaster or that can create an event of a disaster. Possible vulnerabilities and risks of ward no 3, Bhaktapur Municipality are analyzed in tabular form.

Table 7: Identified Vulnerabilities of ward 3, Bhaktapur Municipality

S.N	Major vulnerabilities and risk	Reason for problem	Available capacity	Support needed	Effect
1	<ul style="list-style-type: none"> Community building and individual HHs damaged/cracked due to earthquake people living in cracked or damaged houses International/domestic tourist 	<ul style="list-style-type: none"> Risky household Damaged and cracked HHs Flowerpot and water tank on the top of the house 	<ul style="list-style-type: none"> Engineers, Masons, Carpenters and trained human resources 	<ul style="list-style-type: none"> Physical, financial and technical support needed 	<ul style="list-style-type: none"> Environment pollution Decreased in international and domestic tourist visitors will face the problem
2	<ul style="list-style-type: none"> HHs and people living inside/near the narrow street Unmanaged electric poles and wires Cracked and damaged houses after earthquake 	<ul style="list-style-type: none"> Problem/difficult in Safe evacuation during disaster Difficult to search buried people In case of fire, it will be difficult to enter fire brigades due to alleyways Lack of water to control fire 	<ul style="list-style-type: none"> Availability of human resources but not trained 	<ul style="list-style-type: none"> Search and rescue training Fire control training Training and orientation related to DRR Emergency materials for stockpile 	<ul style="list-style-type: none"> Human and physical structures

2.10. Stakeholder Analysis/Venn Diagram

Stakeholder's analysis is done on the availability, access and linkages of services and facilities needed at the time of disaster from the government and security agencies, NRCS, local organizations and other humanitarian organizations, financial institutions, cooperatives, public health centres, and so on. A Venn diagram is drawn to analyze the access of community to social and public entities for disaster risk management. The following figure shows the list of organizations with their relationship to each others:

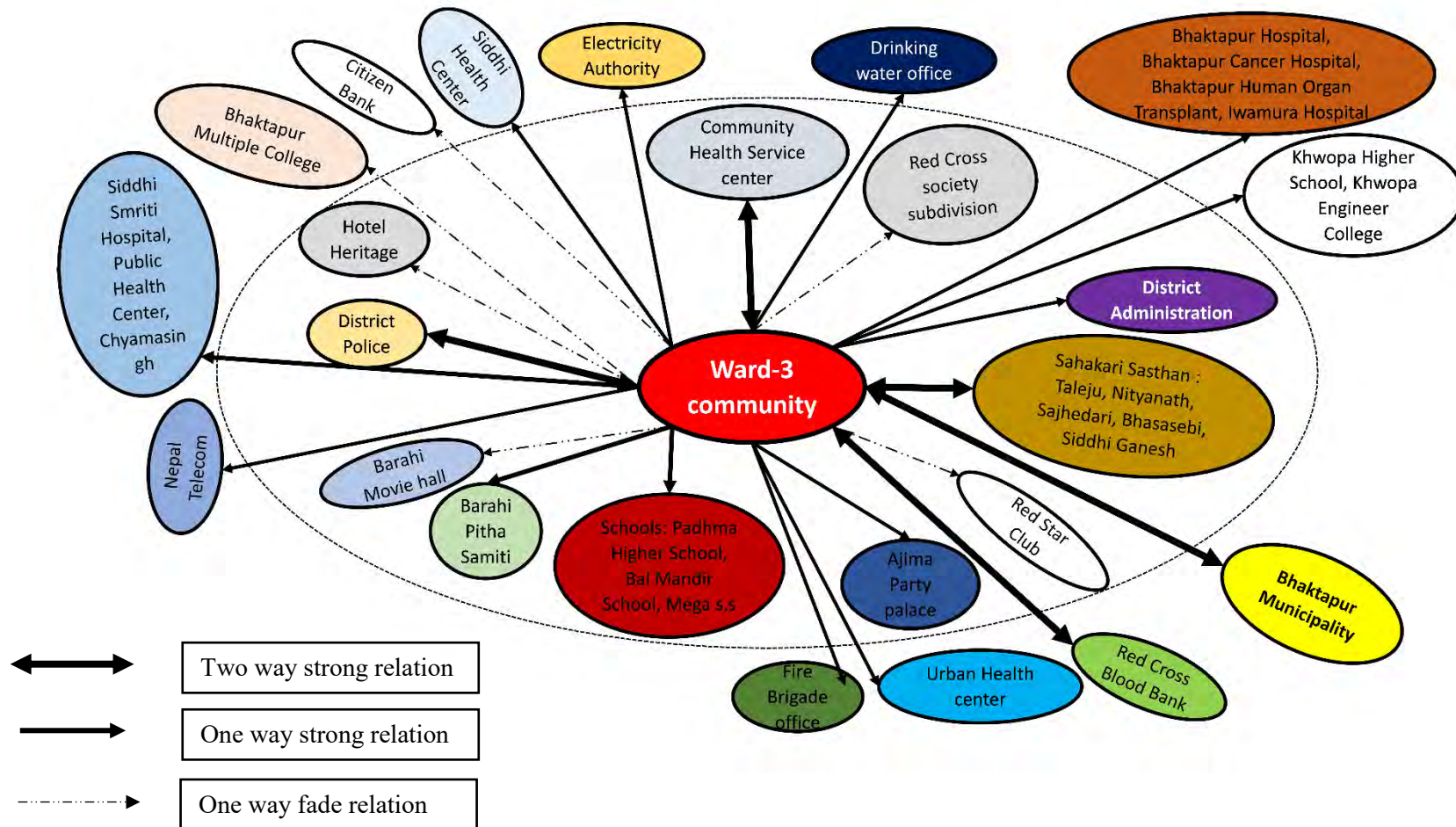


Figure 6: Stakeholder Analysis of Ward 3, Bhaktapur Municipality

From the above figure, it can be seen that two-way strong relation is being established between the community of ward 3 and other agencies like Municipality, Nepal Red Cross Blood Bank, District Police office, Community health Service centre and other religious associations. Similarly, there seems a strong but one way relationship between the community and the agencies like colleges and schools, banks, electricity authority and Nepal telecommunication, District administrative offices etc. likewise, there seems a one way relation but fade relation between movie halls, citizen bank, Red star club, Bhaktapur Multiple college and Heritage hotels. But, it is presented that the community has access to all the mentioned agencies.

2.11. Mobility Mapping

This tool used to analyze the access present situation of people in the community to outside organizations and political and administrative circles. The title also shows meaning; the state of movement in and out of the community people. It is used to check the human capacity at the local level. The people are a move in different places for these particular reasons: employment, entertainment, education, health, water, religion etc. These above elements are the factors for local people move to a different place. This is one of the most important documents for VCA. Through this activity, the community could find their capacity. The following figure is the mobility map of ward 3.

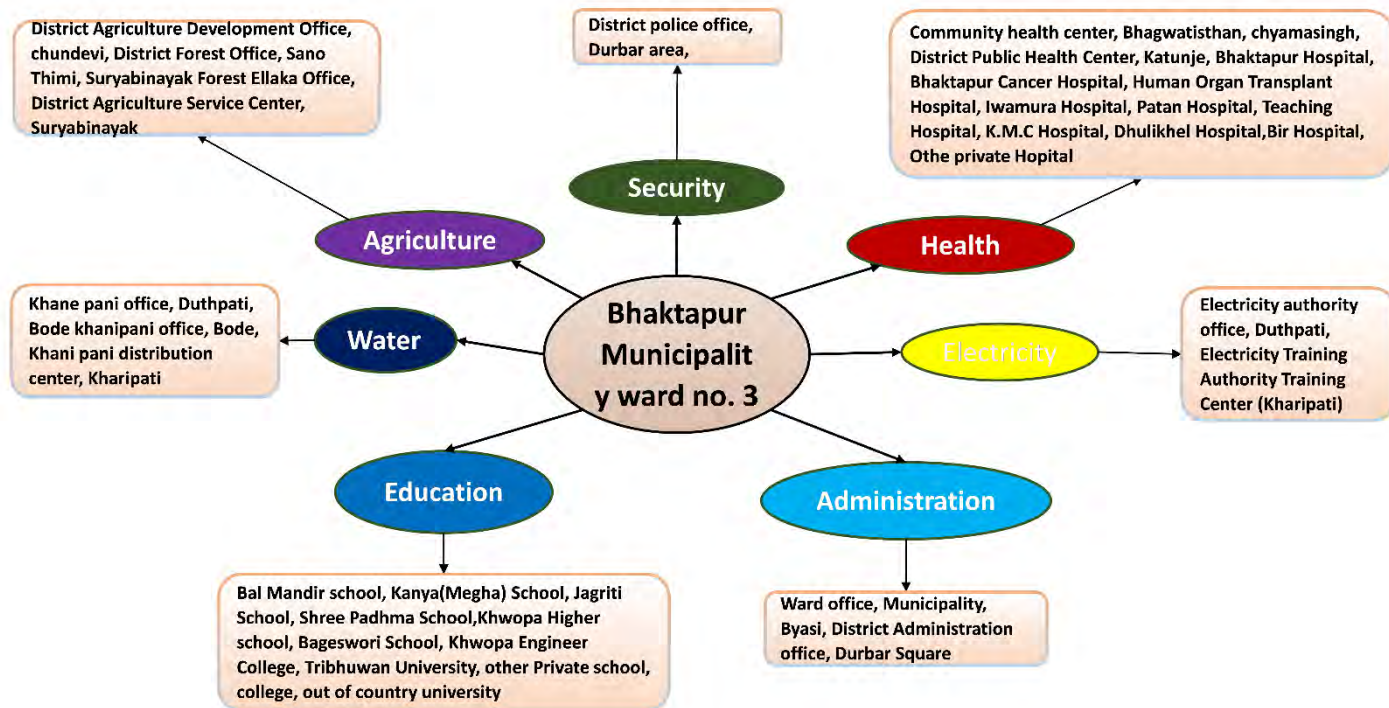


Figure 7: Mobility Mapping of Ward 3, Bhaktapur Municipality

2.12. Risk Assessment

Risk Assessment was done to identify hazard in the community and to plan risk mitigation and preparedness activities. The three major hazard listed in Ward 3 are earthquake, fire and flood. So, a risk assessment was done for each hazard to find the location of the hazard, most vulnerable group, how and when they are affected, aspects that can get affected and availability of capacity to cope with disaster. The risk assessment of ward 3 is tabulated below.

Table 8: Risk assessment of ward 3

Hazard	Where	When	Whom and how many are affected	How are they vulnerable	What are affected	Available coping capacity
Earthquake	-Dhyonani, Bansagopal, Dumalacha, Kaminani, Dole, Malacha, Tekhapukhu -Santabahal chowk, Kolacheen, Lachicha, Jhyasinmala, Mulakhu, Thathucha, Khauma, -Tapalachi, Malacha, Degamana, -Layaku, Ichhu, Mahadev chowk, Nasmana	At any time	-community people, tourists (around 575 people) -around 100 HHs	-due to fall of the damaged cracked house -difficult to evacuate and search and rescue from alleyways -lack of awareness for earthquake preparedness -tradition settlement Lack of trained human resource	-Human, physical infrastructure, temples, historical heritage, environment, streets and road, cultural heritage, economic effect	-open space of mega school, Tekhapukhu area, private land, Padhma school -FCHVs, ward office human resource but not trained
Fire	Dhyonani, Bansagopal, Tekhacho, Dumalacha, Kaminani, Dole, Malacha, Tekhapukhu Santabahal, Kolacheen, Lachicha, Jhyasimala, Mulakhu, Thathucha, Khauma, Ghatkha, Nasmana	At any time but mainly in March, April and may	Around 300 people living in alleyway	-due to carelessness and leakage of gas in HHs level (Kitchen) -due to the electric short circuit and unmanaged electric pole and wire -difficult to reach fire brigade in time due to the alleyway and dense	-Physical infrastructure, financial effect, human	-pond and well in each tole,

				settlement of the house		
Flood	Barahi Hanumante river	Mainly in rainy season	HHs nearby river	-the overflow of the river due to narrow size of the river	-Schools, people living near to river, houses, transportation agricultural land and crops	

Further, earthquake hazard may occur anytime in the ward as it is unpredictable which might injure around 575 community people along with tourist and around 100 HHs will damage and loss of property, physical infrastructures, cultural heritage, monuments, and human. The toles/clusters namely: Dhyonani, Bansagopal, Dumalacha, Kaminani, Dole, Malacha, Tekhapukhu, Santabahal Chowk, Kolachhen, Lachicha, Jhyasinmala, Mulakhu, Thathucha, Khauma, Tapalachi, Malacha, Degamana, Layaku, Ichhu, Mahadev Chowk and Nasmana are vulnerable in a sense that, it has dense and old traditional settlement with narrow alleys, difficulty in evacuation in the time of emergency, lack of proper knowledge on disaster risk reduction and disaster preparedness, less number of trained human resources of search and rescue, first aid and others. So, ward 3 has few capacity like open space (Durbar area, Nasmana chowk, premises of Padhma School and Mega School, Thathucha chowk, Degamana chowk, Barahi pith and Khauma chowk), FCHVs, few trained human resources but not sufficient to cope with disaster.

PART III: DISASTER RISK MANAGEMENT PLAN

The plan is an effort to mainstream disaster risk reduction and management subjects into development plans/policies/strategies of local and central government to enforce community towards disaster resiliency. This section incorporates disaster risk management plan of Ward 3, Bhaktapur Municipality which was formed in the guidance of *Local Disaster Risk Management Plan Guideline 2011* in a participatory way including male and female representatives of various community-level stakeholders, representatives of ward office, municipality and as well as the representatives from the central level. The plan formed is transparent, accountable, gender inclusive and socially viable. Because of these attributes, the plan is expected to facilitate the community and government line agencies to implement the plan as per need.

The plan was formed after series of workshops, meetings, assessments and follow-ups with the community, ward officials and municipality. After hazard vulnerability and capacity assessment of the ward, earthquake, fire, epidemics and road traffic accident were listed as major hazards as mentioned in HVCA. Based on HVCA, the pre-disaster plan was formed to capacitate community to cope with disaster, minimize loss due to imminent disasters. Likewise, next emphasis was developing a DRM plan focusing on disaster situation to capacitate community for operating rescue, relief and response activities whenever disaster strikes. The third stage was to formulate a post-disaster DRM plan and this plan included activities of recovery, rehabilitation and reconstruction. The DRM Plan were made after identifying major risks and problems that might happen pre, during and post-disaster. Activities were planned to minimize risks by highlighting the major responsibilities of the community and stakeholders, identifying locally available resources and required period. The DRM plan is a document that requires annual review and update to make it operative. Pre-disaster plans are preparatory plans which need to be performed soon because plans for during and after a disaster are directly influenced by pre-disaster plans. Pre, during and post-disaster activities are described as follows:

Pre Disaster Plan (preparation, mitigation and prevention): Includes awareness; capacity building activities; improvement of physical infrastructures and capacitating human resources; institutionalization; development of plans, policies and strategies; protection of existing natural and social resources; mainstreaming development agendas, disaster, and livelihood etc.

During Disaster Plan (Emergency relief, response, search and rescue): Includes emergency help to disaster victims, search and rescue of victims, provide first aid, fulfilment of emergency basic needs for disaster-affected individuals, mobilization of human resources and task forces, management of camps, provide medical support, education and awareness activities during a disaster. Also, the plans incorporate concepts in coordination with stakeholders, ward officials and CDMC.

Post Disaster Plan (Recovery phase - rehabilitation and reconstruction): Includes shifting disaster-affected families to safe camps, provide basic facilities like food, clothes, water

and sanitation to ensure their protection. The post-disaster plan also includes livelihood support activities, educational activities and activities that are conducted to minimize disaster risk that may occur in future. This plan also contains activities for 'Build Back Better'.

Earthquake (Before Disaster)

S.N	Major problem	Activities for disaster management	Major responsibilities	Resource management		Time line
				Internal	External	
1	Damaged, Cracked and collapse household	<ul style="list-style-type: none"> Household assessment of Dumalacha, Dhyonani, Kaminani, Munani, Durbar area, Nasmana, Ghatkha and Kolachhen Motivate and help the victim for reconstruction through coordinating with ward office and Municipality 	Ward office, Neighbors	Trained mason, ward office, cooperatives	Technical	Within 2075 B.S
2	House constructed without following National disaster building code	<ul style="list-style-type: none"> Awareness activities related to National disaster building code and earthquake resistance building (documentary and drama show) at different chowks (Nasmana chowk, Khauma Chowk, Thathucha Chowk, Kolachhen, Near Tekhapuku, Lachhicha, Tekhacho, Ghatkha, Dumalacha, Degamana) Distributing posters and flyers related to the information National disaster building code to local people of ward no. 3 Conduct training on retrofitting and mason to the youth of ward no. 3 	FCHVs, ward office	Human resources, different youth groups, mason	Trainer or technical	Within 2075 B.S
3	Lack of trained human resources on Search and rescue and First Aid	<ul style="list-style-type: none"> Conduct training in coordination with related stakeholders on search and rescue and First Aid (2-3 youth people of each tole) Safely placed the collected trained people name list and contact number in ward office Organize refreshment training a Search and Rescue training and First Aid training to previously trained participants as per need 	Ward office, Red Cross,	Space/Hall to conduct training, Human resources	Financial support and trainer/technical	Within 2075 B.S

		or once in a year				
4	Unmanaged arrangement of flower pots and water tank on the top of the roof/ houses (Tekhacho pati, ward office roof, building of siddhi Ganesh, private building)	<ul style="list-style-type: none"> Awareness activities like discussion within women groups, publishing notice by ward office to remove flower pot and water tank Door to Door awareness and documentary show (Nasmana chowk, Bansagopal chowk, Durbar area) related to disasters 	Ward office, FCHVs	Human resource		Before Dashain
5	Sufficient amount of water but lack of dug well conservation and no proper use of dug well water during disasters	<ul style="list-style-type: none"> Covering the mouth of well (well near to Malla house, Dumalacha, kaminani, Tekhacho, Mulakhu, Aagan Dhyochen,) and fitting the filter to purify dug well water(Bansagopal, Dhyonani Dumalacha, Tekhacho, Kaminani) Organize cleaning campaign at different toles of ward 3 as per need in coordination within toles and ward office 	Ward office, community members	Human resource, materials to clean the dug wells	Filters for well water purification, Technical, Financial support	Within 2075 B.S
6	Lack of materials for search and rescue, WASH and First aid during disasters	<ul style="list-style-type: none"> Prepositioning emergency stockpiles materials for search and rescue, WASH and first aid at Manandhar Guthi Ghar, Ghatkha Dafha building, Red Star Club of Kolachhen, Barahi pith building, ward office of ward no. 3 and former ward office of ward no. 13 	Ward office	Availability of place for stockpile emergency materials, Human resource	Stockpile materials and financial support	Within 2075 B.S
7	Not removing debris from alleyways (Jyakhwo house at Tekhacho and Malla house at Bansagopal)	<ul style="list-style-type: none"> Request to Malla and Jyakhwo house owner to remove debris from ward office Giving pressure to remove debris from ward office/Bhaktapur Municipality 	Ward office, Malla and Jyakhwo house members	Human resource	Vehicle, technical	Before Dashain
8	CDMC is not formed yet	<ul style="list-style-type: none"> Formation of CDMC in coordination with ward office and Municipality 	Ward office/ ward chairperson	Human resources	Resources person from municipality	Within 2075 B.S

9	Difficult/problem in safe evacuation due to alleyways and unmanaged or dense settlement,	<ul style="list-style-type: none"> Conduct informative activities on open space /safe evacuation through documentary show, door to door visit, drama (open space- Durbar area, Nasmana, Padhma School, Thathucha Chowk, Degamana Barahi pith, Future Star School, Malach, Agricultural land near to Malacha) 	Ward office and FCHVs, Youth club	Human resource	Technical and required materials for cleaning campaign	Within 2075 B.S
		<ul style="list-style-type: none"> Install hoarding board of safe evacuation route and alternative way in different chowk (Iachichha Chowk, Kolachhen, Ichhu, Dumalacha, Kaminani, Dhyonani, Munani Bansagopal, Khauma Chowk, Nasmana chowk) 				
		<ul style="list-style-type: none"> Conduct cleaning campaign to conserve the open space of Padhma school ground/Mahendra Park and public toilet of Dole and Ichhu 				
		<ul style="list-style-type: none"> Aware community people to construct earthquake resistance building and follow the building code while reconstructing the building by mobilizing engineers 				
10	Lack of disaster preparedness and awareness activities	<ul style="list-style-type: none"> Conduct awareness activities on disaster preparedness, 'GO BAG' and its use in every tole and community people of Ward 3 	FCHs, Ward office, Youth groups and every HHs	Human resource	Materials to make GO BAG and technical	Within one month
		<ul style="list-style-type: none"> Motivate and inspire the community people to prepare Go Bag in every household and gather the ongoing information of remaining ward of Bhaktapur Municipality 				

Earthquake (During Disaster)

S.N	Major problem	Activities for disaster management	Major responsibilities	Resource management		Time line
				Internal	External	

1	Blockage of alleyways by debris and lack of trained community search and rescuer and First Aider for immediate action (Dumalacha, Kaminani, Tekhacho galli)	<ul style="list-style-type: none"> • Use of identified alternative way (Khauma, Ichhu, Tekhacho) in case of blockage • Gathering trained human resource at Bansagopal Chowk and mobilize them for Search and rescue and First aid • Provide FA to the injured people through Ajima Wasa Pasa/trained first aider by installing camp • Arrangement of ambulance or stretcher for injured people for treatment at Bhaktapur Hospital 	Ward office and Red Cross	Human resource	Army, police, required materials for CSAR and FA, Ambulance	Immediate
2	No proper use of entire open space	<ul style="list-style-type: none"> • Arranging temporary settlement at open space (Durbar area, Nasmana Chowk, Padhma School, Gyan Tata School, Thathucha Chowk, Degamana Chowk, Khauma Chowk, Barahi pith) and aware community people about open space through miking 	Ward office and community people	Open space	Tarpaulin and other require materials to construct temporary shelter	Immediate
3	Lack of WASH facilities in temporary settlement which may spread epidemics	<ul style="list-style-type: none"> • Constructing emergency/temporary latrine using locally available materials (like used tarpaulin sheet, Bamboo, CGI sheets) at temporary settlement area • Using public toilet of Padhma school and dole by cleaning and ensuring the availability of materials like soap, water, harpic and others to clean toilet • Awareness activities on water purification, handwashing with soap, waste management, proper use of toilet etc at temporary settlement area (Durbar area, Nasmana Chowk, Padhma School, Gyan Tata School, Thathucha Chowk, Degamana Chowk, 	Ward office, community people	Public toilet, well	Filter, water tank, tarpaulin, financial support, technical	Within a week

		Khauma Chowk, Barahi pith)				
4	Problem on distribution of relief materials	<ul style="list-style-type: none"> Allocating specific open space for relief materials (Premises of Padhma School) Distribute the relief materials only by coordinating ward office and community clubs Distributing equal amount relief materials and monitoring of distributed relief materials 	Ward office and clubs	Ward office, different youth groups and human resources	Relief materials and different organization	Immediate
Earthquake (After Disaster)						
S.N	Major problem	Activities for disaster management	Major responsibilities	Resource management		Time line
				<i>Internal</i>	<i>External</i>	
1	Shortage of food	<ul style="list-style-type: none"> Doing assessment and monitoring of food vendors of Bansagopal market and distribute relief to the community people living in temporary settlement 	Ward office and community people	Bansagopal market, human resources	Relief materials	Immediate
2	Shortage of safe drinking water	<ul style="list-style-type: none"> Awareness activities on water purification to community people living in temporary shelter (Durbar area, Nasmana Chowk, Padhma School, Gyan Tara School, Thathucha Chowk, Degamana Chowk, open space of Khauma, Barahi pith) and distributing filter/chlorine to purify water 	Ward office, FCHVs and youth group	Well, pond, public taps	Municipality, drinking water authority	Immediate
3	Unmanaged distribution of medicines	<ul style="list-style-type: none"> Allocating specific space (Malacha, Tekhapukhu, Future Star School, Padhma School, Durbar area, Barahi pith) to distribute medicine as per need through FCHVs 	Ward office, FCHVs, medical stores	Ward office, FCHVs,	Bhaktapur hospital, Red Cross, Medicines, Ministry of Health	Immediate
4	Difficulty for community people in movement and transportation due to debris	<ul style="list-style-type: none"> Removing debris in coordination with ward office and community people using locally available tools/materials 	Ward office and community members	Youth group, human resource and locally	Municipality, army, district	1 to 2 week

				available materials	police	
5	Fear of spreading epidemics	<ul style="list-style-type: none"> • Activities on cleaning campaign (drainage, public toilet, taps and well) water purification, importance and use of toilet and waste management • Awareness activities related to WASH for mitigating epidemics through miking at temporary settlement • Installing dustbin in different places in coordination with ward office • Cleaning campaign at public music of Dole and Ichhu 	Ward office and FCHVs	Human resources	Dustbin, financial support, IECs for awareness activities	Within a month
6	Fear of robbery	<ul style="list-style-type: none"> • Managed security in each temporary settlement in coordination with ward office and district police • Alerting community people on robbery through miking • Arranging light in different places 	Ward office and youth clubs	Human resources, ward office	Security, district police, lights	
7	Lack of knowledge on open space and required materials for constructing temporary shelter	<ul style="list-style-type: none"> • Informing identified open space before disaster to the community people • Constructing temporary shelter using tarpaulin and other locally available materials in coordination with ward office 	Ward office	Human resource, ward office	Tarpaulin and other required materials to construct temporary shelter and financial support	Immediate

Fire (Before Disaster)

S.N	Major problem	Activities for disaster management	Major responsibilities	Resource management		Time line
				Internal	External	
1	Unmanaged and naked wires and poles from Degamana to Bansagopal	Contact with ward office and different service provider (Nepal electricity authority, Nepal telecom, and cabal channel and cabal channel company) to manage the wire.	Ward office	Ward office	Nepal Electricity Authority office	Immediately
2	Use of date expired cooking gas cylinder and negligence while using cooking gas cylinder	<ul style="list-style-type: none"> • Mass awareness activities on the proper and safe use of cooking gas cylinder and stove to the community people in different chowks of the ward. • Coordinating with cooking Gas cylinder distributor of Bhaktapur through ward office to request- distribute a cylinder after rechecking the expiry date of the cylinder. 	Ward office	Ward office		Immediately
3	Lack of trained human resource on firefighting and required material to control fire	<ul style="list-style-type: none"> • Conduct training on firefighting to youth clubs, other community members in coordination with ward office and I/NGO • Storage of required materials for fire control(Pipe, fire extinguisher, water pump, bucket, jug, shovel and many more) at different location of ward (Dumalacha, Degamana, Kolachhen, Dhyonani and Ichhu Galli) 	Ward office	Ward office Human Resources	Fire extinguisher Financial and facilitator	
4	Negligence while cooking in tradition stove	<ul style="list-style-type: none"> • Mobilization of volunteers in each tole, groups, schools of ward-3 to discuss on management of fire and fire control in coordination with ward office • Install fire extinguisher in different location (Iachhicha, Padhma School, Bal Mandir School, Mega School, Gyan Tara School, Barahi pith, Ward office building, Dumalacha, 	Ward office	Human Resource, Ward Office	Fire Extinguisher, Financial support, Training and trainer	

		Manadhar Guthi Building, Nasmana and Kolachhe tole) for fire control and conduct training on importance and use of fire extinguisher				
Fire (During Disaster)						
S.N	Major problem	Activities for disaster management	Major responsibilities	Resource management		Time line
				Internal	External	
1	Lack of trained human resources and sufficient water to control fire	<ul style="list-style-type: none"> Inform/call the fire control office by community members Use near and accessible water resources of ward like well, Stone Tap, River and pond of Tekhapukhu, Dumapukhu and Bhandarpukhu Mangal Kunda 	Community members, Ward office	Pond, well, public taps, river and Human resource	Fire brigade, trained human resource for fire control	Immediately
Fire (After Disaster)						
S.N	Major problem	Activities for disaster management	Major responsibilities	Resource management		Time line
				Internal	External	
1	Lack of management of debris	<ul style="list-style-type: none"> Mobilization of volunteers to managed debris Coordination with Municipality for vehicles to cleared scattered debris 	Community members and youth club	Human resources	Required materials to remove scattered debris(vehicle, helmet, pick, shovel) and financial support	Immediately after 1 or 2 days
2	Problem for settlement and foods due to physical, structural and human damaged	<ul style="list-style-type: none"> Managed required relief materials (for settlement and food) in coordination with ward office and Municipality Managed basic needs of victim family by 	Ward office and community people	Ward office	Relief materials, financial support,	Immediately

		neighbours				
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Flood (Before Disaster)						
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S.N	Major problem	Activities for disaster management	Major responsibilities	Resource management		Time line
				<i>Internal</i>	<i>External</i>	
1	Hanumante River becoming narrow	<ul style="list-style-type: none"> Determine penalty for encroachment of Hunumante Riverbank and wide the river Time to time monitoring of Hunumante river by representative of Municipality and ward office Prohibit to throw waste near the bank of the Hanumante River Construct retaining wall across the Hanumante river bank. 	Ward office	Human resource and ward office	Municipality and Financial support	Within 2074

Flood (During Disaster)						
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S.N	Major problem	Activities for disaster management	Major responsibilities	Resource management		Time line
				<i>Internal</i>	<i>External</i>	
1	Difficulty in transportation/movement from alleyways	<ul style="list-style-type: none"> Aware community people to use identified alternative way of transportation Inform community member about flood area through miking in coordination with ward office. Damaged assessment of flood area in coordination with Municipality and Ward office. 	Ward office	Human resource	Technical support and volunteers for assessment	Immediately
2	Loss of human, agricultural crops and property	<ul style="list-style-type: none"> Immediate search of water outlet to reduce water level of agricultural land Prohibit the movement of community people near to flood area. 	Ward office, landowner	Human resource	Municipality	Immediately

3	Gyan Tara School, Future Star School and Glitter Star School drown due to flood	<ul style="list-style-type: none"> Gyan Tara School, Future Star School and Glitter Star School remain closed for few days Prohibit the movement of community people and students near to the Gyan Tara School, Future Star School, and Glitter Star School during the flood. 	Principals of Gyan Tara School, Future Star School and Glitter Star School, Ward office	Teachers and community people near to schools	Municipality	Immediately
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Flood (After Disaster)

S.N	Major problem	Activities for disaster management	Major responsibilities	Resource management		Time line
				<i>Internal</i>	<i>External</i>	
1	Difficulty for community people in movement through water/mud logging near to Hanumante river	<ul style="list-style-type: none"> Remove mud/water and managed it with support of community people in coordination with Municipality and Ward office Use identified alternative way 	Ward office and community people	Resource person to remove collected mud and required materials/tools	Vehicle to carry debris	
2	Gyan Tara School, Future Star School and Glitter Star School has to remain closed due to Mud and water inside the classroom	<ul style="list-style-type: none"> Manage to run classes from 1st floor of school building In coordination with Municipality and ward, remove water and mud from the classes 	School principals and SMC	Schools and Teachers	Human resources and required materials to remove debris	
3	Possibility to spread epidemics due to the turbid unsafe water	<ul style="list-style-type: none"> Raise awareness regarding purification of water (WASH) by mobilizing FCHVs to HHs of ward no. 3 which are near to Hanumante river 	FCHVs, ward office	FCHVs	Required materials for Hhs awareness	

APPENDIX

Annex I: some glimpses for formulation of DRM plan



Participants working on HVCA tools



Participants discussing on HVCA tools



Participants trying to complete disaster cycle



Giving closing remarks by Mr. Gora, Ward Chairperson, Bhaktapur Municipality



Group photo of participants along with project team



Participants presenting the finding of Hazard and Vulnerability maps



Participants analyzing hazard and vulnerability during town watching



Participants sticking capacity and vulnerability in map of ward 3



Participants doing FGD during town watching



Giving welcome remarks by Mr. Kato



Capacity and Vulnerability map of ward 3



Participants discussing preparing DRM plan of ward 3



Participants reviewing and revising HVCA



Participants reviewing map of ward 3



One of the participants presenting revised HVCA and DRM plan



Participants discussing to prioritize DRM plan

Annex II: Name list of participants in the workshop

Name list of participants in workshop on Learning Risk and Disaster Risk Reduction and Management System				
S.N	Name	Address	Representative	Contact number
1	Bal Krishna Awal	Tekhacho - 3 Bhaktapur	Student	
2	Sita Laxmi Gwachha	Tekhachho- 3 Bhaktapur	Student	
3	Krishna Gopal Chauguthi	Bhaktapur ward -3	Ward member	
4	Sunita Awal	Ward - 3, Bhaktapur	Ward member	
5	Shiva Sundar Dhukhwa	Ward - 3, Bhaktapur	Red Star Club	
6	Amar Chauguthi	Ward - 3, Bhaktapur	Business	
7	Sanjaya Shilakar	Nashamana ward	Carpenter	
8	Shiva Ram Shilakar	Nashamana ward	Business	
9	Sulochana Awal	Nashamana ward - 3	Student	
10	Maiya Dhoju	Tekhacho - 3 Bhaktapur	Female Community Health Volunteer (FCHV)	
11	Sangita Karmacharya	Tekhacho - 3 Bhaktapur	(FCHV)	
12	Maiya Laxmi Prajapati	Degamana	(FCHV)	
13	Anil Chauguthi	Degamana	Business	
14	Karan Manandhar	Tekhcho - 3	Student's union	
15	Ram Sundar Khatakho	Mangalachen - 3		
16	Anu Khatakho	Mangalachen - 3		
17	Deepak Swanepa	Tekhacho - 3	Business	
18	Reshma Sainju	Khouma - 3	Student	
19	Jaganath Gora	Kolachenn - 3	Farmer	
20	Khitiz Dhukhwo	Kolachenn - 3	Student	
21	Sanjip Twayana	Ghatkha - 3	Farmer	
22	Rajani Prajapati	Barahisthan - 3	FCHV	
23	Buddha Laxmi Makaju	Kolachhen - 3	FCHV	
24	Maiya Twayena	Ghatkha - 3	FCHV	
25	Sabina Twayena	Ghatkha - 3	FCHV	
26	Narayan Kilambu	Ward - 3, Bhaktapur		
27	Purna Prasad Suwal	Ward - 3, Bhaktapur		
28	Jamna Kayastha	Ward - 3, Bhaktapur	Student	
29	Rajan Awal	Ward - 3, Bhaktapur	Student	
30	Manish Gora	Ward - 3, Bhaktapur	Student	
31	Shiva Kumar Twayena	Ward - 3, Bhaktapur	Community Health Centre	
32	Sajan Suwal	Ward - 3 Bhaktapur		
33	Bijesh Suwal	Ward - 3, Bhaktapur		
34	Sushma Gora	Ward - 3, Bhaktapur		
35	Merina Laghu	ward - 3, Bhaktapur		
36	Ganesh Ram Suwal	Ward - 3, Bhaktapur	Ward office	
37	Sarita Sainju	Ward - 3, Bhaktapur	Student	
Special Participants				
1	Raj Krishna Gora	Ward - 3, Bhaktapur	Chairperson, Ward - 3	
2	Bishwo Ram Sibanjar		Ward Secretary	

Name list of participants in workshop on Preparation of Community-Based DRM Map, Formation of Evacuation Map and Plan			
S.N	Participants name	Address	Contact no.
1	Sanjay Shilakar	Nasmana	
2	Amar Chauguthi	Degamana	
3	Sarita Saiju	Kolachhe	
4	Jamna Kayastha	Durbar Square	
5	Anil Chauguthi	Degamana	
6	Bal Krishna Awal	Tekha pukhu	
7	Sanjeep Twayana	Ghattkha	
8	Amit Gora	Khauma	
9	Manika Kiju	Lakulachhen	
10	Rajani Prajapati	Tekhacho	
11	Sagita karmacharya	Tekhacho	
12	Manju Bati	Kolachhen	
13	Maiya Ghatuwa (Twayana)	Ghattkha	
14	Maiya Suwal (Dhoju)	Tekhacho	
15	Maiya Laxmi Prajapati (Awal)	Degamana	
16	Buddha Laxmi Makaju	Kolachhen	
17	Karan Manandhar	Tekhacho	
18	Shiva Sundar Dhukhwo	Kolachhen	
19	Sunita Prajapati (Awal)	Tekhacho	
20	Krishna Gopal Chauguthi	Degamana	
21	Sabina Twayana	Ghattkha	
22	Dijan Twayana	Ghattkha	
23	Jamuna Silakar	Kolachhen	
24	Sulochana Awal	Kolachhen	
25	Samya Shah	Lachicha	
26	Laxman Shilpakar	Kolacheen, Lachicha	
27	Mani Ram Shilpakar	Kolacheen, Lachicha	
28	Riyaz Karmacharya	Ichhu	
Special Participants			
1	Raj Krishna Gora	Ward chairperson	
2	Bhiswo Ram Sibanjar	Ward Secretary	

Name list of participants in workshop on Prioritization of Disaster Risk Management Plan			
S.N	Participants Name	Address	Contact no.
1	Dijan Twayana	Ghattkha	
2	Sangita Karmacharya	Tekhacho	
3	Jamuna Silakar	Byasi	
4	Sulochana Awal	Degamana	
5	Maiya Laxmi Prajapati(Awal)	Degamana	
6	Krishna Gopal Chauguthi	Degamana, Elected ward member	
7	Anu Gosai	Ward no. 3	
8	Sani Silpakar	Ward no. 3	
9	Buddha Laxmi Makaju	Kolachhen	
10	Shiva Kumar Twayana	Ward no. 3	
11	Shiva Sundar Dhukhwo	Kolachhen	
12	Jagnath Gora	Ward no. 3	
13	Sanjeep Twayana	Ghattkha	
14	Deepak Swanepa	Ward no. 3	
15	Amit Gora	Khauma	
16	Amar Chauguthi	Degamana	
17	Sanjay Shilakar	Nasmana	
18	Sabina Twayana	Ghattkha	

19	Kshitiz Dhukhwo	Kolachhen	
20	Laxman Shilpakar	Kolacheen, Lachicha	
21	Bal Krishna Awal	Tekha pukhu	
22	Karan Manandhar	Tekhacho	
23	Maiya Ghatuwa (Twayana)	Ghatkha	
24	Maiya Suwal (Dhoju)	Tekhacho	
25	Rajani Prajapati (Awal)	Tekhacho	
26	Sunita Prajapati (Awal)	Tekhacho	
27	Ganesh Ram Suwal	Ward no. 3	
28	Purna Laxmi Thimi	Tekhacho	
29	Sarita Saiju	Kolachhen	
30	Ram Maya Khatakhwo	Kolachhen	
Special Participants			
1	Raj Krishna Gora	Ward chairperson	
2	Bhiswo Ram Sibanjar	Ward secretary	

Annex III: Attendance sheet of workshop participants

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उपस्थिति

मिति: Shrawan 6 and 7 2074 स्थान: Hotel Sweet Home, Bhaktapur.

क्र.सं	नाम	ठेगाना	प्रतिनिधि	सम्पर्क नं	हस्ताक्षर	
					पहिलो दिन	दोस्रो दिन
1	Bal Krishna Awal	Tekhacho-3, Bkt	विद्यार्थी संघ			
2	Sita Khemi Gurachha	Tekhachhe-3, Bkt	विद्यार्थी			
3	कृष्ण केपल चौगुडी	गड नं 3	का सदस्य			
4	सुनिता अरवाल	" "	कार्य वा सदस्य			
5	बिबि सुन्दर चुनवा	" "	रेड क्रॉस क्लब			
6	अमर चौगुडी	" "	व्यापार			
7	संजय शिवाका	" "	शिक्षण			
8	शिवराज खिलका	" "	व्यापार			
9	सुलोचना अरवाल	" "	विद्यार्थी			
10	मेघना खल	नेरवारा	म.सं.सेविका			
11	सुनिता कार्की	तेशवाचा	म.सं.सेविका			
12	मेघना लक्ष्मी प्रजापति	देगमना	म.सं.सेविका			
13	अनिल चौगुडी	देगमना	व्यापार			

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4	सुनिता अरवाल	" "	कार्य वा सदस्य			
5	बिबि सुन्दर चुनवा	" "	रेड क्रॉस क्लब			
6	अमर चौगुडी	" "	व्यापार			
7	संजय शिवाका	" "	शिक्षण			
8	शिवराज खिलका	" "	व्यापार			
9	सुलोचना अरवाल	" "	विद्यार्थी			
10	मेघना खल	नेरवारा	म.सं.सेविका			
11	सुनिता कार्की	तेशवाचा	म.सं.सेविका			
12	मेघना लक्ष्मी प्रजापति	देगमना	म.सं.सेविका			
13	अनिल चौगुडी	देगमना	व्यापार			



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					पहिलो दिन	दोस्रो दिन
२८.	नामकोट विद्यालय	नामकोट-३				
२९.	राजेश्वर गौरी	भक्तपुर-३	वडा अध्यक्ष			
३०.	प्रण प्रसाद सुवाल	भ.न.पा. ३				
३१.	जम्जुना कोण्डा	भ.न.पा. ३	विद्यार्थी			
३२.	राजेश अवाल	भ.न.पा. ३	विद्यार्थी			
३३.	प्रदीप गौरी	भ.न.पा. ३				
३४.	शिव कुमार ताम्रा	भ.न.पा. ५.	सांस्कृतिक समिति			
३५.	शेखर शर्मा	भ.न.पा. ३				
३६.	विजेश सुवाल	भ.न.पा. ३				
३७.	सुष्मा गौरी	भ.न.पा. ३				
३८.	मेरिना लक्षु	भ.न.पा. ३				
३९.	गणेश राम सुवाल	वडा अध्यक्ष				
४०.	सरिता खत्री	भ.न.पा. ३	विद्यार्थी			



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					पहिलो दिन	दोस्रो दिन
	Keuper Kojika		JICA project			
	April E.C.		"			
	Amardeep Sunuwar	MOFAL	Section Office			
	Bivor Maharjan	ENPHO				
	Bajesh Byaryankar	"				
	Merina Maharjan	"				
	Sumila Gwachha	"				
	Inu Pradhan Salike	IOE-TU				
	Rajan Awal	भ.न.पा. ३				
	Bivor Maharjan	ENPHO				
	Rabindra Jyakhwa	Bhaktapur Municipality				
	Purnima Subedi	MOFAL				



M: 23
F: 16
T: 89

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2	Sita Lekmi Gyawali	Teknacho-3, Bkt	विद्यार्थी			
3	कल्याण सुवाल	वडा नं 3	का सदस्य			
4	अनिता अवाल	" "	कार्यवा सदस्य			
5	शिव सुब्बा सुवाल	" "	रेड फ्लाग क्व			
6	अमर चौधरी	" "	व्यापार			
7	संजय शिवाका	" लक्ष्मीमना	विद्यार्थी			
8	शिवराज खिवाका	" "	व्यापार			
9	सुलोचना अवाल	" "	विद्यार्थी			
10	मेधा खड्का	बुद्धचौ	अध्यक्षिका			
11	संजिता कार्की	तेरवाचौ	म.सं.सचिवा			
12	मेधा लक्ष्मी प्रजापति	देवमना	अ.सं.सचिवा			
13	अनिल चौधरी	देवमना	व्यापारी			



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14	राजेश शिवाका	वडा नं 3				
15	राजेश शिवाका	वडा नं 3	का सदस्य			
16	पूर्ण प्रसाद सुवाल	व.न.पा. 3				
17	जयन्ता कार्की	वडा नं 3	विद्यार्थी			
18	राजन अवाल	वडा नं 3	विद्यार्थी			
19	प्रविष जोरा	भनपा-3				
20	शिव कुमार खड्का	व.न.पा. 5	सामुदायिक सचिवा			
21	शिवराज सुवाल	भ.न.पा. 3				
22	बिजेश सुवाल	भ.न.पा. 3				
23	सुष्मा जोरा	व.न.पा. 2				
24	नेहिना लक्ष्मी	व.न.पा. 3				
25	गणेश शिव सुवाल	वडा नं 3				
26	अरिता खड्का	वडा नं 3	विद्यार्थी			

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					पहिलो दिन	दोस्रो दिन
	Kempei Kojika Apil E.C.		JICA project			
	Amardeep Sunuwan Bivor Maharyan	MOFALD ENPHO	Section Officer			
	Bijesh Baryankar Merina Maharyan Sumila Gwachha	" " "				
	Inu Pradhan Salike	IDE-TU				
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Environment and Public Health Organization (ENPHO)
JICA project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley (ERAKV) in Nepal
2 days Workshop on Learning Risk and DRM System of pilot ward

उपस्थिति

मिति : Shrawan Gaud 7, 2074

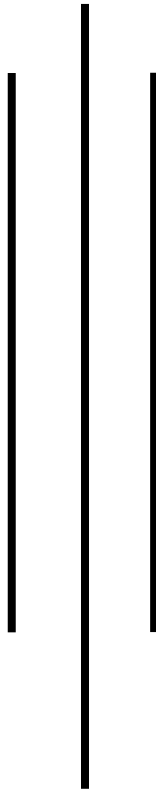
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206	सन्जिव त्वायना	घटखा-३	श्रीलामा			
207	रूपनी प्रजापति	बागहीरथाला-३	म.स्वा.संघ.सेविका			
208	पुष्प लक्ष्मी माकजु	कोलादे-३	म.स्वा.संघ.सेविका			
209	मैया त्वायना	घटखा-०३	म.स्वा.संघ.सेविका			
210	सविना त्वायना	घटखा-०३	"			

Attendance sheet of 3rd Workshop



Ward Level Disaster Risk Management Plan 2017



**Ward No. 2
Budhanilkantha Municipality
2017**

Documents	: Ward Level Disaster Risk Management Plan 2017
Copy Right	:Communtiy Disaster Management Committee, Ward No. 2 , Budhanilkantha Municipality

The plan is prepared under “*The JICA Project for Earthquake Risk Assessment in Kathmandu Valley*” (ERAKV Project) conducted in cooperation with Environment and Public Health Organization (ENPHO) and in coordination with Ministry of Urban Development (MoUD), Ministry of Federal Affairs and Local Development (MoFALD) and Ministry of Home Affairs (MoHA).



२४ नं ५४४

बूढानीलकण्ठ नगरपालिका

नं. वडा कार्यालय

काठमाण्डौ ।

३ नं. प्रदेश, नेपाल ।



आदरणीय जन समुदायहरुमा हार्दिक अभिवादन तथा नमस्कार

नेपाल सरकारको निति अनुरूप देशभर गाउँ विकास समिति भङ्ग गरी महानगर पालिका उपमहानगर पालिका र नगरपालिका बनाउने उद्देश्यका साथ २०७१ मंसिर १६ गते घोषणा भएका नगरपालिका मध्ये बूढानीलकण्ठ नगरपालिका १९ वडा बाट बनेको हो । जति बेला वडा सचिव मार्फत कार्य सम्पादन हुदै आएको थियो । लोकतान्त्रिक गणतन्त्र नेपालको संविधान २०७२ जारी भएपश्चात यस संविधानको धारा ३०२ बमोजिम स्थानीय तह गठन गरी २०७३ मा स्थानीय तह पुनसंरचना पश्चात यस नगरपालिका १३ वडामा परिणत भए पछि यस वडा २ र ३ को पुनसंरचना पश्चात २ नं वडा कायम भयो । त्यस लगतै स्थानीय तहको निर्वाचन भए पछि निर्वाचित जन प्रतिनिधिहरुले कार्यभार ग्रहण गरेपछि वडा अध्यक्षको संयोजकत्वमा वडा स्तरीय विपद ब्यबस्थापन समिति गठन भई निर्माण गरिएको विपद ब्यबस्थापन योजनाको उद्देश्य भनेको विपद जोखिम ब्यबस्थापन गर्न समुदाय स्तरमा नै उपलब्ध श्रोत सीप ज्ञानको अधिकतम उपयोग गर्दै विपदको अबस्था आउनु पूर्वनै यस बाट हुने असर न्यून गर्ने र जनधनको क्षति न्यूनिकरण गर्ने उद्देश्यका साथ समाजलाई कसरी सचेत गराउने भन्ने सिप र ज्ञान प्रदान गर्नु नै रहेको छ । यस वडामा रहेका जन समुदायहरुमा यसको उद्देश्य यस बाट फाईदा र सम्भावित जोखिमका क्षेत्रका बारेमा जन चेतना दिलाउन सकेमा भविश्यमा हुने कुनै पनि प्रकोप बाट बच्न र बचाउन सकिन्छ । विपद जोखिम ब्यबस्थापन गर्न वडा समिति पनि सचेत रहि प्रत्येक वर्षको बार्षिक बजेटमा आपतकालिन कोष स्थापना गरी सन्चालन गर्ने निति लिईएको छ । विशेष गरि भूकम्प, बाढी पहिरो नियन्त्रण र आगलागी बाट समुदाय लाई बचाउन अब बन्ने भौतिक पूर्वाधारमा यस वडा कडाईका साथ निति तयार गरि लागू समेत गरि सकेको छ । धर्म संस्कृति र परम्परा पौराणिक स्थल पनि रहेको यस वडामा भएका धरोहर बचाई राख्नु पनि एक दायित्व हो । हाम्रा यस्ता महत्वपूर्ण कार्य योजना हुदा हुदै यस लाई थप सहयोग प्रदान गर्नु हुने शहरी विकास मन्त्रालय, गृह मन्त्रालय, संघिय मामिला तथा स्थानीय विकास मन्त्रालय, जिल्ला समन्वय समिति तथा बाताबरण र जन स्वास्थ्य संस्था एन्फो र jica परियोजनाले यस कार्यमा सहयोग प्रदान गर्नु भएकोमा यस नगरपालिका वडा समिति र वडा वासी जनसमुदाय को तर्फ बाट हार्दिक धन्यवाद ज्ञापन गर्दछु ।

राजेन्द्र खड्का
वडा अध्यक्ष
बूढानीलकण्ठ नगरपालिका वडा नं २
राजेन्द्र खड्का
वडा अध्यक्ष

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EXECUTIVE SUMMARY

Nepal is one of the disaster-prone nations in the world for various reasons including its geographical structure, climatic variation and rapid urbanization. Nepal is ranked 11th in the world in terms of earthquake risk and 30th in terms of flood risk. As explained by DPNet-Nepal (Disaster Preparedness Network), people living in Kathmandu valley is 200 times more at risk than people living in Kobe, Japan in terms of the per capital risk. Around 2.5 million people reside in Kathmandu valley with 614,777 households (CBS 2011). Fire, flood, landslide, epidemics, animal attack and earthquake are the major hazards, which have been affecting the communities almost every year. Among all the hazards, an earthquake is regarded as the most disastrous hazards that affects every aspects of the community i.e infrastructures, cultures, economic condition, lifestyle etc.

A newly formed municipality, Budhanilkantha municipality is still vulnerable to various environmental hazards like flood, landslide, forest fire and earthquake. Despite having amusing natural resources like Shivapuri National Conservation area; forests - Chihandanda Community Forest, panchakanya forest; and rivers - Dhobikhola, Jhyamlekhola and Mahadevkhola Ward 2 of Budhanilkantha Municipality holds, even more, the risk of various hazards. The ward which is also rich in diversity of wild animals, birds and herbs is more likely to face the impact of disasters like flood, landslide and fire. Herbs, plants, floras and faunas are being affected by wildfire every year. Similarly, the ward is an emerging urban area where land plotting and settlement is rapidly increasing. Therefore, the ward is likely to encounter human casualties and damage to physical infrastructures due to the earthquake. A recent earthquake of April 2015 resulted in the death of 4 in the ward. Going through the history of disasters in Ward 2 - Budhanilkantha Municipality, earthquake, flood, landslide, fire, wild animal attack, road traffic accident and epidemics can be taken as major hazards.

After conversion of 7 former Village Development Committees into a municipality, the ward is moving forward to infrastructural development processes like the construction of roads, improvement of water supply, and education. However, the development process has resulted in a narrowing of rivers and weakening of soil due to the excavation of land for plotting. Few indigent households living in the sloppy land are under threat during monsoon season every year. Due to improper drainage management, even light rain overflows water to road and houses. As a result, blacktopped roads are damaged quickly and houses nearby stream or river is vulnerable to flood. Management of wastewater and solid waste is another issue in the ward that needs to be addressed very soon. Activities on disaster risk management at communities of ward 2 and enrolment of CDMC should be in high priority to minimize potential risks of hazards.

To minimize the potential damages from existing disaster risks, the community-based disaster management approach is essential. Therefore, major vulnerabilities and risk of the ward were identified. Plans are been formed to mitigate the identified risks of ward 2, Budhanilkantha municipality.

As the community is a first responder during a disaster, the ward requires DRM plan for the capacity building of community, making ward resourceful for disaster response and well-functioning sustainable institution. With this view, DRM plan of Ward 2, Budhanilkantha municipality has been prepared on the basis of *Local Disaster Risk*

Management Planning 2011 in direct involvement with the community to rationalize the plan and implement it effectively.

In the current situation, disaster risk management is directly linked to sustainable development. Vulnerability and risk related to natural and man-made disasters have been growing tremendously in recent times. Disaster risk management initiatives should be considered as a priority at the local level. Thus, with the main aim of mainstreaming disaster risk management activities on development work, disaster risk management plan of Ward 2, Budhanilkantha Municipality is developed. The main objective of the formulation of the plan is to institutionalize disaster risk management at the local level and to contribute sustainable development by reducing the immediate and long-term impact caused by disasters.

The plan was prepared in the direct and inclusive participation of municipal and ward authorities, representatives from political parties, local institutions and community people were ensured. Preliminary meetings between ward officials, CDMC and municipality was held. 3 workshops were conducted at the community level. The 1st workshop was conducted to learn risk and DRM plan of the ward, the 2nd workshop was conducted to formulate DRM plan of community and 3rd workshop was conducted to prioritize and review DRM plan of the ward.

Following DRM plans are prioritized to implement soon in the ward.

- Construction of wall around tank stands located at Chapali health post to use it as disaster preparation material storage house.
- To conduct training/orientations on Earthquake Disaster Risk Management to CDMC members, stakeholders, social leaders, teachers and students.
- Prepositioning of emergency response materials especially camps, rescue, first aid and firefighting materials to minimize disaster impact.
- Construction of a bridge at the junction of Dhobikhola and Jhyamle Khola near B.M.C.A school and Panchakanya temple to minimize accidents that can happen to students while crossing river due to overflow of water.
- Construction of shed at Kalikachaur, Bhangal to use as a shelter during disasters.
- Establishment of emergency fund.

DRM plans are most successful when there is the direct participation of community people who are likely to be exposed to hazards. The community must be aware of the importance of disaster risk reduction and management for their own well being. They need to be aware of the risks, how to be prepared for the future disasters, and what actions should be taken in case of any disaster. At the same time, continuous official support from ward and municipality to implement DRM Plan is vital. DRM plan formed for Ward 2, Budhanilkantha municipality is expected to be productive in terms of achieving the objective.

ACRONYMS

CBDRRM	: Community Based Disaster Risk Reduction and Management
CDMC	: Community Disaster Management Committee
DPHO	: District Public Health Office
DRM	: Disaster Risk Management
DRR	: Disaster Risk Reduction
ENPHO	: Environment and Public Health Organization
ERAKV	: The Project for Earthquake Risk Assessment in Kathmandu Valley
FCHVs	: Female Community Health Volunteers
Gos	: Government Organizations
HHs	: Households
HVCA	: Hazard, Vulnerability and Capacity Assessment
I/NGOs	: International/National Non-Government Organization
IEC	: Information., Education and Communication
JICA	: Japan International Cooperation Agency
KMC	: Kathmandu Metropolitan City
LMC	: Lalitpur Metropolitan City
NRCS	: Nepal Red Cross Society
WASH	: Water, Sanitation and Hygiene

PART I: INTRODUCTION

1.1. Background

On January 16, 2015, Budhanilkantha Municipality was officially declared as a local administrative body of Nepal Government. The municipality was formed with a new demarcation unifying the adjoining boundaries of VDCs namely Narayansthan VDC, Chapali Bhadrakali VDC, Khadka Bhadrakali VDC, Golfutar VDC, Chunikhel VDC, Kapan VDC and Mahankal VDC which has been distributed into different wards. After six decades, the nation witnessed a major restructuring of local bodies that were in existence over a long period. With this procedure, Budhanilkantha Municipality was restructured. Hence, Ward 2 of the municipality was moulded with new boundary, rearranging previous Ward 2 and Ward 3. The ward is surrounded by Shivpuri National Conservation Area at the east and south belt. Geographically, the areas of the ward are plain except few hills and slopy land in South-North part.

This ward can be taken as an emerging urban area as settlements have been increasing due to the favourable climate, availability of natural resource at the area and easy access to the market. Budhanilkantha Narayan Temple, Bipasna Medication Centre, Boudha Nagi Gumba are the major popular religious places which are nearby Ward 2 while temples named Panchakanya, Rudreshwor, Bhangaleswor, Nilbarahi, and Kumari are within ward 2. People with diversified caste and ethnicity are living in harmony from time immemorial. For a drinking water, the ward is blessed with different water resources available within Shivapuri National Conservation Area which the community also uses for agricultural irrigation purpose. The majority are involved in agriculture, business, government/non- government services and as a daily wage worker. Various Guthis (community-based social organization), co-operative savings, youth local clubs exist in the ward along with numerous mother and female groups. Similarly, some of the national political figures reside in Ward 2, which can be important stakeholders for Ward 2. Taulung, Badeli, Wasiku, Rudreshwor, Bangal, Ganesh Chowk, Bhadrakali Chautari are the major toles (cluster) of the ward. Chapali Bhadrakali Health Post is the only health facility that is located in Ward 2.

With total households of 1453, the total population of the ward is 6,129 with 3,097 females and 3,032 males according to the Ward office. From the view of disaster, the ward has a risk of landslide, earthquake, flood, wildfire and settlement fire. Though 'Community Disaster Management Committee' was formed this ward did not have any such significant preparedness actions to counter the risk of disasters.

Budhanilkantha is a municipality with diverse natural resources like forests, rivers in slopes and plains. However, the municipality including ward 2 is geographically more likely to face the impact of disasters like flood, landslide, forest fire and earthquake. To minimize the potential damages from existing disaster risk, disaster management through community-based approach is essential.

Therefore, identifying major vulnerabilities and risk of the ward; planning for mitigation of identified risks and implementing the prepared plan is required in Budhanilkantha municipality Ward 2. Involvement of community themselves and different local level stakeholders can provide significant details and feedbacks on CBDRRM activities.

As the community is a first responder and actor during a disaster, CBDRRM activities in Budhanilkantha municipality should include capacity building of community, making ward resourceful for disaster response and well functioning sustainable institutions. With this view, DRM plan of Ward 2 has been prepared on the basis of *Local Disaster Risk Management Planning 2011* in direct involvement of the community to rationalize the plan and implement it.

1.2. Objective of Plan

The main aim of the plan is to reduce the impact of disaster through optimum utilization of local resources available in the community, enhance the capacity of human resources and an effort to achieve minimum characteristics of disaster resilient community in coordination and collaboration with different government and local bodies. Here the coordination with community and relevant stakeholders play an important role to implement disaster risk reduction activities in the effective and accountable way. The specific objectives of the plan are:

- To identify and analyze potential hazards, vulnerabilities and existing local resources and capacities of the community.
- To provide guidance for the formulation of the DRR activities prioritizing disaster risk management in building disaster resilient community.
- To develop a pathway for coordination and collaboration among local institutions, clubs and relevant stakeholders.
- To institutionalize disaster risk management work and mainstream it in the periodic and annual development activities at local level.

1.3. Rationale and Significance of Plan

Disaster Risk Management Plan is essential to express disaster risk management process in a managed way. Formulation of disaster risk management plan plays a crucial role in the sustainability of annual development programs at the local level. Every community is sensitive to disaster. The integration of disaster risk management plan into development programs enables an opportunity for community people to engage actively in development activities. Hence, disaster risk management plan reserves significant position in the development of the community. The importance of the disaster risk management plan is further justified by following points:

- Encourages community participation in vulnerability and capacity assessment of the community.
- Helps to institutionalize disaster risk management in the community.
- Minimizes impacts of disaster implementing pre, during and post-disaster plans.

- Utilizes locally available resources and capacities for disaster risk mitigation.
- Creates opportunity for coordination among local institutions and stakeholders.
- Assures a humanitarian assistance during a disaster in the disaster-affected area.
- Helps to disseminate essential information effectively to targeted population in the community before, during and after a disaster.
- Allows accountability and transparency on activities during a disaster as roles and responsibilities are defined in the DRM plan on basis of area and subject.
- Helps to aware disaster-affected communities of their rights and responsibilities.

1.4. Limitation of Plan

Every plans and program whether prepared by the government, non-government, or local institutions have its own limitation despite its significance. Henceforth, this plan has following limitation as listed below:

- As the plan is an important part of the annual development plan, its formulation should be integrated with development programs of the community.
- The planning of disaster risk management plans should be guided by *Local Disaster Risk Management Planning Guideline 2011*, which is endorsed by the government of Nepal.
- The financial requirement for the formulation of the plans needs to be managed by prioritizing the plans and endorsing it in local government bodies.
- For implementation, monitoring and evaluation of the plans, the community may lack trained human resources.

1.5. Methodology

The plan was prepared based on *Local Disaster Risk Management Planning Guideline 2011*. Participatory planning process and methods ensuring direct and inclusive participation of municipal and ward authorities, representatives from political parties, local institutions and community people were practised during the planning and preparation of DRM plan. Following procedures were adopted for the preparation of the plan.

Preliminary Program: Various levels of coordination meetings and interactions were conducted formally and informally as per necessity with the municipality, ward authorities and different relevant stakeholders to prepare DRM plan. With an aim to enhance knowledge on disaster risk management, 3 day's municipal level training on disaster risk reduction was conducted where representatives from Lalitpur Metropolitan

City, Budhanilkantha Municipality and Bhaktapur Municipality along with ward authorities, CDMC representatives participated. The training was focused on the local disaster risk management planning process at local level.

Reformation of Community Disaster Risk Management Committee: The reformation of the Community Disaster Risk Management Committee was key to developing the DRM plan. Hence, with a goal to institutionalize disaster risk reduction in the community, community disaster risk management committee was reformed according to a process indicated in *Local Disaster Risk Management Planning 2011*. 21 members' committee was reformed with the representation of community members from every cluster of the ward. Dissemination of roles and responsibilities among the Community Disaster Risk Management Committee completed the formation.

Series of the workshop: The DRM plan was formulated through three level of community workshops. The workshops were conducted with the active and direct involvement of community people, CDMC members, ward authorities, representatives from municipality and representatives from local level stakeholders. Three level of community workshops included:

1. The first community workshop disseminated knowledge on disaster-related terminologies as well as knowledge on assessment of hazards, vulnerabilities and capacities. Besides that, the participants were engaged in identifying potentials hazards and vulnerabilities and existing capacities using different tools as guided by *Local Disaster Risk Management Planning Guideline 2011*. Different data were obtained based on Hazard Ranking, Historical Timeline, Problem Tree Analysis, Seasonal Calendar, Stakeholder Analysis and Hazard Analysis.
2. The second community workshop was highlighted in preparation for community-based DRR Map with identifying existing risks and capacities. More in depth information and data related to disaster risks and capacities were obtained through *Town Watching* method in this workshop. The participants directly observed in every corner of the ward to further identify the potential hazards and analyze disaster risks and vulnerabilities. After analyzing the hazards and its risks, DRM plans that can be formulated at a community level were prepared by the community participants. The plans were prepared in three sections (Before Disaster, During Disaster and After Disaster) to mitigate risks and impacts of the disaster.
3. The third community workshop was emphasized on revision and update on three components specifically on HVCA data, community-based DRR map and the DRM plan. Besides revision and update, the DRM plans were prioritized for its effective implementation.

Hazard, Vulnerability and Capacity Assessment: Community people actively engaged in the identification of potential hazards and vulnerabilities and existing capacities of the community. With collective coordination and working in-group during workshops

resulted in clarity for further assessment of identified hazards, vulnerabilities and capacities.

Town Watching method helped the community people in analyzing hazards, vulnerabilities and capacities available in the locality. Frequent discussion and interaction with relevant stakeholders have also assisted in the verification of data generated from hazard, vulnerability and capacity assessment.

Formulation of Disaster Risk Management Plan: Disaster Risk Management Plan was successfully prepared with full community participation. While formulating DRM plans, the participation of different stakeholders like women group, local clubs, CDMC members etc was also ensured. The plan is mainly focused on mitigating risks of identified vulnerabilities and hazards.

1.6. Plan Implementation Strategy

The plan prepared by the community will be endorsed by CDMC from ward office as well as from municipality after completing certain required process and formality.

Budget Allocation

- The budget allocation for prioritized plans, defined by the approved DRM plan will be done as much the capacity.
- For the implementation of the approved DRM plan, different level of coordination will be done with relevant government bodies, local bodies, Nepal Red Cross Society, I/NGOs and donor agencies.

Plan Implementation

- The Community Disaster Management Committee will be a leading body for the implementation of the approved DRM plan.
- Community Disaster Management Committee will implement the approved plan in support from ward office, community, local institutions and the private sector.

1.7. Monitoring, Evaluation and Review

- The monitoring and evaluation of the implementation of the approved DRM plan will be done annually during the monitoring and evaluation of ward level policies and programs.
- The revision and update of the approved DRM plan will be done once a five year through the large-scale program.
- Organizations working for the implementation of DRM plan will present reports to CDMC and Ward office.
- CDMC will organize regular meeting periodically for updated and review on DRM plan.

PART II: HAZARD, VULNERABILITY AND CAPACITY ASSESSMENT

Hazard, vulnerability and capacity assessment of Budhanilkantha municipality is analyzed through community participation, in-depth interactions with the stakeholders of community and ward officials. The participation and interaction were deemed necessary to identify the unique status of the ward. In order to identify the hazards, vulnerability and capacity of the ward HVCA tools were used. These tools were key to gather the information of the community in terms of measuring the community's vulnerability and recognizing the community capacity to counter the situation. The HVCA tools that were used during the process is listed below:

- Hazard Ranking
- Hazard Calendar
- Historical Timeline
- Hazard Analysis
- Vulnerability and Capacity Identify Mapping
- Problem Tree
- Mobility Mapping
- Stakeholder Analysis
- Town watching

2.1 Hazard Ranking

Hazard ranking is an effective tool to rank hazards of community, which has alarming potential to cause extensive damage to life and property from disastrous outcomes in the community. Simultaneously, the hazards are ranked by the community on the basis of proportion and territory damage.

Table 1 on the next page illustrates the major hazards identified by the community of Budhanilkantha Municipality, Ward 2. The finding of hazard ranking showed fire, landslide, flood, epidemic, animal attack, earthquake and windstorm as the major hazards that can occur in the ward. According to the ranking, the community is at greater risk from these aforementioned disasters.

Table 1: Hazard Ranking of Ward 2, Budhanilkantha Municipality

HAZARD	Earthquake	Fire	Flood	Landslide	Animal Attack	Epidemic	Windstorm	Road Accident
Earthquake		Earthquake	Earthquake	Earthquake	Earthquake	Earthquake	Earthquake	Earthquake
Fire			Fire	Fire	Fire	Fire	Fire	Fire
Flood				Flood	Flood	Flood	Flood	Flood
Landslide					Animal attack	Landslide	Windstorm	Landslide
Animal Attack						Animal attack	Windstorm	Animal attack
Epidemic							Windstorm	Road accident
Windstorm								Windstorm
Road accident								
Total Points	7	6	5	2	3	0	4	1
Rank Obtained	1st	2nd	3rd	6th	5th	8th	4th	7th

Looking at the intensity of destruction caused by the earthquake, it is ranked the first position. Similarly, fire can trigger disastrous event in Ward 2 and hence position in a 2nd rank among all the identified hazards. Likewise, the flood is ranked as 3rd, windstorm as 4th, animal attack as 5th in the ranking. The extent of damages from the landslide, road accident and epidemic are spotted as a least disastrous event in terms of a possible number of victims in ward 2, Budhanilkantha Municipality.

2.2 Hazard Calendar

A hazard calendar is a timeline prepared for different hazards throughout the year. It helped to find out the probability of occurrence with of a particular disaster in a particular month/s of the year. The hazard calendar of Budhanilkantha Municipality ward no. 2 is shown below:

Table 2: Hazard Calendar of Ward 2, Budhanilkantha Municipality

Hazards	Month											
	Baisakh (Apr- May)	Jestha (May- Jun)	Asar (Jun- Jul)	Shrawan (Jul-Aug)	Bhadra (Aug- Sep)	Aswin (Sep- Oct)	Kartik (Oct- Nov)	Mangsir (Nov-Dec)	Poush (Dec- Jan)	Magh (Jan- Feb)	Falgun (Feb- Mar)	Chaitra (Mar- Apr)
Earthquake												
Animals attack												
Road Accident												
Epidemic												
Fire												
Flood												
Landslide												
Windstorm												

Above table shows that earthquake, fire, flood, landslide, animals attack, epidemics, windstorm and road accidents are major hazards in the municipality. From the hazard calendar earthquake, animal attack and road accident may occur every month. Landslide and flood generally occur in the month of Jestha, Asar, Shrawan and Bhadra (May, June, July August September) whereas fire may occur in Chaitra, Baisakh and Jestha (March, April, May June). The epidemic may spread mainly in rainy and summer season like February, March, April, May, June, July, August, September). In the same way, windstorm occurs in the month of Baishak, Jestha, Falgun and Chaitra (February, March, April, May and June). The hazard calendar also enables the community to make preparation before the disaster to minimize impacts of possible disasters.

2.3 Historical Timeline

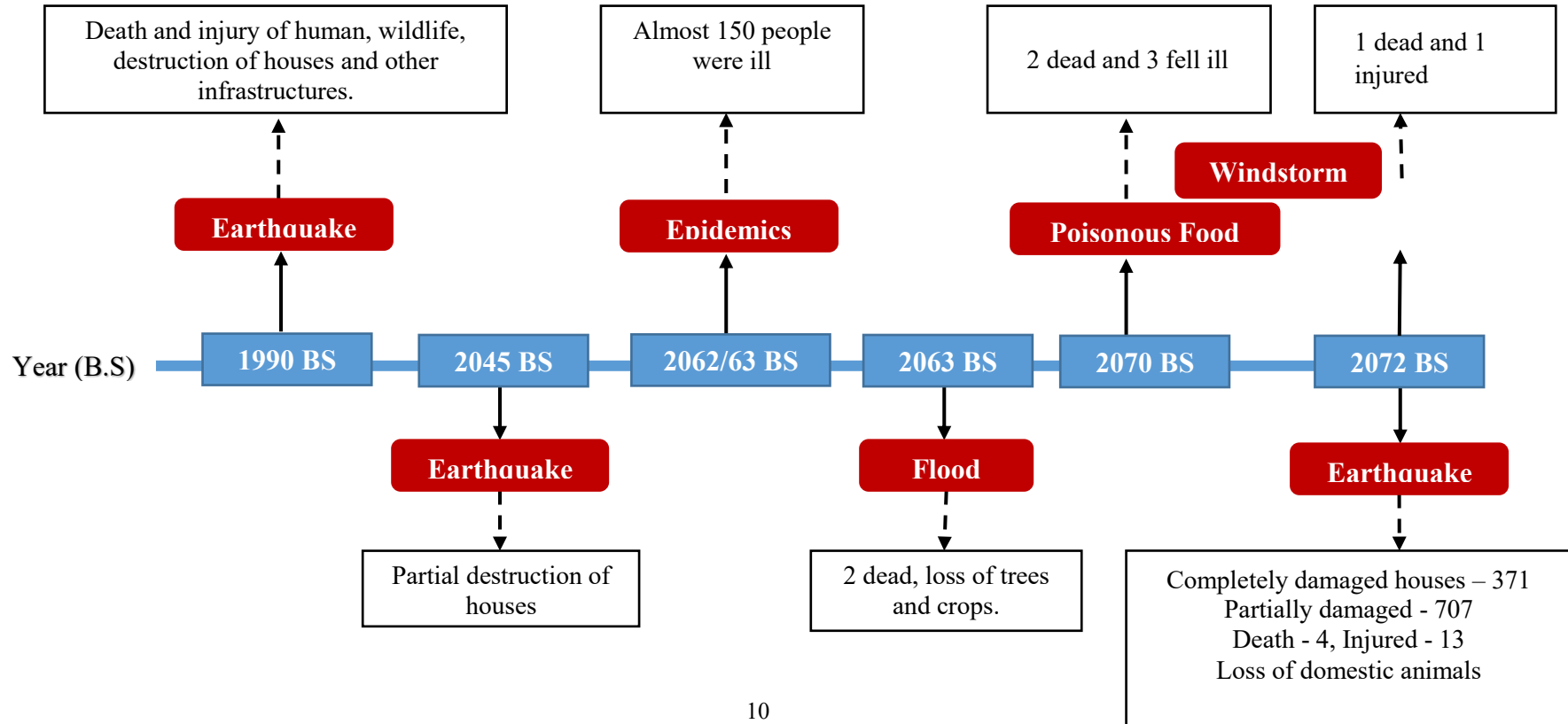
Historical timeline shows the hazards that occurred in past and the effects. Through this, information about the tendency of recurring hazards, the damage caused by them and their impact can be projected. The historical timeline of disasters occurred in the ward is listed below.

Table 3: Historical Timeline in tabular form, Ward 2, Budhanilkantha Municipality

Year (B.S)	Disaster	Damage	Impact
1990	Earthquake	<ul style="list-style-type: none"> ▪ Death and injury to human, wildlife ▪ Destruction of houses and other significant infrastructures 	<ul style="list-style-type: none"> ▪ Human casualties and infrastructural damages ▪ People had to stay outside home for an extensive period of time ▪ Food shortage ▪ Daily activities were disturbed which affected the livelihood ▪ People experienced psychological disturbance
2045	Earthquake	<ul style="list-style-type: none"> ▪ Partial destruction of houses 	<ul style="list-style-type: none"> ▪ Loss of properties
2062/63	Epidemics	<ul style="list-style-type: none"> ▪ Almost 150 people were ill 	<ul style="list-style-type: none"> ▪ Increase in number of victims
2063	Flood	<ul style="list-style-type: none"> ▪ Number of death – 2 ▪ Loss of trees and crops 	<ul style="list-style-type: none"> ▪ Loss of fertile land ▪ Flooding of houses at the riverbank. ▪ Soil erosion
2070	Consumption of poisonous mushroom	<ul style="list-style-type: none"> ▪ Death – 2; Sick – 3 	
2072	Earthquake	<ul style="list-style-type: none"> ▪ Completely damaged households – 371 ▪ Partially damaged - 707 ▪ Death - 4, Injured - 13 ▪ Loss of domestic animals 	<ul style="list-style-type: none"> ▪ People were settled in camp for more than 1 month ▪ Psychological effect on people ▪ Affected livelihood and education ▪ Damaged few temples
2072	Windstorm	<ul style="list-style-type: none"> ▪ Death – 1; Injured - 1 	<ul style="list-style-type: none"> ▪ Affected roofs made up of CGI sheets
Every year	Wildfire	<ul style="list-style-type: none"> ▪ Destruction of plants and faunas 	<ul style="list-style-type: none"> ▪ Loss of animals, trees and herbs
Different year	Road accident	<ul style="list-style-type: none"> ▪ Death in 2072 B.S - 2 people ▪ 10 death, 2 injured in past 2- 3 years 	<ul style="list-style-type: none"> ▪ Damage to vehicles and human casualties

According to the timeline above, an earthquake occurred in the year 1990 B.S killed many people, animals, birds and damaged many shelters. Similarly, the earthquake in 2045 B.S resulted in the loss of many human lives and destroyed properties. Almost 150 people were sick due to the epidemic in (2062-2063) B.S. Flood in 2063 B.S destroyed many agricultural and cultivable land. It killed 2 people and loss many crops and trees. Likewise, 2 people died and 3 were injured eating poisonous mushroom in 2070 B.S. Earthquake that struck in 2072 B.S killed 4 people and injured 13 people. Many domestic and street animals were dead. Windstorm in 2072 also killed 1 and injured 1 person. Death of animals, birds; loss of trees and herbs were reported due to forest fire every year. Road accident killed 12 people and injured 2 in different years and damaged lots of vehicles.

Figure 1: Historical Timeplie of Ward 2, Budhanilkantha Municipality



2.4 Hazard Analysis

Hazard analysis tool helps to identify the causes and impact of the disaster. Similarly, it also facilitates in finding out the time interval of disasters, its impact level and capacities to cope with any disaster. Hazard analysis of ward 2 is given below the table.

Table 4: Hazard Analysis of Ward 2, Budhanilkantha Municipality

Hazard	Types	Danger Indicator	Impact level	Time interval	Season	Impact		Impact level	Capacities that helps to minimize the disaster impact
	<i>Natural or man made</i>	<i>Technical and traditional</i>	<i>Rapidly or slowly</i>	<i>Time duration</i>	<i>Time and year</i>	<i>Components</i>	<i>Sector</i>	<i>High/ medium / low</i>	
Earthquake	Natural	Dog barking, sound of birds	Rapidly	Every year small earthquake is recorded, History shows, every 8 - 9 years earthquake of medium intensity has occurred.	Any season	Death/ injury of human; damage of cultural heritages and houses	Human, Economic, Social, Mental	High	Community Awareness, Rescue, Rehabilitation
Fire	Man-made	Windy season and seen of smokes	Occurs slowly but spreads rapidly	Occurred every year	Mostly March, April, and May	Animal, crops, building, human	Human, Economic, social and mental	High	Awareness, rescue materials, social involvement, fire extinguisher, communication
Flood	Natural	Heavy rainfall	Rapidly	Occurred every year but it didn't occur as a disaster.	Rainy season	Human, animals	Human, economic, mental		Cash management, coordination and communication with municipality
Landslide	Natural	Heavy Rainfall	Rapidly	2 -3 months	April- July	Death and injury,	Economic, physical,	Medium	Community buildings and

						economic loss, damage to houses	social		community
Animal attack	Natural	It mostly occurs in the community forests and at the time of harvesting.	Slowly	Every year	Risk in all months	Crops and domestic animal	economic loss, human casualties	Medium	Awareness, human resource
Road accident	Man-made	Consumption of alcohol, narrow and unmanaged road.	Rapidly	Many accidents every year.	Risk in all months (Mostly during rainy time)	Death/injury of human and damage to vehicles.	Human being and economic loss	Medium	No capacity
Windstorm	Natural	Strong wind around forest area, sounds of birds.	Rapidly	Every 3 - 4 years	March, April, May, and June	Blow away CGI roofs of houses, injure people	Economic, human casualty	High	
Epidemic	Natural and man-made	Climate change and unmanaged waste	Slowly	Occurred 10 years ago	Anytime	Physical, economical,	Physical, Economic, Educational disturbance	Medium	Health post. FCHVs

The community has listed earthquake as the main hazard among any other natural hazards. As the occurrence of an earthquake is unpredictable, it could destroy the entire community within a very short span of time. People of Budhanilkantha Municipality believed that continuous barking of dogs and unusual sound of birds might be significant symptoms of the earthquake. Earthquake directly affects human lives, animals, social structures, and hence result in social and economic losses. The disastrous situation can also induce psychological problems among humans.

Fire is another hazard listed mainly caused due to human errors. It may occur mainly in the windy and dry season like Chiatra and Baisakh (March, April, and May). Loss of agricultural crops, death and injury to human and animals, economic loss, mental disturbances and structural

destructions are the impacts of fire. In case of fire, a fire extinguisher is available in this ward, however, availability of only one fire extinguisher may not be enough in case of rapid fire.

As flood and landslide are also the major natural hazards seen in this ward during heavy rainfall. Water gets contaminated during heavy rainfall which can result in the spread of water-borne disease directly affecting the health an individual.

As the community is located nearby dense forest, the animal attack is another listed hazard. This happens especially during the time of harvesting crops. Animals are spotted near the community. It damages mainly agricultural crops and kills domestic animals. Due to the narrow and unmanaged road and consumption of alcohol, road accident is another listed hazard in this ward. Road accident may occur at any time causing human and economic loss. Capacity is not available to cope with a road accident.

Windstorm is a natural hazard mainly occur in a windy season like Chaitra, Baishak and Jestha (March, April, May and June). It is also one of the hazards listed which might damage human and animals both physically and economically.

Likewise, the epidemic is another listed hazard in this ward which occurs due to climatic variations and unmanaged waste materials. Spread of epidemic directly affect human health whereas it indirectly affects the economic aspect of an individual. Health post of this ward has trained FCHVs who are responsible to organize awareness and prevention programs to prevent the spread of epidemics.

2.5 Problem Tree Analysis

The problem tree tool is used to analyze the main problem of the community, its causes and effects. In this method, a tree trunk is considered to represent the problem, root as causes and the branches and leaves an effect. This practical method was used to facilitate the community to identify the local problems, its possible causes and how this problem can affect individuals and environment of the community. Categorize the problems and its causes were important in order to develop the DRM plan. Hence, the problem tree was developed by the participants through details discussion. The tree drawn as per group

Figure 2 : Problem Tree Analysis of Ward 2, Budhanilkantha Municipality

discussion is presented shown in figure and table next.

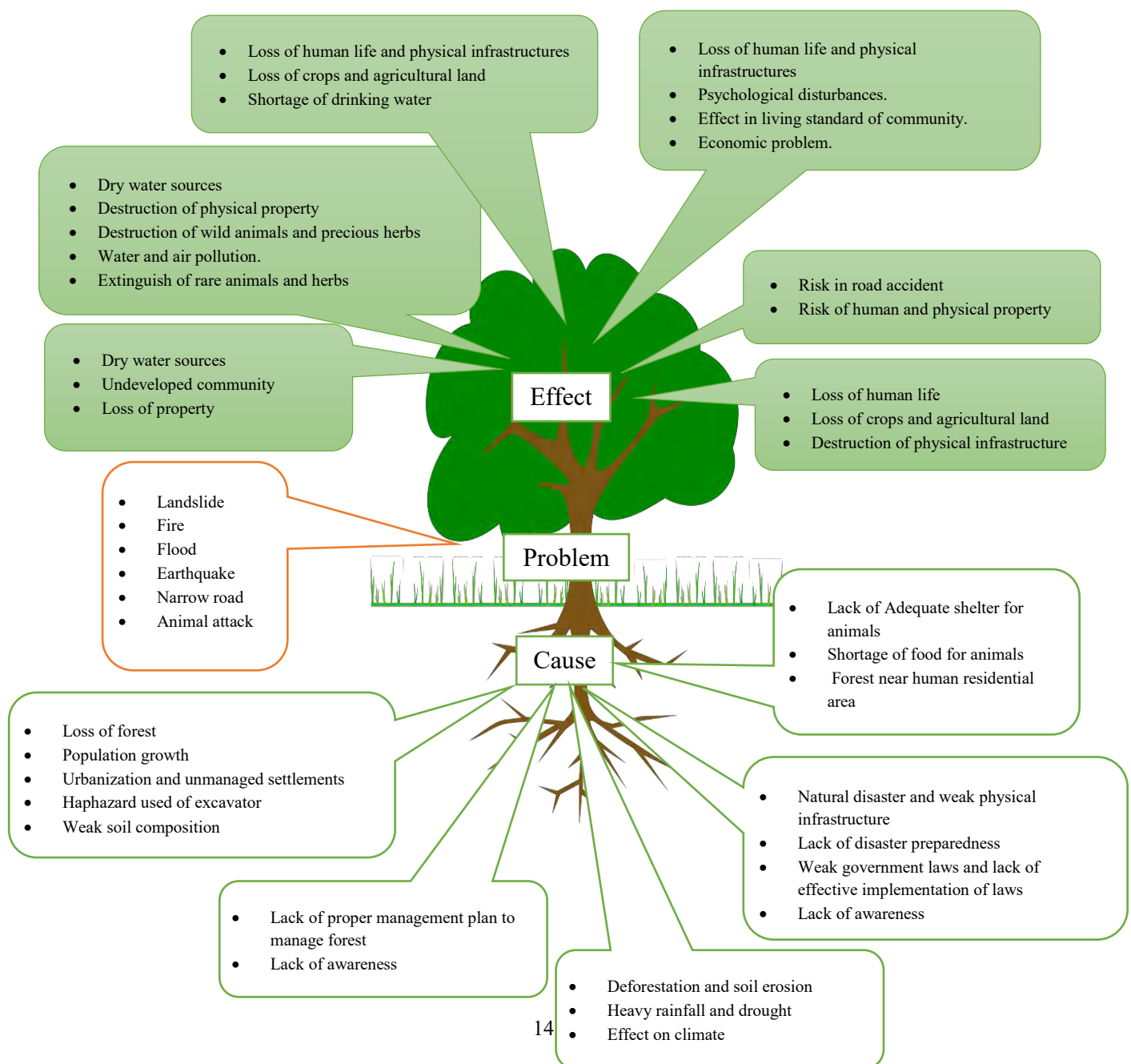


Table 5: Problem Tree analysis in Tabular Form

Problem	Main causes of problem	Effect in community
Landslide	<ul style="list-style-type: none"> ▪ Deforestation ▪ Population growth ▪ Haphazard urbanization ▪ Haphazard use of excavator ▪ Weak soil composition 	<ul style="list-style-type: none"> ▪ Dry water sources ▪ Undeveloped community ▪ Loss of property
Flood	<ul style="list-style-type: none"> ▪ Deforestation and soil erosion ▪ Heavy rainfall and drought ▪ Effect on climate 	<ul style="list-style-type: none"> ▪ Damage to physical infrastructures and loss of human life ▪ Loss of crop ▪ Shortage of drinking water
Earthquake	<ul style="list-style-type: none"> ▪ Naturally ▪ Weak physical infrastructure ▪ Lack of disaster preparedness ▪ Weak government laws and lack of effective implementation of laws ▪ Lack of awareness 	<ul style="list-style-type: none"> ▪ Loss of human and damage to physical infrastructure ▪ Psychological disturbances. ▪ Effect on lifestyle of human being ▪ Decrease in economy
Fire	<ul style="list-style-type: none"> ▪ Lack of management plan to manage forest ▪ Lack of awareness 	<ul style="list-style-type: none"> ▪ Dry water sources ▪ Destruction of physical property ▪ Destruction of wild animals and herbs ▪ Water and air pollution
Animal Attack	<ul style="list-style-type: none"> ▪ Lack of Adequate shelter for animals. ▪ Shortage of food for animals. ▪ The human residential area near the forest. ▪ Fire at forest 	<ul style="list-style-type: none"> ▪ Loss of human life ▪ Loss of crops and agricultural land ▪ Destruction of physical infrastructure
Narrow road	<ul style="list-style-type: none"> ▪ Negligence in government laws that are indicative of space management 	<ul style="list-style-type: none"> ▪ Risk in road accident ▪ Risk of human and physical property

The most important factors that influence to convert hazards to disasters and their effects are identified from the table above. Rapid excavating of land, the increment of use of sloppy land and river bank for housing within the ward has resulted in landslide and flood. Similarly, ultra-poor families living in sloppy lands due to low economic status are one of many vulnerable groups that can be affected by even more from landslides and floods. This can further lead those families to poverty and deprivation. According to problem tree, it requires a strong strategy from the government to stop those haphazard activities in order to minimize the risk of landslide and flood. Though

earthquake is a natural event, damages and losses caused by earthquake mentioned in problem tree and table above are mainly due to the construction of weak infrastructures, lack of community preparedness, neglected government laws and lack of earthquake awareness in the community. The problem tree also indicates the consequences of the earthquake like loss of human lives, damage to physical infrastructures, hamper daily activities and decline economic activities of the community.

Likewise, insufficient attention by Forest Management Committee to manage and protect the forest, lack of awareness in the community and visitors are causing to a forest fire. On the other hand, these causes can also result in an animal attack. Deforestation, decreasing natural plants and creatures in the forest has forced wild animals to come around human settlements. The narrow road is taken as a problem because it is considered as one of the causes of a road accident in the area. The cause of narrow road is pointed as negligence of government laws by the public that is indicative of space management for the extension of the road.

2.6 Town Watching / Transect Walk

Town watching is a tool similar to transect walk wherein community representatives visit clusters of the ward to observe hazards of the ward. This tool is used to triangulate the interferences from vulnerability mapping and problem tree analysis in the course of vulnerability and capacity assessment. Unlike other tools, this tool helps to generate real-time data regarding the risks, vulnerabilities and capacities. Using this tool helped Ward 2 to verify the VCA data through direct observation in the field, to update DRR map of ward 2 that developed during risk assessment and to collect the experiences of disaster victims of Ward 2, Budhanilkantha Municipality

2.7 Vulnerability and Capacity Identify Mapping

It is always important to identify potential hazards, vulnerabilities, risks as well as existing capacities of the community. Preparation of map indicating potential hazards and vulnerabilities as well as existing capacities of the community makes the community people aware of disaster risk reduction and facilitate to plan and prepare for the unforeseen futures disaster risks. Community participation plays a crucial role to develop the informative and effective map.

Figure 3: Vulnerability and Capacity Map

This tool was adopted mainly to indicate potential



ential vulnerabilities and capacities of Ward 2 so that the community people are aware regarding vulnerabilities and capacities in future. A map of ward 2 with ward boundary was provided to community people. The indication of possible vulnerabilities and capacities were indicated accordingly. Possible areas of flood, landslide, electricity substation as fire source etc are indicated as the vulnerable sites of the ward while water sources like public taps, water tanks, open spaces that can be used during disasters etc are indicated as capacities. The data that were inputted in the map are verified through town watching method with direct observation. The map is finalized through series of meetings, follow up with relevant stakeholders. The map will guide the community people to find out the vulnerabilities and available capacities with exact locations within the community.

2.8 Capacities of Ward

The capacities are categorized into different resources based on nature such as natural resources, economic resources, physical resources, human resources, and institutional resources. Community forests, rivers, open spaces, well and spout water are regarded as the capacities of the ward. Similarly, community buildings, health facilities, schools, temples etc are included in physical resources of the ward. Likewise, different factories and cooperatives are indicated as economic capacities of the ward. Each capacity of ward could help in many ways during a disaster. Open spaces, human resources, institutions and water resources are important capacities available at Ward 2, Budhanilkantha Municipality that could be an important asset during a disaster.

Table 6: List of capacities of ward 2, Budhanilkantha Municipality

Resources	Capacity	Name of the capacity and location (What)	Quantity (How many) Area	Condition	It's function during disaster
Natural Resources	Forest	▪ Shree Pancha Kanya Mai, Badeli Wasiku Badepakha.	33.9 hectares	▪ In good condition and proposed to develop it as a park	▪ Herbs, firewood, green vegetation and water resources
		▪ Shivapuri Nagarjun National Conservation Community Forest	-		
		▪ Chiyaan dada Community Forest, Tailung	8 hectares		
	Rivers	▪ Dhobi Khola, Badeli ▪ Mahadev Khola, Shivapuri ▪ Jhyamle Khola, Taulung	▪ 3 rivers	▪ Water is clear	▪ Water
	Community Well/Kuwa	▪ Kalikasthan Well ▪ Well at Mahankal Basti ▪ Lamichanne Kuwa, Lamichanne Tole ▪ Kanchan Kuwa, Lamichanne Tole	▪ 4 numbers	▪ Water can be consumed after purification	▪ Water
	Stone tap	▪ Mahankal ▪ Lamichanne Tole ▪ Near to BMCA school	▪ 3 numbers	▪ Water is in use.	▪ Drinking water
	Public Tap	▪ 40 public tap, every Tole	▪ 40 numbers	▪ Water is clean	▪ Drinking water
	Water tank	▪ Dhobi Dhunga	▪ 2 X 20,000 liters = 40,000	▪ Water is reserved and is overflowing	▪ Can be used for water storage during an emergency. ▪ Water available at the storage tank.
▪ Wasiku		▪ 3000 + 5000 liters = 8000			
▪ Pandapang		▪ 5000 liters			

		<ul style="list-style-type: none"> ▪ Health post-underground tank 	<ul style="list-style-type: none"> ▪ 10,000 X 3 Poly tanks. ▪ 20,000 RCC tank 		
		<ul style="list-style-type: none"> ▪ Mahadev Khola 	<ul style="list-style-type: none"> ▪ 20,000 Liter tank 		
		<ul style="list-style-type: none"> ▪ Deep boring 	<ul style="list-style-type: none"> ▪ Planned by KUKL 		
Economic resources	Cooperative	<ul style="list-style-type: none"> ▪ Mugal Cooperative Organization, Ganesh Chowk ▪ Chapali Bhadrakali Agriculture Organization, Mahadev Khola 	<ul style="list-style-type: none"> ▪ 2 numbers 	<ul style="list-style-type: none"> ▪ Financial support 	<ul style="list-style-type: none"> ▪ Can provide home loan in low interest and relief materials during disaster
	Factories	<ul style="list-style-type: none"> ▪ Milk Factory, Bhangal, 	5 ropani		<ul style="list-style-type: none"> ▪ Economical support. ▪ Supply vegetables ▪ Relief material support.
		<ul style="list-style-type: none"> ▪ Paramount water refined centre, Wasiku. 	1 ropani		
		<ul style="list-style-type: none"> ▪ Carpet factory, Wasik/Chapali 	31 ropani		
		<ul style="list-style-type: none"> ▪ Vegetable Farming (7 places) 	25-30 ropani		
		<ul style="list-style-type: none"> ▪ Paper factory, Bhangal Rudreshwor 			
		<ul style="list-style-type: none"> ▪ Soap factory, Khareltar 			
		<ul style="list-style-type: none"> ▪ Bee farming, Bhangal 			
<ul style="list-style-type: none"> ▪ Sakar catering, Bhangal 					
Physical resources	Community shelter	<ul style="list-style-type: none"> ▪ Ward office, Chapali Ghumti 	14 aana	<ul style="list-style-type: none"> ▪ Is in good condition 	<ul style="list-style-type: none"> ▪ Co-ordination and communication

		<ul style="list-style-type: none"> ▪ Chapali community shelter, Bhangal 	3 aana	<ul style="list-style-type: none"> ▪ Shivapuri community shelter in risk of landslide 	
		<ul style="list-style-type: none"> ▪ Shivapuri community shelter 	5 aana		
		<ul style="list-style-type: none"> ▪ SKDUN, Rudreshwor Mahadev Khola 	-		
	Health facilities	<ul style="list-style-type: none"> ▪ Chapali health post, Mahadev Khola. ▪ Pharmacy shops 	<ul style="list-style-type: none"> ▪ 1.5 Ropani ▪ 5 numbers 	<ul style="list-style-type: none"> ▪ Is functioning well. 	<ul style="list-style-type: none"> ▪ First Aid ▪ Medicines
	Schools	<ul style="list-style-type: none"> ▪ B.M.C.A School, Rudreshwor height ▪ Ganesh Secondary School, Ganesh Chowk, ▪ Snow Land School, Rudreshwor Chowk, ▪ Victor Hyugo Manjushree School, Bhangal ▪ Little Moon School, Bhangal 	<ul style="list-style-type: none"> ▪ 5 Ropani ▪ 2 Ropani ▪ 2 Ropani ▪ 2 Ropani ▪ 2 Ropani 	<ul style="list-style-type: none"> ▪ Buildings are new and are well functioning 	<ul style="list-style-type: none"> ▪ Could be used as open space
	Temples	<ul style="list-style-type: none"> ▪ Pancha Kanya temple, Panchakanya ▪ Rudreshwor temple, Bhangal, ▪ Kalikasthan temple ▪ Ganesh temple, Ganesh chowk, ▪ Nilbarahi, ▪ Sikari ▪ Setidevi, Badeli ▪ Narayan temple, Bhangal ▪ Bhangaleshwormahadev, Bhangal ▪ Radha Krishna Mandir, Badeli ▪ Mahankal Bhairab, Bhangal 	-	<ul style="list-style-type: none"> ▪ Few areas are open 	<ul style="list-style-type: none"> ▪ As a religious area and open spaces can also be used.

	Bridge	<ul style="list-style-type: none"> ▪ Mahadev Khola ▪ Dhobi Khola ▪ Bhadrakali Khola 	<ul style="list-style-type: none"> ▪ 3 numbers 	<ul style="list-style-type: none"> ▪ Good condition and vehicles can pass 	<ul style="list-style-type: none"> ▪ Can be used as alternative road
	Open space	<ul style="list-style-type: none"> ▪ Near to B.M.C.A school ▪ Kalika open space ▪ Near to Tapasthali oldage house ▪ Bhangal open space 	2 ropani	<ul style="list-style-type: none"> ▪ Water pond is in construction phase near BMCA school 	<ul style="list-style-type: none"> ▪ Can be used as open space.
			12 ropani		
			2.5 ropani		
			1.5-2 ropani		
Stockpile shelter	<ul style="list-style-type: none"> ▪ Niswartha Stockpile house, Lamichanne Tole 	<ul style="list-style-type: none"> ▪ 3 Anna 	<ul style="list-style-type: none"> ▪ Few materials are available 	<ul style="list-style-type: none"> ▪ Can be used as open space. ▪ Can be used as service camp. 	
Montessori	<ul style="list-style-type: none"> ▪ Butterfly Kindergarten, Rudreshwor Height ▪ Nepal Bal Sadan, Badeli 	<ul style="list-style-type: none"> ▪ 7 ropanies ▪ 15 ropani 	<ul style="list-style-type: none"> ▪ Is functioning well with good buildings and spacious area 	<ul style="list-style-type: none"> ▪ Can be used as open space. ▪ Can be used as service camp. 	
Human Resources	FCHVs	<ul style="list-style-type: none"> ▪ Shanti Tamang(Thuli Rai) ▪ Laxmi Bhandari- 9849350377 ▪ Bindu Shrestha- 9849745079 ▪ Laxmi Shrestha ▪ Maya Devi Laxmi- 9841908322 ▪ Apsara Ale Magar Pathak- 9841076326 ▪ Ramila Khadka- 9860187701 ▪ Devaki Kharel – 9813019303 	<ul style="list-style-type: none"> ▪ 8 FCHVs 	<ul style="list-style-type: none"> ▪ Working regularly with health post. 	<ul style="list-style-type: none"> ▪ Can serve the community for health service and other awareness activities.
	Doctors and Nurses	In the whole ward	<ul style="list-style-type: none"> ▪ Almost 10 numbers 		<ul style="list-style-type: none"> ▪ Medical help

	Engineer	In the whole ward	▪ Almost 15 numbers		▪ Technical support in camp management, reconstruction.
	Mason	In whole ward	▪ Almost 50 numbers		▪ Technical support in camp management, reconstruction.
Institutional resources	Youth club	In the whole ward	▪ 50 numbers		▪ Human resources ▪ Co-ordination and communication with donors
	Women Groups	In the whole ward	▪ More than 30 numbers		
	Women development committee	▪ Bhangal, Badeli, Badepakha	▪ 3 numbers		
	Guthi	In whole ward	▪ 7 numbers		
	Single Women Group	In the whole ward	▪ 1 number		
	Old age home	In the whole ward	▪ 1 number	▪ 30 elderly people live now.	▪ Can be a safe place for elderly group.

2.9 Vulnerabilities of Ward

Along with capacities, there are such factors too in the ward that could increase loss and damages due to disaster or that can create an event of a disaster. In order to develop an effective DRM plan, there is a need to assess the possible vulnerabilities existing in the society that can contribute to human casualties and infrastructural destruction. Possible vulnerabilities and risks of ward no 2, Budhanilkantha Municipality are analyzed in tabular form next:

Table 7: Vulnerabilities analysis of ward 2, Budhanilkantha Municipality

Name of the cluster	Major vulnerabilities and hazards	Major reason for the problem
<ul style="list-style-type: none"> ▪ Badeli, Taulung, Wasiku, Mahadev Khola. ▪ Kharel tole. ▪ Bhairav Marga tole. ▪ Lamichhane Tole. ▪ Badepakha 	<ul style="list-style-type: none"> ▪ Old structured construction, people living in dense settlements can get affected by earthquake 	<ul style="list-style-type: none"> ▪ Unmanaged and rapid urbanization ▪ The community is not prepared for disaster response activities. ▪ The community is dependent on the government for response to a disaster.
<ul style="list-style-type: none"> ▪ Badeli ▪ Taulung ▪ Badepakha ▪ Rudreshwor tole 	<ul style="list-style-type: none"> ▪ Houses built on slope agricultural land 	<ul style="list-style-type: none"> ▪ Haphazard construction of landslide-prone areas. ▪ Soil erosion ▪ Plotting of land
<ul style="list-style-type: none"> ▪ All population of Ward no 2 	<ul style="list-style-type: none"> ▪ Increase in death toll due to delay in response to injured people during a disaster. ▪ Skilled and trained human resources are not prepared. (E.g.: Search and rescue units, First aid, Firefighting etc) 	<ul style="list-style-type: none"> ▪ Construction of government hospital is not planned and prioritized. ▪ The community does not have DRM plan for health response during a disaster. ▪ Lack of awareness and resources in the community.
<ul style="list-style-type: none"> ▪ All population of Ward 2, Budhanilkantha Municipality. 	<ul style="list-style-type: none"> ▪ Fire brigade and ambulance service are not available nearby. So, during earthquake disaster, it may not be accessible. 	<ul style="list-style-type: none"> ▪ The community does not have DRM plan for emergency services during a disaster. ▪ Lack of awareness and resources in the community.

2.10 Stakeholder's Analysis of Ward

Stakeholder's analysis is done to recognize the accessibility and linkages of stakeholders with ward office and community. Name, location, contact person and contact number are listed indicating the possible support community can get from the stakeholder mentioned. The table below rosters government and security agencies, NRCS, local organizations and other humanitarian organizations, financial institutions, cooperatives, public health centres, clubs, groups and so on. Tabular form of stakeholders is presented next:

Table 8: List of stakeholders of Ward 2, Budhanilkantha Municipality

S.N	Name of the stakeholders	Location	Possible support during disaster	Contact person	Contact No.
1	Aadarsha Women's Group	Badepakha	Human resources	Pramila Thapa	
2	Ananta Janauthansheel Co-operative.	Badeli	Human resource, financial support.	Trilochan Bhandari	
3	Atirikta Hulakh Karyalaya (Post Office)	Budhanilkantha Municipality, Chapali	Information and communication	Raju Kharel, Gokul Kharel	
4	B.M.C.A School	Bade Pakha	Human resources for awareness.	Bijay Basnet	
5	Badeli Drinking Water Users Committee	Badeli	Rescue	Ram Krishan Bhandari	
6	Budhanilkantha Municipality Ward Office	Budhanilkantha Municipality -2	Information dissemination and coordination	Achyut Karki	
7	Chandra Forest Resort	Taulung	Economic support	Suresh lama	
8	Chapali Agriculture Co-operative.	Ishaan Colony	Economic support	Uttam Khadka	
9	Chapali Health Post	Mahadev Khola	Human resources	Gupta Bahadur Thapa	
10	Chihan Danda Community Forest	Taulung	Human resources	Nar Bahadur Lama	
11	Community Disaster Management Committee	Budhanilkantha Municipality-2	Information dissemination and coordination	Achyut Karki	

12	Dhobi Dhunga Drinking Water Project	Badeli	Human resources for awareness program, support for drinking water	Krishna Prasad Lamichanne	
13	Ganesh Farmer's group	Chapali	Human resources, livelihood support	Rajendra Thapa	
14	Ganesh School	Ganesh Chowk	Human resources for awareness.	Bhim Kaji Shrestha	
15	Janajagriti Women's group	Budhanilkantha-2, wasik	Human resources	Narayan Devi Shrestha	
16	Milan Women's group	Badeli, Badepakha	Human resources for awareness	Rita Thapa	
17	Nari Bikash Women's group.	Mahadev Khola	Human resources for awareness and other works.	Pramila Thapa	
18	Nava Rudreshwor Youth Club	Mahadev Colony	Human resources	Kabita	
19	Nepal Ban Sadan	Badeli	Economic support	Laxmi Tamang	
20	Pancha Kanya Marga Development Committee.	Wasik	Human resources	Aasha Lal Shrestha	
21	Pancha Kanya Women's group	Budhanilkantha-2, wasik	Human resources for awareness	Parbati Shrestha	
22	Panda Pang Drinking Water Committee	Taulung	Human resources	Gyan Bahadur Tamang	
23	Pragatisheel Women's group	Badeli	Human resources for awareness	Sangeeta Bhandari	
24	Pushpanjali Women's group	Wasik	Human resources	Sharmila Shrestha	
25	Shimali Women's group	Taulung	Human resources for awareness and other works	Dolma Lama	
26	Shivapuri Community Building	Taulung	Rescue	Shanti Lama	
27	Shree Pancha Kanya Mai community forest	Budhanilkantha -2	Human resources	Laxmi Bhandari	

		wasik			
28	Simali Youth Club	Taulung	Skilled and unskilled human resource contribution	Sudharsan Lama	
29	Srijansheel Agriculture Group	Wasik , Badeli	Labor contribution	Kashilal Shrestha	
30	Wasik Agricultural Group	Wasik	Human resource for awareness program	Pranisha Shrestha	
31	Wasik Cluster Development Committee	Budhanilkantha-2, wasik	Human resources	Kaji Bahadur Shrestha	
32	Wasik Youth Club	Budhanilkantha-2, wasik	Human resources	Bikash Shrestha	
33	Chapali Women's Federation	Budhnilkantha Municipality ward no. 3, Bhangal	Women's unity	Gyanu Karki Thapa	
34	Bhadra Basti Group	Bhangal	-		
35	Bhangal Community Building	Bhangal	Availability of place and relief materials	Udhav Kharel	
36	Child Club	Bhangal	Awareness	-	
37	Community Awareness Centre (Sachetana Kendra)	Bhangal	Citizen right, information, communication and coordination	Durga Tamang	
38	Empower Nepali Girls Organization	Bhangal	Support and counselling of human right and protection	Pasang Sherpa	
39	Ganesh Secondary School	Ganesh Chowk	Support in education and open space	-	
40	Glory Co-operative and Saving Organization	Bhangal	Coordination and communication for relief and shelter support	Janak Thapa	
41	Kalika Women Development Centre	Bhangal	Economic support and loan support	Laxmi Pathak	
42	Kunja Colony	Budhanilkantha municipality-2	Support for relief and shelter	Shankhar Karki	

43	Lagansheelta Women's Group	Bhangal	Mass labour contribution		
44	Mahadev Colony	Bhangal	Mass labor contribution	Bir Bahadur Poudel	
45	Nil Barahi Cluster Development Committee	Bhangal	Coordination and management	Rina Onta	
46	Rudreshwor Ghat	Bhangal	Management of death body	Krishna Lamichanne	
47	S.K.D.U.N Building	Mahadev	Availability of hall	Shyam Shrestha	
Stakeholders near to Ward 2 and within Budhanilkantha Municipality					
48	Baan Ganga Co-operative and Saving Limited.	Budhanilkantha Municipality-3	Money and materials	Hari Shrestha	
49	Bhanjyag Chautari Co-operative and Saving Limited.	Budhanilkantha Municipality-3	Money and materials	Kusal Shah	
50	Bishnu Darshan Co-operative and Saving Limited.	Budhanilkantha Municipality-3	Money and materials	Sanu Thakuri	
51	Bishnu Hari Co-operative and Saving Limited.	Budhanilkantha Municipality-3	Money and materials	Manoj Shrestha	
52	Budhanilkantha Birthing Center	Budhanilkantha Municipality-3, Chapali Ghumti	Medical Assistance during emergency		
53	Budhanilkantha Higher Secondary school	Budhanilkantha Municipality-3,	Awareness	Deepak Karki	
54	Budhanilkantha Municipality	Budhanilkantha Municipality, Golfutar	Relief, coordination, communication		
55	Budhanilkantha Youth Club	Budhanilkantha Municipality-3	Coordination of relief materials	Ganesh Kunwar	
56	Community Police Service Center	Budhanilkantha Municipality-3,	Security and Safety	Uttam Bahadur Khadka	

		chapali Ghumti			
57	Department of Livestock Services	Budhanilkantha Municipality-6, chapali Ghumti	Counselling diseases related to animals and service	-	
58	Glory Co-operative and Saving Limited.	Budhanilkantha Municipality-3	Materials and cash support	Janak Thapa	
59	Illaka Police Office	Budhanilkantha Municipality-3	Coordination for security and relief	Ramesh Paal	
60	Jay Bhadra Kali Lower Secondary School	Budhanilkantha Municipality-1, Taulung	Awareness	Bindeswori Dahal	
61	Mahankal Youth Club	Budhanilkantha Municipality-3	Human Resources, Relief,	-	
62	National Livestock Epidemical Disease Laboratory (Rashtriya Khoret Tatha Mahamari Rog Prayogshala)	Budhanilkantha Municipality-6, chapali Ghumti	Counselling disease related to animals	-	
63	Naya Sandesh Co-operative and Saving Limited.	Budhanilkantha Municipality-3	Money and materials	Sanu Thakuri	
64	Om School (community school)	Budhanilkantha Municipality-1, Taulung	Awareness	Narad Bhandari	
65	Pancha Kanya Secondary School	Budhanilkantha Municipality-4, tusal	Awareness	Shambhu Kunwar	
66	Samayojan Co-operative and Saving Limited.	Budhanilkantha Municipality-3, Chapali	Relief and Financial Support	Sujit poudel	
67	Shivapuri and Nagarjun National Conservation	Budhanilkantha Municipality-3, Pani Muhan	Materials and cash	Kamal Jung	

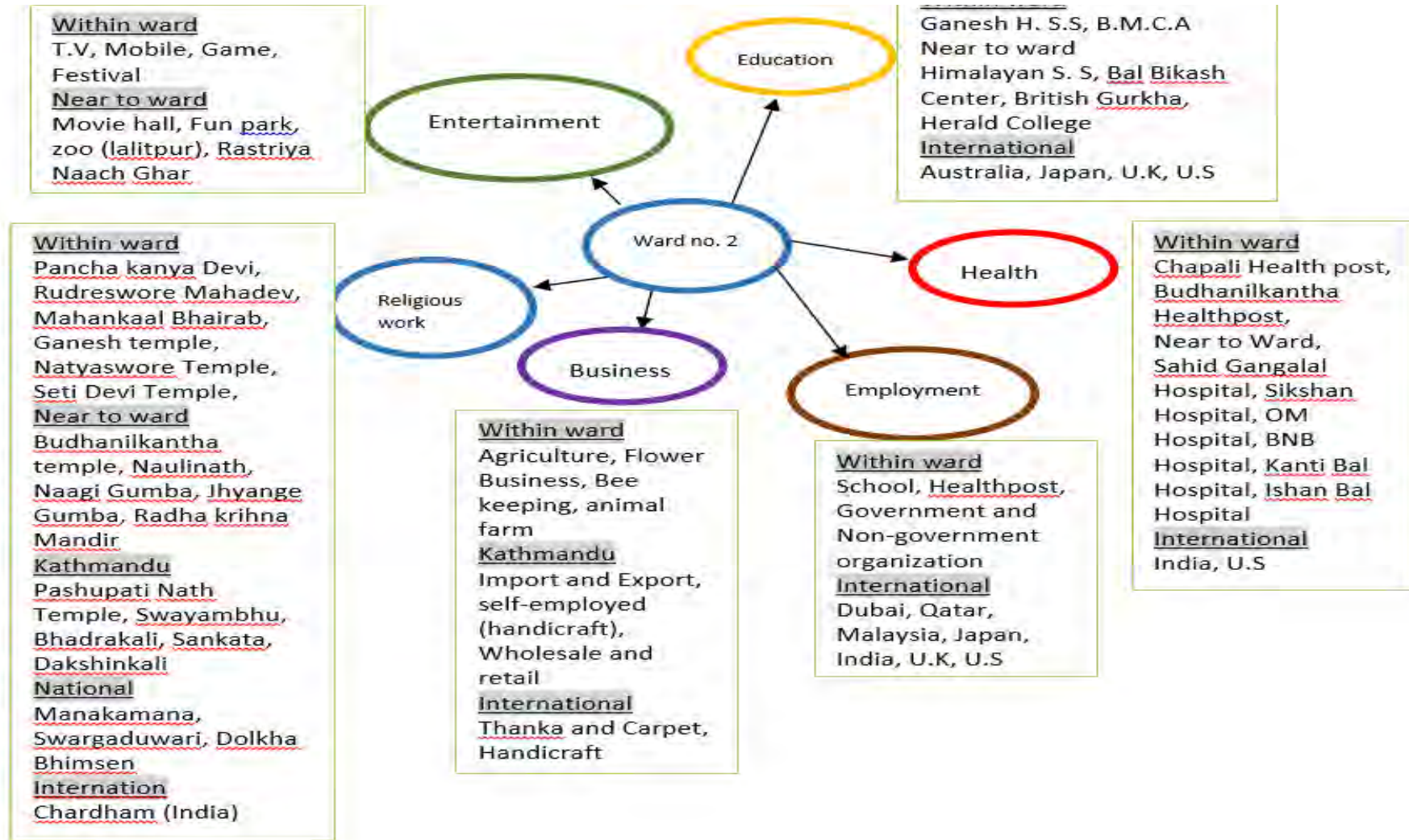
68	Simali Khanepani	Budhanilkantha Municipality-3, Simali Gaun	Drinking water support	Puspa Bhandari	
69	Subha Multipurpose Cooperative Limited	Budhanilkantha Municipality-3	Economic support and labour contribution	Shyam Krishan Shrestha	
70	Unnatisheel Mahila Co-operative and saving limited.	Budhanilkantha Municipality-3, Pasikot	Relief and Financial Support	-	

2.11 Mobility Mapping

Mobility mapping is used to know the movement of people for better facilities within and outside the community. Through discussion, some particular areas are listed in figure next where people of Budhanilkantha moved for various purposes like education, employment, health, business, entertainment and religious work.

The figure below illustrates that people of Ward 2, Budhanilkantha are involved in business, agriculture, and handicraft for their major economic sources. The people of ward 2 are also employed at governmental and non-governmental organizations, schools and some are also involved in foreign employment. Similarly, the community has access to health post and many reputed national health care centres for receiving good quality health care services which lie nearby the ward. From the mobility mapping process, it can be analyzed that students have access to many governmental and non-governmental schools and colleges within the ward. Similarly, it was identified that some students travel to adjoining areas for good quality education. Also, there is a trend of travelling abroad to the countries like USA, Australia, Japan, U.K etc for higher studies.

Figure 4: Mability Mapping of Ward 2, Budhanilkantha Municipality



2.12 Risk assessment

Risk assessment is a tool which helps to reduce risks within a community. This can be done by identifying the risks that the community is likely to face. Once the assessment of the community risk is done and capacities available in the community to reduce the impacts of the risks is identified. This helps to assess the likelihood and possibility of the community to be harmed.

Table 9: Risk Assessment of Ward 2, Budhanilkantha Municipality

Hazard	Where	When	Whom/ how many affected	How are they vulnerable	What are the risks	Available coping capacity
Earthquake	Badepakha, Taulung, Bhangal, Rudreshwor marg, Badeli, Wasuki, Mahadev Khola	Any season/ time	200 - 300 Households of ward – 2	<ul style="list-style-type: none"> • The possibility of being trapped in weak infrastructures and get injured or die. • Landslide is much likely to follow after the earthquake disaster. So, death and injury toll may rise after a landslide. • Lack of response and first aid materials in community delays in rescue and first aid. • Delay in rescue and medical help can kill people due to lack of trained human resources. 	<ul style="list-style-type: none"> • Injury and death of people. • People suffer due to the unmanaged settlement, drinking water, medical care etc. • Social problems and economic problems 	Masons, carpenter, agricultural products, human resources for awareness programs.
Landslide	Badepakha, Taulung Bhangal, Rudreshwor Marg, Pipalbot,	Monsoon season (June, July and August)	13 Houses 4 houses	<ul style="list-style-type: none"> • Due to haphazard plotting and unmanaged excavation of land, soil erosion has increased. so, houses are also 	<ul style="list-style-type: none"> • Destruction of houses and loss of economy. • Fertile agricultural land • Breakage of drinking 	Water tanks, mason, carpenters, human resources, support from the municipality for

	Kalikachaur		20 Houses (200 people) 12 houses	vulnerable.	water pipelines	building retention wall.
Forest Fire	Badeli, Taulung, Wasiku	More probable during dry seasons (March to May)	Wild animals, vegetation and houses near jungle	<ul style="list-style-type: none"> • Due to the carelessness of visitors at forest and conservation areas. 	<ul style="list-style-type: none"> • Breakage of drinking water pipelines by fire • 	Few materials have been stored for fire control by WWF
Accident due to Narrow streets	Way to Chapali health post	Mostly during monsoon and other months as well	20 households	<ul style="list-style-type: none"> • Slippery roads, landslide prone area and flood-prone areas may cause accident of people around it 	<ul style="list-style-type: none"> • Accident, injury 	Human resources for maintenance of the road.
Accident	Wasiku	During earthquake and earthquake shake	5 - 10 households	<ul style="list-style-type: none"> • By fall of unsecured water tanks, flower vases kept for decoration at roof during shake of the earthquake. 	<ul style="list-style-type: none"> • Injury and death 	awareness can be done for retrofitting of flower vases
Flood	Wasiku	During monsoon (June, July and August)	3 - 5 household members	<ul style="list-style-type: none"> • by the flooding of houses living near river can get affected 	<ul style="list-style-type: none"> • Houses and agricultural land can get affected 	Not mentioned
Epidemics	Probable in all clusters of ward - 2	mostly during monsoon season	150 - 200 people	<ul style="list-style-type: none"> • Water gets contaminated during the rainy season and most households do not use water purification methods. so, may spread epidemics 	<ul style="list-style-type: none"> • Especially elderly and children can get affected. 	FCHVs and health post

Epidemics	Probable in all clusters, especially in pig farming area of Dhobikhola	Probable in all seasons, mostly during monsoon season	Around 100 household members	<ul style="list-style-type: none"> • Waterborne and animal-borne diseases (Swine flu, diarrhoea, cholera etc.) can spread in the area. • Difficult to control such epidemics if we are not prepared. 	<ul style="list-style-type: none"> • Houses near pig farming and other people of the ward can get affected health-wise and economically. 	FCHVs but not adequately trained.
Accident due to unmanaged wire poles	Mahakal Bhairabmarg	Probable in all months	Community people, vehicles	<ul style="list-style-type: none"> • During windstorm and earthquake, unmanaged wire get messed and breakage of wire 	<ul style="list-style-type: none"> • Injury and death • May be cause of fire 	
Road Accident	Ganesh Marg	Probable in all months	Motorbike riders and pedestrians	<ul style="list-style-type: none"> • At Turning road of Ganesh Marg, people do not notice and carelessness of riders cause accident 	<ul style="list-style-type: none"> • Schools students and pedestrians might get in accident and death 	

PART III: DISASTER RISK MANAGEMENT PLAN

The plan is an effort to mainstream disaster risk reduction and management subjects into development plans/policies/strategies of local and central government to enforce community towards disaster resiliency. This section incorporates disaster risk management plan of Ward 2, Budhanilkantha municipality which were formed in the guidance of *Local Disaster Risk Management Plan Guideline 2011* in a participatory way including male and female representatives of various community-level stakeholders, representatives of ward office, municipality and as well as the representatives from the central level. The plan formed is transparent, accountable, gender inclusive and socially viable. Because of these attributes, the plan is expected to facilitate the community and government line agencies to implement the plan as per need.

The plan was formed after series of workshops, meetings, assessments and follow-ups with the community, ward officials and municipality. After hazard vulnerability and capacity assessment of the ward, earthquake, fire, epidemics and road traffic accident were listed as major hazards as mentioned in HVCA. Based on HVCA, the pre-disaster plan was formed to capacitate community to cope with disaster, minimize loss due to imminent disasters. Likewise, next emphasis was developing a DRM plan focusing on disaster situation to capacitate community for operating rescue, relief and response activities whenever disaster strikes. The third stage was to formulate a post-disaster DRM plan and this plan included activities of recovery, rehabilitation and reconstruction. The DRM Plan were made after identifying major risks and problems that might happen pre, during and post-disaster. Activities were planned to minimize risks by highlighting the major responsibilities of the community and stakeholders, identifying locally available resources and required period. The DRM plan is a document that requires annual review and update to make it operative. Pre-disaster plans are preparatory plans which need to be performed soon because plans for during and after a disaster are directly influenced by pre-disaster plans. Pre, during and post-disaster activities are described as follows:

Pre Disaster Plan (preparation, mitigation and prevention): Includes awareness; capacity building activities; improvement of physical infrastructures and capacitating human resources; institutionalization; development of plans, policies and strategies; protection of existing natural and social resources; mainstreaming development agendas, disaster, and livelihood etc.

During Disaster Plan (Emergency relief, response, search and rescue): Includes emergency help to disaster victims, search and rescue of victims, provide first aid, fulfilment of emergency basic needs for disaster-affected individuals, mobilization of human resources and task forces, management of camps, provide medical support, education and awareness

activities during a disaster. Also, the plans incorporate concepts in coordination with stakeholders, ward officials and CDMC.

Post Disaster Plan (Recovery phase - rehabilitation and reconstruction): Includes shifting disaster-affected families to safe camps, provide basic facilities like food, clothes, water and sanitation to ensure their protection. The post-disaster plan also includes livelihood support activities, educational activities and activities that are conducted to minimize disaster risk that may occur in future. This plan also contains activities for 'Build Back Better'.

Earthquake (Before Disaster)						
SN	Major Problem and Risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline
				Internal	External	
1.	<ul style="list-style-type: none"> CDMC members are not trained adequately on disaster preparedness and response activities. so, CDMC members are not confident on disaster risk reduction and response preparedness activities in community. 	<ul style="list-style-type: none"> Conduct training on disaster preparedness and response to volunteers, CDMC members, leaders of the community. Capacity development on CBDRRM activities, response team formation and preparedness for response activities. 	<ul style="list-style-type: none"> CDMC and CDMC coordinator (Rajendra Thapa) Municipality JICA 	<ul style="list-style-type: none"> Co-ordination with donors and municipality Human resources and groups Financial support from ward office Positive attitude of community 	<ul style="list-style-type: none"> Trainers / Facilitators and materials Technical support IEC materials 	<ul style="list-style-type: none"> In 2074 B.S
2.	<ul style="list-style-type: none"> The community is not aware of community and individual level preparedness to minimize disaster impact. 	<ul style="list-style-type: none"> Disseminate IEC materials regarding preparedness messages. E.g.: preparation of safe evacuation route, identification of safe place at home and discussion among family members, stockpiling, response teams at the community for earthquake etc). Organize street drama in different clusters. Conduct orientation classes on DRR to teachers and students of BMCA school, Sunrise Boarding School, Snow Land and Ganesh Secondary School 	<ul style="list-style-type: none"> CDMC Volunteers Supporting organizations 	<ul style="list-style-type: none"> Co-ordination with donors and line agencies Human resources / Volunteers 	<ul style="list-style-type: none"> Trainers /Facilitators Materials Technical support IEC materials 	<ul style="list-style-type: none"> In 2074 B.S
3.	<ul style="list-style-type: none"> The community is not completely aware of safe construction practices and national building codes 	<ul style="list-style-type: none"> Conduct training to capacitate mason and house owners on structural retrofitting and for safe building construction and building 	<ul style="list-style-type: none"> CDMC, Technical team of municipality 	<ul style="list-style-type: none"> Human resources and Mason, venue 	<ul style="list-style-type: none"> Technical support and financial support from 	<ul style="list-style-type: none"> Poush 2074

		construction law.			municipality and other organizations	
4.	<ul style="list-style-type: none"> ▪ Difficulty in the quick operation of search and rescue missions and availability of first aid activities. 	<ul style="list-style-type: none"> ▪ Develop response team, first aider's team within the community and conduct training 	<ul style="list-style-type: none"> ▪ CDMC ▪ Ward office ▪ NGO/ INGO 	<ul style="list-style-type: none"> ▪ Human resources 	<ul style="list-style-type: none"> ▪ Technical assistance ▪ Trainers. ▪ Financial support 	<ul style="list-style-type: none"> ▪ By 2075
5.	<ul style="list-style-type: none"> ▪ Disaster Management fund not operational in the ward. So, due to lack of finance, response activities might get delayed. 	<ul style="list-style-type: none"> ▪ Formation of Disaster Management Fund in the ward 	<ul style="list-style-type: none"> ▪ CDMC ▪ Municipality ▪ Ward office 	<ul style="list-style-type: none"> ▪ Request for seed money, co-ordination from the ward. ▪ Human resources 	<ul style="list-style-type: none"> ▪ Seed money support from municipality ▪ Co-ordination with other organizations 	<ul style="list-style-type: none"> ▪ By 2074/75 B.S
6.	<ul style="list-style-type: none"> ▪ The community is unaware of hazards and availability of open spaces in the ward 	<ul style="list-style-type: none"> ▪ Open spaces of the ward have been assessed. Design and suspend a hazard and capacity map hoarding board of the ward. 	<ul style="list-style-type: none"> ▪ CDMC ▪ Ward Chairperson ▪ JICA / ENPHO 	<ul style="list-style-type: none"> ▪ Place to put hoarding board ▪ Support from CDMC and ward office 	<ul style="list-style-type: none"> ▪ Technical and material support 	<ul style="list-style-type: none"> ▪ In 2074 B.S
7	<ul style="list-style-type: none"> ▪ The community does not have enough materials and tools for rescue, response and also lack sufficient first aid supplies needed during a disaster. 	<ul style="list-style-type: none"> ▪ Prepositioning of response materials at a safe and accessible place of the ward. (Tarpaulin sheets of size 15/20 rope, hooks, ladders, toolkits, stretchers, first aid kit, search and rescue materials, water supplies and hygiene materials etc) 	<ul style="list-style-type: none"> ▪ CDMC. ▪ Ward office. ▪ Municipalities. ▪ JICA/ ENPHO 	<ul style="list-style-type: none"> ▪ Areas for storage ▪ Human resources ▪ Locally available materials and tools 	<ul style="list-style-type: none"> ▪ Financial support ▪ Technical assistance 	<ul style="list-style-type: none"> ▪ By 2075
8	<ul style="list-style-type: none"> ▪ Disturbance and breakage may happen during an earthquake in water supply pipelines and water sources due to old pipes in many places. 	<ul style="list-style-type: none"> ▪ Prepare water tanks, flexible pipes, and plumbing materials in stores to distribute drinking water over time. 	<ul style="list-style-type: none"> ▪ CDMC ▪ Ward office ▪ Municipality ▪ Water User Committees 	<ul style="list-style-type: none"> ▪ Water sources ▪ Few storage tanks 	<ul style="list-style-type: none"> ▪ Materials required for prepositioning ▪ Tool-box, pipes, plumbing materials 	<ul style="list-style-type: none"> ▪ By 2075 B.S

9	<ul style="list-style-type: none"> Unavailability of public latrines at the ward. If there is a latrine, it can be used at the time of disaster. 	<ul style="list-style-type: none"> Construct a public toilet at Rudreshwor. 	<ul style="list-style-type: none"> CDMC. Ward Office. Municipality Community 	<ul style="list-style-type: none"> Area for construction. Skilled and unskilled human resources. Local materials 	<ul style="list-style-type: none"> Financial and technical support 	<ul style="list-style-type: none"> By 2075 B.S
10	<ul style="list-style-type: none"> Few open spaces are available at ward but there are no basic infrastructures which can be used during the time of emergency. However, the open spaces are not conserved properly. 	<ul style="list-style-type: none"> Maintenance and conservation of open spaces and community buildings to use them during disasters 	<ul style="list-style-type: none"> CDMC Ward office Municipality 	<ul style="list-style-type: none"> Open Spaces. Community buildings 	<ul style="list-style-type: none"> Financial support Technical assistance 	<ul style="list-style-type: none"> By 2075/76 B.S

Earthquake (During Disaster)

SN	Major Problems and Risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline
				Internal	External	
1	<ul style="list-style-type: none"> Challenge in damage and need assessment of the ward quickly after the disaster which may delay rescue of victims and response activities. 	<ul style="list-style-type: none"> Communicate and co-ordinate as soon as possible with representatives of clusters, leaders, various group, task teams, volunteers, CDMC, ward officials etc and collect information from every cluster of the ward. Plan for further activities. 	<ul style="list-style-type: none"> CDMC Ward Chairperson 	<ul style="list-style-type: none"> Co-ordination channel 		<ul style="list-style-type: none"> Within few hours of the disaster.
2	<ul style="list-style-type: none"> Delay in search and rescue activities. Fire may follow after earthquake disaster 	<ul style="list-style-type: none"> Search for people those are trapped inside infrastructures and buildings mobilizing trained SAR team. Call for help from armed police force and rescuers and fire brigade if required 	<ul style="list-style-type: none"> CDMC. Stakeholders at the community. Community people. Ward office 	<ul style="list-style-type: none"> Human resources and materials 	<ul style="list-style-type: none"> Materials for search and rescue. Army Rescuers. Financial support 	<ul style="list-style-type: none"> Within few hours of the disaster.

3	<ul style="list-style-type: none"> Victims situation might get worst or die due to the absence of a timely cure. 	<ul style="list-style-type: none"> Manage first aid to victims and take them to Chapali health post or nearby hospital 	<ul style="list-style-type: none"> Chapali health post, FCHVs, first aiders, community people. 	<ul style="list-style-type: none"> Human resources 	<ul style="list-style-type: none"> Materials, hospital, financial support 	<ul style="list-style-type: none"> Within few hours of disaster
4	<ul style="list-style-type: none"> May create confusion and duplication of work due to the involvement of many organization's involvements during response activities. 	<ul style="list-style-type: none"> Call for inception meeting with all involved government and non-government organizations in the lead of ward office or municipality. Division of tasks, areas and ensure one door response. 	<ul style="list-style-type: none"> CDMC Ward office Municipality 	<ul style="list-style-type: none"> Communication and coordination Various local organizations 	<ul style="list-style-type: none"> Co-ordination and co-operation by organizations 	<ul style="list-style-type: none"> Within 1 week of disaster
5	<ul style="list-style-type: none"> Affected people get homeless and helpless during earthquake time. 	<ul style="list-style-type: none"> Manage temporary settlement area at open spaces BMCA school for communities of Badepakha and Wasiku. Panchakanya community forest for communities of Mahadev Khola, Badeli and Taulung Kalika chaur, schools and old age home for communities of Bhangal, Tallo Bhangal and Mahadev Colony. Distribute available tarpaulins, ropes and other materials, arrange bamboos 	<ul style="list-style-type: none"> CDMC Ward office. Community people Youth groups 	<ul style="list-style-type: none"> Human resources and open spaces Locally available materials 	<ul style="list-style-type: none"> Training, response materials 	<ul style="list-style-type: none"> 1st, 2nd and 3rd to a week of the disaster
6	<ul style="list-style-type: none"> After the settlement, shortage of food and clothes in affected people. 	<ul style="list-style-type: none"> Manage and operate assistance as soon as possible for the victims of the earthquake in order to provide them food and clothing especially those whose houses are completely collapsed. For the help coordinating with donors can be done and also self-help can be generated from the community itself. 	<ul style="list-style-type: none"> Community people, CDMC, ward officials 	<ul style="list-style-type: none"> Human resources 	<ul style="list-style-type: none"> Response materials from social organizations 	<ul style="list-style-type: none"> Within 2 days of disaster

Earthquake (After Disaster)						
SN	Major Problem and Risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline
				Internal	External	
1	<ul style="list-style-type: none"> May create confusion to allocate an area for distributing response materials. 	<ul style="list-style-type: none"> Select BMCA school and Kalika chaur for response materials distribution point because the open space is comparatively large and could be a centre point to all. Kalika chaur is already building a community building 	<ul style="list-style-type: none"> CDMC Political leaders Cluster development committees Local stakeholders 	<ul style="list-style-type: none"> Open Spaces Co-ordination Human resources 	<ul style="list-style-type: none"> Support from municipality and donor organizations to construct basic infrastructures at Kalika chaur and conserve them before disaster 	<ul style="list-style-type: none"> Within 72 hours of disaster
2	<ul style="list-style-type: none"> Rescue and response materials dispatched from disaster preparedness stockpile will be missing after use. Few materials might need replenishment. 	<ul style="list-style-type: none"> Record in stock book of stockpiling materials. Also, keep a record of replenishing used items. 	<ul style="list-style-type: none"> CDMC Ward office 	<ul style="list-style-type: none"> Store In-charge Skill 	<ul style="list-style-type: none"> Support and advice to Materials to replenish 	<ul style="list-style-type: none"> Within 1 week
3	<ul style="list-style-type: none"> Probability of conflicts, duplication and inequity in response material distribution 	<ul style="list-style-type: none"> Co-ordinate with donors for fair distribution of materials 	<ul style="list-style-type: none"> CDMC Political leaders Clubs Ward Office 	<ul style="list-style-type: none"> Human resources Coordinating actors 	<ul style="list-style-type: none"> Relief materials 	
4	<ul style="list-style-type: none"> Risk of epidemics due to negligence in safe water, proper sanitation and hygiene. 	<ul style="list-style-type: none"> Conduct awareness programs to maintain hygiene, drinking safe water, proper sanitation, safe waste disposal and hygiene. 	<ul style="list-style-type: none"> FCHVs, trained volunteers 	<ul style="list-style-type: none"> Human resources 	<ul style="list-style-type: none"> Financial support 	<ul style="list-style-type: none"> Regular after and during disaster
5	<ul style="list-style-type: none"> Recovery activities could get difficult without damage assessment of structures. 	<ul style="list-style-type: none"> Damage and need assessment at every cluster. Collect data on damage. 	<ul style="list-style-type: none"> Trained teams Engineers Municipality 	<ul style="list-style-type: none"> Human resources 	<ul style="list-style-type: none"> Technical support 	<ul style="list-style-type: none"> After 1 week of disaster

6	<ul style="list-style-type: none"> People might be psychologically disturbed due to repeated occurrence of aftershocks. 	<ul style="list-style-type: none"> Visit camps and support for psychosocial counselling. Conduct awareness programs to alert the community to stay safe. (Group orientation, Community awareness through public announcement) 	<ul style="list-style-type: none"> Volunteers Teachers Youth groups 	<ul style="list-style-type: none"> Human resources 	<ul style="list-style-type: none"> Trained volunteer team IEC materials 	<ul style="list-style-type: none"> Within 2 weeks of disaster
7	<ul style="list-style-type: none"> Children's education could get hampered due to disturbance created by the earthquake. 	<ul style="list-style-type: none"> Arrange 'Temporary Learning Centers' and setting for playing environment near camps for children. 	<ul style="list-style-type: none"> Teachers of the ward. Volunteers. 	<ul style="list-style-type: none"> Volunteers Local materials 	<ul style="list-style-type: none"> Learning materials Financial support 	<ul style="list-style-type: none"> Within 2 weeks of disaster
8	<ul style="list-style-type: none"> Unhealthy behaviour during mensuration can make women difficult and worsen health during relief and recovery phase of a disaster. 	<ul style="list-style-type: none"> Distribute sanitary napkins to women and orient adolescent girls and women on the ways to keep themselves healthy during such situation. 	<ul style="list-style-type: none"> Volunteers Organizations FCHV 	<ul style="list-style-type: none"> Volunteers Local skills 	<ul style="list-style-type: none"> IEC materials Sanitary napkins 	<ul style="list-style-type: none"> Within 2 weeks of disaster
9	<ul style="list-style-type: none"> Poor and marginalized people may not be able to reconstruct houses soon, as a result, they get more vulnerable. 	<ul style="list-style-type: none"> The arrangement of settlements for certain time at open spaces nearby. 	<ul style="list-style-type: none"> Ward office Municipality CDMC 	<ul style="list-style-type: none"> Open Spaces 	<ul style="list-style-type: none"> Materials, Financial supports 	<ul style="list-style-type: none"> Within 2 weeks of disaster
10	<ul style="list-style-type: none"> The community may repeat old and unsafe techniques for reconstruction. The communities will be financially weak for building back their settlements. 	<ul style="list-style-type: none"> Conduct awareness programs for safe reconstruction activities and building construction codes. Collect data for subsidy distribution and start distribution. 	<ul style="list-style-type: none"> Municipality CDMC Community and ward office 	<ul style="list-style-type: none"> Co-ordination team Human resources 	<ul style="list-style-type: none"> Technical support and training IEC materials 	<ul style="list-style-type: none"> After 1 - 2 months of the disaster.

Flood (Before Disaster)						
S.N	Major problems and risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline
				Internal	External	
1	<ul style="list-style-type: none"> Accidents may occur among school going students while crossing Dhobikhola and Jyamlekhola river during monsoon season. 	<ul style="list-style-type: none"> Construct bridge at junction of Dhobikhola and Jyamlekhola border river which can be measured to ensure safety of the school going students 	<ul style="list-style-type: none"> CDMC Ward office and municipality 	<ul style="list-style-type: none"> Human resources (Skilled and unskilled) 	<ul style="list-style-type: none"> Technical material Financial support 	<ul style="list-style-type: none"> Sooner
2	<ul style="list-style-type: none"> Houses near Dhobikhola are at risk of flood in every monsoon season. 	<ul style="list-style-type: none"> Aware vulnerable households that are prone to flood to get prepared for possible flood consequences. 	<ul style="list-style-type: none"> CDMC Vulnerable HH 	<ul style="list-style-type: none"> Human resources (Skilled and unskilled) 	<ul style="list-style-type: none"> Technical material Financial support 	<ul style="list-style-type: none"> Sooner
3	<ul style="list-style-type: none"> If flood hit the households a nearby lot of people can be affected. 	<ul style="list-style-type: none"> Arrange/ manage space for temporary settlement at community buildings and schools (BMCA school, Dojo hall) 	<ul style="list-style-type: none"> CDMC Community 	<ul style="list-style-type: none"> Community Hall Community people 		<ul style="list-style-type: none"> Within 2074 B.S

Flood (During and after Disaster)						
S.N	Major Problem and Risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline
				Internal	External	
1	<ul style="list-style-type: none"> After the flood, victims might face problem in managing their basic needs. 	<ul style="list-style-type: none"> Move affected household members to safer place/areas (community building) where people can receive basic supplies like food, clothes etc 	<ul style="list-style-type: none"> CDMC, ward office, community people 	<ul style="list-style-type: none"> Community Hall 	<ul style="list-style-type: none"> Financial support 	<ul style="list-style-type: none"> Soon after flood disaster

Landslide (Before Disaster)						
S.N	Major problems and risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline
				Internal	External	
1	<ul style="list-style-type: none"> Ward is not equipped with rescue and response materials. The community doesn't have trained human resources for rescue. Also, there is lack of first aid materials. 	<ul style="list-style-type: none"> Identify an appropriate location that can be used to stockpile important materials. Request municipality and donors to support materials like stockpile pick, shovel, rope etc. Request NRCS, JICA, municipality to support training on first aid assistance; search and rescue actions. 	<ul style="list-style-type: none"> CDMC, Ward office and municipality 	<ul style="list-style-type: none"> Human resources (Skilled and unskilled) Co-ordination from ward office. Location for the stockpile. 	<ul style="list-style-type: none"> Technical, material and financial support. Training from NRCS and JICA 	<ul style="list-style-type: none"> Before 2075 B.S's monsoon. Bhadra 2074
2	<ul style="list-style-type: none"> Landslide areas are not identified by community people so; they may not have known about the possible vulnerable area for a landslide. 	<ul style="list-style-type: none"> Identify landslide-prone areas of the ward and place signboard to alert the community about the risk (Rudreshwor Pipalbot, Bhote Chihan, Near Health Post, Badepakha, Kalikachaur Bhangal. 	<ul style="list-style-type: none"> CDMC Ward office Cluster Development Committees 	<ul style="list-style-type: none"> Local materials 	<ul style="list-style-type: none"> Support from municipality 	<ul style="list-style-type: none"> Within 2074 Falgun

3	<ul style="list-style-type: none"> Construction of road and excavation of lands are weakening soil structure and can cause erosion. 	<ul style="list-style-type: none"> Request Budhanilkantha municipality for retention wall construction from the house of Nabin Shrestha to Bitte Nagarkoti. Manage rainwater drainage line beside roads constructed and create a pipe underneath. 	<ul style="list-style-type: none"> CDMC Ward office Municipality 	<ul style="list-style-type: none"> Local materials Skilled and unskilled human resources. 	<ul style="list-style-type: none"> Financial and technical support from the municipality. Co-ordination between municipality and line agencies. 	<ul style="list-style-type: none"> Within B.S 2074 / 75
4	<ul style="list-style-type: none"> Rivers are narrowing due to the encroachment of river banks for settlements. 	<ul style="list-style-type: none"> Request Budhanilkantha municipality for retention wall construction behind Chapali health post (Bhotechaur), Navraj Thapa's house to Jeevan Ramtel's house. 	<ul style="list-style-type: none"> Ward office Municipality Community 	<ul style="list-style-type: none"> Local resources Human resources 	<ul style="list-style-type: none"> Materials Technical support 	<ul style="list-style-type: none"> Within Asadh 2075 B.S
5	<ul style="list-style-type: none"> 3 houses of slum area at Badepakha are at risk of landslide. 	<ul style="list-style-type: none"> Relocate those houses to a safe place. The most suitable place for the relocation can be Kapur Rukh. 	<ul style="list-style-type: none"> CDMC Community Family members of those houses. 	<ul style="list-style-type: none"> Local resources 	<ul style="list-style-type: none"> Financial, technical and material support 	<ul style="list-style-type: none"> Soon
6	<ul style="list-style-type: none"> Earthquake 2015 and plotting of land has induced landslide at the place where the soil is weak. 	<ul style="list-style-type: none"> Agreement process and meetings with plotting professionals and owners to promote planned plotting. Develop a proper understanding of the risk of landslide. 	<ul style="list-style-type: none"> CDMC, Ward, municipality, related stakeholders 	<ul style="list-style-type: none"> CDMC Ward chairperson, co-ordination capacity 	<ul style="list-style-type: none"> Support from municipality 	<ul style="list-style-type: none"> Before 2075 B.S's monsoon Poush 2074

Landslide (During Disaster)

SN	Major problems and risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline
				Internal	External	
1	<ul style="list-style-type: none"> People may get trapped or get missed in a landslide. 	<ul style="list-style-type: none"> Rescue victims from the affected area. Call help from Nepal police and army. 	<ul style="list-style-type: none"> Rescue team and community 	<ul style="list-style-type: none"> CDMC, human resources 	<ul style="list-style-type: none"> Rescuers, army, municipality 	<ul style="list-style-type: none"> Just after disaster

2	<ul style="list-style-type: none"> The victim may require medical help and first aid assistance. 	<ul style="list-style-type: none"> Provide first aid and take the victim to a health post or hospital nearby. 	<ul style="list-style-type: none"> First aiders, FCHV, community 	CDMC, human resources	<ul style="list-style-type: none"> Medical personals from hospital 	<ul style="list-style-type: none"> Just after disaster
3	<ul style="list-style-type: none"> Victimized family members will remain without food, house and other basic needs. 	<ul style="list-style-type: none"> Provide assistance to victim family to ease their daily activities by providing basic needs and temporary rooms at the community house. 	<ul style="list-style-type: none"> CDMC Ward office 	<ul style="list-style-type: none"> Community building, Community members. 	<ul style="list-style-type: none"> Aid and financial support from municipality and social organizations 	<ul style="list-style-type: none"> Within few hours of the disaster.

Landslide (After Disaster)

SN	Major problems and risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline
				Internal	External	
1	<ul style="list-style-type: none"> Blocked roads may create problem to local habitats. 	<ul style="list-style-type: none"> Clear debris from landslide area 	<ul style="list-style-type: none"> Community and victim family 	<ul style="list-style-type: none"> Community 	<ul style="list-style-type: none"> Excavator and financial support 	<ul style="list-style-type: none"> Within 1 week of disaster
2	<ul style="list-style-type: none"> Assistant may require the victim family. 	<ul style="list-style-type: none"> Rehabilitate victim family 	<ul style="list-style-type: none"> Ward office and municipality 	<ul style="list-style-type: none"> Community people 	<ul style="list-style-type: none"> Aid and financial supports 	<ul style="list-style-type: none"> Within 1 month of disaster.

Forest Fire (Before Disaster)

SN	Major problems and risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline + Budget
				Internal	External	
1	<ul style="list-style-type: none"> Visitors at forest area may be cause of fire sometimes. 	<ul style="list-style-type: none"> Set boundaries of forest with wire barriers to prohibit entry and put warning boards like (sign against smoking cigarettes 	<ul style="list-style-type: none"> CDMC Ward office Forest management committee 	<ul style="list-style-type: none"> Human resources (Skilled and unskilled) 	<ul style="list-style-type: none"> Technical, material and financial support 	<ul style="list-style-type: none"> Within plus and falgun 2074 15 Lakhs

		inside forest as it may cause forest fire)				
2	<ul style="list-style-type: none"> Materials including instructions to put off fire immediately are not prepared and available at the community level. 	<ul style="list-style-type: none"> Prepositioning of fire control materials and equipment near Panchakanya forest (Pick, shovel, jackets, boot, mask, helmet, rope, buckets, hose pipe, gloves, torchlight, extinguishers etc) 	<ul style="list-style-type: none"> Forest management committee CDMC Community people Municipality 	<ul style="list-style-type: none"> Area for storing materials 	<ul style="list-style-type: none"> Materials Financial support 	<ul style="list-style-type: none"> Within poush and falgun 2074 3 Lakhs
3	<ul style="list-style-type: none"> Fire may extend to a broad area rapidly. 	<ul style="list-style-type: none"> Create fire boundary "Agni Rekha" to halt intensive fire at the forest. 	<ul style="list-style-type: none"> Forest management committee Community people 	<ul style="list-style-type: none"> Human resources, materials 		<ul style="list-style-type: none"> 2 lakhs
4	<ul style="list-style-type: none"> Fire may extend rapidly if proper technique is not used to control fire. 	<ul style="list-style-type: none"> Orient/organize training in the community on firefighting. Such training should be a target for the community volunteers and forest development committee. 	<ul style="list-style-type: none"> Forest Management committee CDMC Municipality 	<ul style="list-style-type: none"> Human resources and training venue 	<ul style="list-style-type: none"> Trainers, materials, technical and financial support 	<ul style="list-style-type: none"> 1 lakh
5	<ul style="list-style-type: none"> Water sources may not be identified around the forest to generate a response soon. 	<ul style="list-style-type: none"> Mapping of water resources that can be used during a forest fire. 	<ul style="list-style-type: none"> Forest Management Committee. CDMC 	<ul style="list-style-type: none"> Water resources community. 		<ul style="list-style-type: none"> Within 2074 B.S

Forest Fire (During Disaster)

SN	Major problem and risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline + Budget
				Internal	External	

1	<ul style="list-style-type: none"> The effort of certain people and limited resources to counter the problem are not enough to control forest fire. 	<ul style="list-style-type: none"> Aware host community people to extinguish forest fire as soon as possible with available materials. 	<ul style="list-style-type: none"> Community people and forest management committee Wasiku club 	<ul style="list-style-type: none"> Human resources and local materials 		<ul style="list-style-type: none"> Within few hours
2		<ul style="list-style-type: none"> Seek help and call the fire brigade, Nepal police, Nepal army other related organizations. 	<ul style="list-style-type: none"> Community people and forest management committee Ward office, CDMC 	<ul style="list-style-type: none"> Communication channel, HR 	<ul style="list-style-type: none"> Fire brigade 	<ul style="list-style-type: none"> Within few hours
3		<ul style="list-style-type: none"> There can be a risk of people getting injured in the process of extinguishing the fire. 	<ul style="list-style-type: none"> Prepare first aid kits. Keep health workers and ambulance ready as well 	<ul style="list-style-type: none"> Community people and forest management committee Wasiku club, ward office, CDMC 	<ul style="list-style-type: none"> FCHV Health post 	<ul style="list-style-type: none"> Ambulance

Forest Fire (After Disaster)

SN	Major problems and risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline + Budget
				Internal	External	
1		<ul style="list-style-type: none"> Assessment of damage and loss caused by fire. Proper management of dead animals. 	<ul style="list-style-type: none"> Forest management committee CDMC 	<ul style="list-style-type: none"> Human resources 	<ul style="list-style-type: none"> Technical support 	<ul style="list-style-type: none"> Within 15 days of a forest fire.
2	<ul style="list-style-type: none"> Loss of flora and fauna 	<ul style="list-style-type: none"> Afforestation Assigning and mobilizing a caretaker at the forest. 	<ul style="list-style-type: none"> CDMC Ward Office Forest management committee 	<ul style="list-style-type: none"> Human resources Committees 	<ul style="list-style-type: none"> Technical support Plantation 	<ul style="list-style-type: none"> Within 30 days of a forest fire.

Epidemics due to contaminated water/ pig farming and dirt created around habitat area (Before Disaster)

SN	Major problems and risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline + Budget
				Internal	External	
1	<ul style="list-style-type: none"> ▪ Unmanaged pig and chicken farming at Bhangal 	<ul style="list-style-type: none"> ▪ Conduct awareness activities and discussion program at community level focusing on the farmers involved in pig farming. Concentrate the discussion over the possible diseases that can be spread by unmanaged waste. ▪ Conduct training on managed pig farming coordinating with District Agriculture Office and other related organization. 	<ul style="list-style-type: none"> ▪ FCHV, volunteers, CDMC 	<ul style="list-style-type: none"> ▪ Human resources, FCHV, health post 		<ul style="list-style-type: none"> ▪ Every year
2	<ul style="list-style-type: none"> ▪ Wastewater from pig farming site is directly flown to the river which can affect public health. 	<ul style="list-style-type: none"> ▪ Training/orientations of waste management to the pig farm owners. Awareness of sanitation to households nearby. 	<ul style="list-style-type: none"> ▪ FCHV, CDMC 	<ul style="list-style-type: none"> ▪ Venue and human resources ▪ Ward office, health post 	<ul style="list-style-type: none"> ▪ Trainers, materials 	<ul style="list-style-type: none"> ▪ Very soon ▪ Frequently.
		<ul style="list-style-type: none"> ▪ Manage wastewater and solid waste properly by developing a good drainage system around those areas. 	<ul style="list-style-type: none"> ▪ Farmers, volunteers ▪ Municipality 		<ul style="list-style-type: none"> ▪ Financial and technical support from municipality 	<ul style="list-style-type: none"> ▪ By end of 2074

Epidemics due to contaminated water/ pig farming and dirt created around habitat area (During Disaster)

SN	Major Problem and Risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline + Budget
				Internal	External	
1	<ul style="list-style-type: none"> ▪ Diseases might spread rapidly throughout the ward. 	<ul style="list-style-type: none"> ▪ Conduct awareness activities on a disease that can be spread. ▪ Awareness of possible precautions measures, maintaining health and sanitation, methods of purifying drinking water. ▪ Aware community to visit hospital quickly as possible if health conditions deteriorate. 	<ul style="list-style-type: none"> ▪ FCHV ▪ Health post ▪ Volunteers 	<ul style="list-style-type: none"> ▪ Human resources 	<ul style="list-style-type: none"> ▪ IEC materials from DPHO ▪ Health institutes 	<ul style="list-style-type: none"> ▪ Soon after epidemics.
2	<ul style="list-style-type: none"> ▪ Difficult to identify the source of the disease. ▪ Negligence in number of cases and data 	<ul style="list-style-type: none"> ▪ Co-ordinate with DPHO for surveillance and necessary investigation on the severity of the disease. ▪ Document number of cases at Chapali health post and record it in ward office as well. 	<ul style="list-style-type: none"> ▪ Health post, municipality, ward office 	<ul style="list-style-type: none"> ▪ Health post 	<ul style="list-style-type: none"> ▪ Technical support and recommendations from DPHO 	<ul style="list-style-type: none"> ▪ Soon after epidemics
3	<ul style="list-style-type: none"> ▪ Supply of medicines and ORS can be deficient. 	<ul style="list-style-type: none"> ▪ Co-ordinate with DPHO and health post to supply ORS and medicines organizing camps at the cluster level. ▪ Conduct regular awareness activities. 	<ul style="list-style-type: none"> ▪ Health post, municipality, ward office 	<ul style="list-style-type: none"> ▪ Health post ▪ FCHV 	<ul style="list-style-type: none"> ▪ ORS ▪ Medicines 	<ul style="list-style-type: none"> ▪ Soon after epidemics and until the disease comes under control.

Road accident and injuries/ death caused by RTA (Before Disaster)						
SN	Major problem and risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline + Budget
				Internal	External	
1	<ul style="list-style-type: none"> Vehicles with high speed and pedestrian are at risk at turning road of Ganesh Chowk, Bhangal. 	<ul style="list-style-type: none"> Put signboards and warning boards to alert drivers and pedestrian (At turning area of Ganesh chowk and other accident possible areas) 	<ul style="list-style-type: none"> CDMC, traffic department, ward office 		<ul style="list-style-type: none"> Technical, material and financial support 	<ul style="list-style-type: none"> Within Ashoj 2074
		<ul style="list-style-type: none"> construct speed breaker and put a convex mirror in turns (Ganesh chowk) 	<ul style="list-style-type: none"> CDMC, traffic department, ward office 		<ul style="list-style-type: none"> Technical, material and financial support 	<ul style="list-style-type: none"> Within Ashoj 2074
3	<ul style="list-style-type: none"> Motorbike accident can be serious and life-threatening. 	<ul style="list-style-type: none"> Prepare first aid kit, stretcher at ward office with all other required materials. Keep numbers of ambulance and emergency numbers visible. 	<ul style="list-style-type: none"> CDMC, Health post FCHV 	<ul style="list-style-type: none"> Ward office and human resources Health post 	<ul style="list-style-type: none"> Materials 	<ul style="list-style-type: none"> Within Ashoj 2074
		<ul style="list-style-type: none"> First aid training to staff of ward office 	<ul style="list-style-type: none"> CDMC, Health post ward office Red Cross society 		<ul style="list-style-type: none"> Training assistance 	<ul style="list-style-type: none"> Within 2074

Road accident and injuries/ death caused by RTA (During and after Disaster)						
SN	Major problems and risks	Activities for disaster management	Major responsibilities	Management of resources		Timeline + Budget
				Internal	External	

1	<ul style="list-style-type: none"> ▪ Delay in the treatment of victim can lead to deaths and serious injury. 	<ul style="list-style-type: none"> ▪ Co-ordinate with family members of victim and traffic police department 	<ul style="list-style-type: none"> ▪ CDMC ▪ Community people 	<ul style="list-style-type: none"> ▪ Community 	<ul style="list-style-type: none"> ▪ Police ▪ Traffic police 	<ul style="list-style-type: none"> ▪ Soon after accident
		<ul style="list-style-type: none"> ▪ Call trained personnel and provide first aid to victim/injured as soon as possible. ▪ Call ambulance and take the victim immediately to hospital after first aid 	<ul style="list-style-type: none"> ▪ Ward office ▪ Community ▪ FCHV ▪ First aid assistant ▪ Health post 	<ul style="list-style-type: none"> ▪ Health post ▪ Community 	<ul style="list-style-type: none"> ▪ Hospitals nearby (Neuro hospital and Gangalal hospital) 	<ul style="list-style-type: none"> ▪ Soon after accident

APPENDIX

Annex I: Open spaces of ward 2, Budhanilkantha municipality

S.N	Name of Cluster	Open space used during Earthquake 2072	Open spaces available and area near the cluster	Future Planning in the area	Ownership
1	Mahadev Khola Pancha Kanya Mandir area Area near Panchakanya forest	People stayed at private tomato field nearby	Space of Panchakanya forest. (3 Ropanies) B.M.C.A school (2 Ropanies) Health post and Dojo hall)	Construction of pond	Panchakanya Forest User Committee. B.M.C.A school Health Post management committee
2	Badepakha	People stayed at private field nearby	Space of Panchakanya forest. (3 Ropanies) Open space at the upper side of Panchakanya forest. B.M.C.A school (2 Ropanies)	Construction of pond. Construction of cricket ground	Panchakanya Forest User Committee.
3	Wasiku	People stayed at private maize field nearby and plotted lands	Wasiku Ganesh Temple chowk. (Deshe Chowk, Khwatte Chowk) - 1.5 ropanies		Wasiku Cluster Development Committee
4	Badeli, Bhandari gaun	People stayed at a private field nearby.	No open spaces available		
5	Bangal Kalika Chaur area	People stayed at private maize field nearby and plotted land	Kalika Chaur (12 Ropanies) Public tap is located near.	Construction of shed Planning to bound area	Budhanilkantha municipality In conservation of Kalika chaur management committee
6	Bhangal Nilbarahi tole	People stayed at a private field nearby.	No public areas available		
7	Bhangal Pipalbot (Rudreshwor	Open space near Rudreshwor	Open space near Rudreshwor ghat (1.5 - 2 ropanies)	Construction of shed	Budhanilkantha municipality.

	temple) area	ghat (1.5 - 2 ropanies)			In conservation of Rudreshwor ghat
8	Bhangal Mahadev Colony	People stayed at a private field nearby and plotted land. Also stayed at open space near Old age home	space near Old age home (2.5 ropanies)	Make park Deep boring	Budhanilkantha municipality.
9	Area near Bhangal community building Bhote basti	People stayed at a private field nearby community building and plotted land.	Open space where the park is planned for elderly people.	In process of making a park for elderly people.	Budhanilkantha municipality
10	Taulung	People stayed at the private field and plotted land. Simaldanda - 3 ropanies (private land)	Simaldanda - 3 ropanies (private land) Land near resort - 1.5 ropanies Women' s building, Taulung near maize field - 2.5 ropanies		Privately used by community people

Annex II: List of CDMC members of Ward 2, Budhanilkantha Municipality

S.N	Designation	Name	Contact Number	Representative
1	Coordinator	Rajendra Khadka		Ward Chairperson
2	Ward Secretary	Achyut Karki		Ward Secretary
3	Member	Janak Thapa		Nepal Congress
4	Member	Gokul Kharel		Maoist
5	Member	Jagat Lal Shrestha		Ra. Pra. Pa
6	Member	Asha lal Shrestha		Ne. Ma. Ki. Pa
7	Member	Sharmila Shrestha		Coordinator of Ward Citizen Forum
8	Member	Gyanu Thapa Karki		Elected ward member
9	Member	Rajendra Thapa		Community School
10	Member	Kabita Thapa		Nava Rudreshwor Club
11	Member	Laxmi Pathak		Female Community Health Volunteer
12	Member	Narayan Devi Shrestha		Jana Jagriti Women's Group
13	Member	Bikash Shrestha		Wasik Club
14	Member	Laxmi Bhandari		Community Forest
15	Member	Rameshwar K.C		Chapali Community Centre
16	Member	Pramila Thapa		Female Co-ordination Committee
17	Member	Sita Lama		Simali Female Committee
18	Member	Durga Tamang		Ward Awareness Centre
19	Member	Ganesh Devkota		Cluster Development Committee
20	Member	Kaji Bahadur Shrestha		Wasik Village Improvement Committee
21	Member	Reena Onta		Chapali Women Federation

Annex III: Names of participants in 3 community workshops.

Participant's Name list of Workshop on Learning Risk and DRRM system			
S.N	Name	Address	Contact
1	Sharada Regmi	WCF	
2	Gyanu Karki Thapa	WCF, Bhangal	
3	Rina Wonta	Chapali Mahila Maha Sangha	
4	Ishwori Pandit	Nabajyoti Tole Sudhar Samiti	
5	Satyawati Lamichhane Dhakal	Chapali Mahila Maha Sangha	
6	Jarmina Adhikari	Chapali Mahila Maha Sangha	
7	Durga Tamang	Naagarik Sachetana Kendra	
8	Dolma Lama	Taulung Maila Samuha	
9	Shobha Giri	Didibahini Samuha, Bhangal	
10	Mayadevi Laxmi Pathak	FCHV	
11	Jagat lal shrestha	Rastriya Prajatantra Party rep./CDMC member	
12	Asha Lal Shrestha	CDMC Member	
13	Rajendra Khadka	CDMC Member	
14	Narayan Devi Shrestha	Jana Jagriti Mahila Samuha	
15	Mina Thapa		
16	Laxmi Bhandari	Shree Panchakanya Mai Samudayik Upabhokta Samiti	
17	Lalita Bhandari	Shree Panchakanya Mai Samudayik Upabhokta Samiti	
18	Pramila Thapa	Mahila Samanbaya Samiti	
19	Kabita Thapa	Naba Rudreshwor Club	
20	Saluja Katwal	Mahadev Colony	
21	Rajendra Thapa	CDMC Member	
22	Sarmila Shrestha	WCF Coordinator/CDMC Member	
23	Sita Lama	CDMC Member	
24	Gokul Kumar Kharel	CDMC Member	
25	Bikash Shrestha	Washik Club/CDMC Member	
26	Sakar Kharel	Bhangal	
27	Parbati Shrestha	Panchakanya Mahila Samuha	

Participant's name list of Workshop on Preparation of Community Based DRM Map, Formation of

Evacuation Map and Plan			
SN	Name	Address	Contact No
Special participation from Governmental Organizations			
1	Purushottam Subedi	Undersecretary, MOFALD	
2	Udhav Kharel	mayor, Budhanilkantha municipality	
3	Binod Poudel	Sub- Engineer, Budhanilkantha municipality	
4	Rajendra Khadka	Coordinator, CDMC/ Chairperson, Budhanilkantha ward - 2	
5	Achyut Karki	Secretary, CDMC and Budhanilkantha ward - 2	
Community participation			
1	Sharda Regmi	Chapali, Budhanilkantha ward - 2	
2	Srijana Thapa Basnet	Chapali, Budhanilkantha ward - 2	
3	Ishwari Pandit Karki	Chapali Budhanilkantha ward - 2	
4	lalita Bhandari	Chapali, Budhanilkantha ward - 2	
5	Nisha Baral	Chapali, Budhanilkantha ward - 2	
6	Dolma Lama	Taulung, Budhanilkantha ward - 2	
7	Reena Onta	Member, CDMC	
8	Pramila Thapa	Member, CDMC	
9	Mina Thapa	Chapali, Budhanilkantha ward - 2	
10	Durga Tamang	Member, CDMC	
11	Anita Mijar	Chapali, Budhanilkantha ward - 2	
12	Sharmila kharel	Chapali, Budhanilkantha ward - 2	
13	Nani Maya Pandey	Chapali, Budhanilkantha ward - 2	
14	Sita Lama	Member, CDMC	
15	satyawati Lamichhane	Chapali, Budhanilkantha ward - 2	
16	Gyanu Karki Thapa	Member, CDMC	
17	Laxmi Bhandari	Member, CDMC	
18	Jarmina Adhikari	Chapali, Budhanilkantha ward - 2	
19	Rajendra Shrestha	Ward Committee member, Budhanilkantha - 2	
20	Udav prasad Gautam	Budhanilkantha ward - 2	
21	Aasha Lal Shrestha	Member, CDMC	
22	Rajendra Thapa	Member, CDMC	
23	Kaji Bahadur Shrestha	Member, CDMC	
24	Ishari	Budhanilkantha ward - 2	
25	Kabita Thapa	Member, CDMC	
26	Gokul Kumar Kharel	Member, CDMC	

27	Narayan Devi shresha	Member, CDMC	
28	Jay Bahadur Lama	Member, CDMC	

Participant's name list of workshop on Prioritization of Disaster Risk Management Plan			
S.N	Name	Address	Contact No
Special participation from Governmental Organization			
1	Udhhav Kharel		
2	Rajendra Khadka	Co-ordinator, CDMC / chairperson Budhanilkantha ward - 2	
3	Binod Paudel		
4	Achyut karki	Secretary, CDMC / Ward Secretary	
Community Participation			
5	Gokul Kumar Kharel	Member, CDMC	
6	Jarmina Adhikari	Budhanilkantha municipality ward -2	
7	Satyawoti Lammichanne	Budhanilkantha municipality ward -2	
8	Sarmila kharel	Budhanilkantha municipality ward -2	
9	Pramila Thapa	Member, CDMC	
10	Ganesh prasad Devkota	Member, CDMC / Tole Development Committee	
11	Ishwari pandit karki	Budhanilkantha municipality ward -2	
12	Meena Thapa	Budhanilkantha municipality ward -2	
13	Sita Lama	Simali Mahila Sammittee / Member CDMC	
14	Asha lal Shrestha	Member, CDMC /	
15	Lalita Bhandari	Budhanilkantha municipality ward -2	
16	Laxmi Bhandari	Member, CDMC	
17	Jaya Bahadur Lama	Budhanilkantha municipality ward -2	
18	Janak Thapa	Member, CDMC	
19	Rajendra Thapa	member, CDMC	
20	Rajendra Shrestha	Ward Committee Member	
21	Narayan Devi Shrestha	Member, CDMC	
22	Bikash Shrestha	Member, CDMC	
23	Jebi Tamang	Budhanilkantha municipality ward -2	
24	Udhhav Kharel		
25	Dolma lama	Budhanilkantha municipality ward -2	

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उपस्थिति

स्थान :

क्र.सं	नाम	ठेगाना	प्रतिनीधि	सम्पर्क नं	हस्ताक्षर	
					पहिलो दिन	दोस्रो दिन
१	शारदा रेग्मी	अद्रवहती	वडा नगरिक मञ्च		२०१५/०५/२५	२०१५/०५/२६
२	शोणु कार्की (धापा)	अंगाल	वडा नगरिक मञ्च		२०१५/०५/२५	२०१५/०५/२६
३	रिना-बन्दी	अडुवाल	चपली-आदेल		२०१५/०५/२५	२०१५/०५/२६
४	इश्वरी पौडेल	अडुवाल	नपतयौली		२०१५/०५/२५	२०१५/०५/२६
५	सत्यवती लामिछाने (कपाल)	अंगाल	चपली मोट्टेला गडा		२०१५/०५/२५	२०१५/०५/२६
६	जर्मिना अधिकारी	॥	चपली मसिना		२०१५/०५/२५	२०१५/०५/२६
७	डोल्मा लामा	॥	नगरिक (नपतयौली)		२०१५/०५/२५	२०१५/०५/२६
८	डोल्मा लामा	कुङ्गा नलकाठ लोड	मोट्टेला		२०१५/०५/२५	२०१५/०५/२६
९	शोभा शर्मा	वडा नगरिक मञ्च	दिदि वडानी		२०१५/०५/२५	२०१५/०५/२६
१०	बाबादेवी लक्ष्मी पाठक	कुङ्गा नलकाठ	मोट्टेला		२०१५/०५/२५	२०१५/०५/२६
११	जगत लाल शर्मा	कुङ्गा नलकाठ	सा-पुः पावडा		२०१५/०५/२५	२०१५/०५/२६
१२	आशा लामा	॥	नगरिक (नपतयौली)		२०१५/०५/२५	२०१५/०५/२६
१३	रानि-बन्दी	॥	मोट्टेला		२०१५/०५/२५	२०१५/०५/२६

Annex IV: Scanned copies of attendance sheet

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स्थान :

मिति :

क्र.सं.	नाम	ठेगाना	प्रतिनीधि	सम्पर्क नं	हस्ताक्षर	
					पहिलो दिन	दोस्रो दिन
१४	अश्वत ठाकुर	अजिंक्य म.प.स. १	वडा सचिव			
१५	नारायण देवी क्षेत्र	कु.नं.पा २	जम जायसी महिला समूहका अध्यक्ष			
१६	सिमना थापा	" "	"			
१७	लक्ष्मी भोसरी	" "	आप-चक्रवात प्रारंभ			
१८	ललिता भोसरी	" "	" "			
१९	प्रमिला थापा	" "	क्रिस्तालीय शकव्य निम्नी			
२०	कविता थापा	" "	नवकर शकव्य			
२१	सलुजा खडवान	सहाय डोलेनी, थापा बु.न.पा २	सहाय डोलेनी सहिला समूह			
२२	राजेश थापा	बु.न.पा २	क्रिस्तालीय (वि.प.स.)			
२३	सिमना श्रेष्ठ	बु.न.पा २	नागरिक व. संघ			
२४	सिता लामा	" "	पिपडा			
२५	गोकुल कुमार खरेल	" "	मैवावापी अन्य			
२६	विकास श्रेष्ठ	बु.न.पा २	प्राथमिक विपद् व्यवस्थापन			

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मिति :

स्थान :

क्र.सं	नाम	ठेगाना	प्रतिनीधि	सम्पर्क नं	हस्ताक्षर	
					पहिलो दिन	दोस्रो दिन
१८	शोभा शर्मा	चपली भंगाल	नयाजपोती टोल निचिपसेनी पुराड पन्चक-१५, काठमाडौं समृद्ध अट्यान्स		शोभा	
२५	पार्वती जोशी	बु.नं.पा. २			पार्वती	
४०	बिष्णुप्रसाद शाही	बु.नं.पा.	का थ			

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स्थान :

ति :

क्र.सं	नाम	ठेगाना	प्रतिनीधि	सम्पर्क नं	हस्ताक्षर	
					पहिलो दिन	दोस्रो दिन
१	बिबेक रेग्मी	अद्रवहती	वडा नागरिक मन्त्र-व्यवस्थापक		श्री १५/१२/२०१५	श्री १५/१२/२०१५
२	डॉ. कर्णिकी (धपा)	भंगाल	वडा नागरिक गन्ध संयोजक		१५/१२/१५	१५/१२/१५
३	रिना-गन्ध	अडुल	चपली-अडुल अडुल-२५६५		१५/१२/१५	१५/१२/१५
४	इश्वरी पछिडल	अडुल	नपयोजनी किमिन्की अडुल-२५६५		१५/१२/१५	१५/१२/१५
५	सत्यवती लामिछान (ठकाल)	भंगाल	चपली मोहिला ब्रह्म अडुल		१५/१२/१५	१५/१२/१५
६	जर्मिना अधिकारी	॥	चपली महिला महासंघ अडुल		१५/१२/१५	१५/१२/१५
७	इश्वरी पछिडल	॥	चपली महिला महासंघ अडुल		१५/१२/१५	१५/१२/१५
८	डोलमा लामा	कुलागलकटु तालुडा	मोहिला अडुल		१५/१२/१५	१५/१२/१५
९	श्रीमा गिरी	पुनर्निर्माणकटु गंगो	दिदि बुद्धी अडुल		१५/१२/१५	१५/१२/१५
१०	आथादी तम्प्री पाठक	पुनर्निर्माणकटु गंगो	मोहिला २-वयम अडुल		१५/१२/१५	१५/१२/१५
११	जगत लाल शर्मा	पुनर्निर्माणकटु गंगो	सोविका अडुल		१५/१२/१५	१५/१२/१५
१२	आशा लाम शर्मा	पुनर्निर्माणकटु गंगो	सोविका अडुल		१५/१२/१५	१५/१२/१५
१३	रजिनी-२५६५	॥	अडुल		१५/१२/१५	१५/१२/१५

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स्थान :

मिति :

क्र.सं	नाम	ठेगाना	प्रतिनीधि	सम्पर्क नं	हस्ताक्षर	
					पहिलो दिन	दोस्रो दिन
१४	अरुण शर्मा	अरुण शर्मा - १	वडा सचिव			
१५	नारायण देवी कोण्ड	कुन्पा २	जम जास्ती महिला समूहका अध्यक्ष			
१६	सिमिना थापा	" "				
१७	लक्ष्मी भोसरी	" "	भौतिक कक्षा प्रो. सा. ३			
१८	ललिता भोसरी	" "	" "			
१९	प्रशिला थापा	" "	प्रशिला प्रशिला			
२०	कविता थापा	" "	राजकुमार			
२१	सलुजा कटवान	महादेव डोले, चानी	महादेव डोले			
२२	राजकुमार थापा	कुन्पा २	वि.प.के.			
२३	सिमिना श्रेष्ठ	कुन्पा २	नागरिक व. संयोजक			
२४	सिमिना थापा	" "	विपद			
२५	गोकुल कुमार खरेल	" "	सौवापापी केन्द्र			
२६	विकास श्रेष्ठ	बुद्धाविलेकुवा न.पा-२	विकास, विपद व्यवस्थापक			

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स्थान :




मिति :

क्र.सं	नाम	ठेगाना	प्रतिनीधि	सम्पर्क नं	पहिलो दिन	दोस्रो दिन	हस्ताक्षर
२६.	सुमा मसुण्डे	एनफो	एनफो				
२७.	सुमिता ज्ञाने	"	"				
२९	Ryngi Inakashi	JICA PROJECT TEAM	(Team leader)				
३०	Miki Kobama	"	Expert				
३१)	Apil K.C.	"	Consultant				
३२	विजय चिस्टे	स.म.वा.प.					
३३	Rjesh Byanjankar	एनफो	ENPHO				
३४	Subarna Mahajan	ENPHO	ENPHO				
३५	Anandip Sunwar	MoFALD					
३६.	Purushottam Subedi	U.S., MoFALD					
३७	Sakar Kharel	Bhangal					

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स्थान :

क्र.सं	नाम	ठेगाना	प्रतिनीधि	सम्पर्क नं	हस्ताक्षर	
					पहिलो दिन	दोस्रो दिन
१८	शोभा शर्मा	चपली भंगाल	नयाजपोती टोल दिक्षिपक्षी पुराट			
१९	पार्वती डोण्ड	बु.न.पा. २	पन्चक-पा. कालिदा सप्तक-पा. कालिदा			
१०	बिष्णुकाज भण्डारी	कु. नं. पं.	का. फ			

भाडा मिति २०७४ साल माघ २ गते आइतबार का दिन यस बुटानीलकण्ड नगरपालिका वडा नं २ का यस अध्यक्ष को राजीन्दु खड्का यु को संयोजकता वडा नं २ को विपद् व्यवस्थापन समिति का कार्यसूची जोषीया समी तपसिल अनुसारको उपलब्ध भयो।

क्र.सं.	पद	तपसिल	
		नाम	हस्ताक्षर
१.	संयोजक	को राजीन्दु खड्का	
२.	सहाय	श्री गोकुल कुमार खड्का	
३.	"	जर्मिना अधिकारी	
४.	"	सोच्यवती लोमिहान	
५.	"	सार्नेलाराएल (न.लोमिहान)	
६.	"	प्रमिला थापा	
७.	"	जोषी प्रसाद देवकोटा	
८.	"	इश्वरी पण्डित काकी	
९.	"	मीना थापा	
१०.	"	सोना लामा	
११.	"	आशा लामा शिवा	
१२.	"	लालिता भण्डारी	
१३.	"	लक्ष्मी गण्डारी	
१४.	"	राधिका शिवा	
१५.	"	जगत थापा	
१६.	"	राजेश थापा	
१७.	सदस्य पण्डित	अन्युत काकी	
१८.	"	श्री विनोद पण्डित	
१९.	सदस्य	श्री राजीन्दु खड्का	
२०.	"	श्री गारायण देवी शिवा	
२१.	"	श्री विकारा शिवा	
२२.	JICA Project Team:	मपिल के सी	
२३.	"	Mik: Kodame	
२४.	Crime (Thak)	ENPHO	
२५.	Sarnula f. ENPHO	Sarnula Guachha	
२६.	"	Merina Maharjan.	

नाम /	पद / संस्था	हस्ताक्षर
२८. कुंदल खरेल	समुदाय / गुवा/गुवा ०६	
२९. जोगी नामडा		
३०. विमोद महर्जन	ENPHO	
३१. मेघिना महर्जन	"	
३२. राजेश व्यंजनकार	"	
३३. डोलमा लामा		डोलमा

प्रस्तावहरू

१. समुदायमा आधाति विपद् जोखिम-सूचिकरण र उपबन्धन कार्यका सम्बन्धमा

निर्णय नं १

प्रस्ताव नं १ मा कुलकुल वडा मसु वृक्षानीचढ नगर पालिका वडा नं-२ मा JSCA र एन्के वडा समूहोडामा वडा नं-२ को विपद् जोखिम पहिचान गरि ल्याउने -सूचिकरण गर्ने समुदायमा आधाति पहिचान र फाँफो कार्यशाळा गोपको समुदाय रैसडेको र फाँफो वडा हलमा विपद् जोखिम जोडानाको प्राथमिकताको अन्तिम कार्यशाळा गोपको वडा अन्तिम रूप दिई वडा नं २ को विपद् सूचिकरण गर्ने JSCA पहिचानामा निम्न समूहोडामा जोडानाहरू प्रस्ताव पेश गर्ने निर्णय गरियो ।

१. उप हलमा चोकमा रहेको खानेपानी भवनलाई मर्मोडाना वडा निर्माण गर्ने ।

२. विपद् उपबन्धन सम्बन्धी विपद् जोखिम सूचिकरण र उपबन्धन सम्बन्धी विपद् उपबन्धन समिति, सक्रिय समुदायिक संस्थाहरू

Annex V: Photographs of VCA and DRM plan formation workshops
Some glimpses of workshop on learning risk and DRM system of the ward



Photo 1: Participants during lecture session



Photo 2 : Involved in group work



Photo 3 : Involved in group work



Photo 4 : Presenting results of group activity



Photo 5 : Session during workshop



Photo 6 : Group photo



Photo 7 : Presenting DRM Man of ward 2



Photo 8 : Table work for identifying hazards and capacities.



Photo 9 : participant giving feedback to facilitation team at the end



Photo 10 : Mayor of Budhanilkantha municipality giving his closing remark



Photo 11 : Mr. Purushottam Subedi, Under Secretary, MOFALD giving his speech

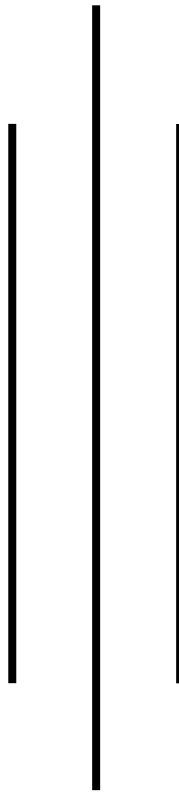


Photo 12 : Group Photo of participants during 2nd workshop



Ward Level Disaster Risk Management Plan

2017



Ward No. 8

Lalitpur Metropolitan City

2017

Documents : Ward Level Disaster Risk Management Plan 2017
Copy Right : Community Disaster Management Committee, Ward 8, Lalitpur
Metropolitan City

The plan is prepared under “*The JICA Project for Earthquake Risk Assessment in Kathmandu Valley*” (ERAKV Project) conducted in cooperation with Environment and Public Health Organization (ENPHO) and in coordination with Ministry of Urban Development (MoUD), Ministry of Federal Affairs and Local Development (MoFALD) and Ministry of Home Affairs (MoHA).



ललितपुर महानगरपालिका

ललितपुर महानगरपालिका

Lalitpur Metropolitan City

पत्र संख्या

..... वडा कार्यालय
..... वडा कार्यालय
..... महात्तगर पालिका .. ललितपुर
३ नं प्रदेश, नेपाल ।

फोन नं. ४४३९४४६६

मिति: २०७४।६।२६

मन्तव्य

ललितपुर महानगरपालिकाका जम्मा २९ वटा वडाहरू मध्ये पनि वडा नं ८ विपदको दृष्टिकोणले जोखिमयुक्त पुरानो बस्ती, साधुँरो बाटोले भरिएको वडा हो । तसर्थ प्रकोपको घटनाहरू र यसबाट धनजनको क्षति बढ्दै गइरहेको अवस्थामा जोखिम व्यवस्थापन चुनौतीका साथै आजको आवश्यकता र अवसर पनि हो । राष्ट्रिय स्तरमा जोखिम व्यवस्थापन गर्ने पहल शुरु भएता पनि स्थानिय स्तरबाट नै कार्यान्वयन भएमा मात्र जोखिम न्यूनिकरण हुन सक्दछ ।

यसै अनुरूप स्थानिय तहको निर्वाचन पश्चात निर्वाचित जन प्रतिनिधिको पद ग्रहण पश्चात वडा सचिवको अध्यक्षतामा संचालित हुँदै आएको विपद व्यवस्थापन समितिलाई वडा अध्यक्षको अध्यक्षतामा समिति पुनरगठन गरियो । यसको मुल उद्देश्य भनेको नै विपदको पूर्व तयारी गर्न जनसमुदायमा जनचेतनाका कार्यक्रमबाट सचेत गराउने साथै विपद पछि विपद जोखिम व्यवस्थापन गर्न जनसमुदाय स्तरमा नै उपलब्ध भएका स्रोत, साधन, सीप र ज्ञानको उपयोग गर्नु हो । विगतका अनुभवका आधारमा विपद जोखिम न्यूनिकरण गर्न स्थानिय स्तरमै विपद जोखिम योजना महत्वपूर्ण भएको हुदाँ विपद जोखिम न्यूनिकरण गर्न वडा समिति पनि सचेत रहि योजनाका साथ अधि बढिरहेका छौ ।

विभिन्न ऐतिहासिक, सांस्कृतिक, प्राकृतिक सम्पदा बोकेको ल.पु.म.न.पा वडा नं ८ वडालाई संरक्षण गरीरख्नु हामी सबैको कर्तव्य र दायित्व पनि हो । यस योजना निर्माणमा सहयोग प्रदान गर्नु हुने शहरी विकास मन्त्रालय, गृह मन्त्रालय संधिय माभिला तथा स्थानिय विकास मन्त्रालय, जिल्ला समन्वय समिति, वातावरण र जन स्वास्थ्य संस्था एन्फो र JICA परियोजनाले यस कार्यमा सहयोग प्रदान गर्नु भएकोमा यस वडा समितिको तर्फबाट हार्दिक धन्यवाद ज्ञापन गर्दछु ।

८ नं वडा अभ्यक्ष
हेम महर्जन

ललितपुर महानगरपालिका

वडा अध्यक्ष

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EXECUTIVE SUMMARY

Nepal is one of the disaster-prone nations in the world for various reasons, including its geographical structure, climatic variation and rapid urbanization. Nepal is ranked 11th in the world in terms of earthquake risk and 30th in terms of flood risk. As explained by DpNet-Nepal (Disaster Preparedness Network), people living in the Kathmandu valley is 200 times more at risk than people living in Kobe, Japan in terms of the per capital risk. Around 2.5 million people reside in Kathmandu valley with 614,777 households (CBS 2011). Fire, flood, landslide, epidemics, animal attack and earthquake are the major hazards, which have been affecting the communities almost every year. Among all the hazards, an earthquake is regarded as the most disastrous hazards that affect every aspect of the community, i.e infrastructures, cultures, economic condition, lifestyle etc.

Being a traditional and core community, Ward 8, Lalitpur Metropolitan City is categorized as one of the vulnerable communities that are exposed to different hazards. Each year, the community faces impacts from at least one hazard since people living in houses through alleyways and below cracked houses are vulnerable in case of evacuation. Likewise, non-engineered construction of tall buildings against building code in the ward area makes the settlement more vulnerable. Unmanaged electrical poles at different places within the ward and carelessness on fire done at the household level can cause a fire in the household while it can spread to more houses due to the compact pattern of settlement and inadequate preparation for fire control. Therefore, it makes the realization of the importance of disaster preparedness so that the impacts can be minimized and prevented. Besides that, mainstreaming disaster preparedness and risk reduction in development activities helps to lessen damages and casualties. In addition, community involvement in the planning of disaster risk reduction activities and its implementation plays a crucial part in the mitigation of disaster risk and disaster preparedness. Hence, the development of community-based disaster reduction plan is important.

The Disaster Risk Management Plan 2017 of Ward 8, Lalitpur Metropolitan city was prepared based on “Local Disaster Risk Management Planning (LDRMP) Guideline 2011” under “The JICA Project for Earthquake Risk Assessment in Kathmandu Valley” (ERAKV) in cooperation with Environment and Public Health Organization (ENPHO) and in coordination with the Ministry of Urban Development(MoUD), the Ministry of Home Affairs (MoHA) and the Ministry of Federal Affairs and Local Development (MoFALD).

In the process of formulating a DRM plan of the Lalitpur Metropolitan City, Ward 8, various risks and vulnerabilities, locally available resources and capacities were identified and analyzed and disaster risk management activities were determined by priority. For the development of community-based disaster risk reduction plan, different methodologies like meetings with ward office, discussion and consultation with CDMC, coordination and collaboration with a representative of different local stakeholders, experts, community people and different local stakeholders, a series of workshops were organized. The DRM plan was prepared based on identifying hazards and vulnerability assessment in active engagement of the community. The

plans were categorized into three sections, i.e. before, during and after the disaster. The DRM plan activities can be revised and updated as per need. Meantime, following DRM plan activities were prioritized to for implementation:

- To setup fire extinguisher in each tole and to form fire control committee and orient them.
- Prepositioning of disaster response and relief materials like tarpaulins, ropes, rescue and first aid equipment near ward office.
- Demolish and clear partially damaged and almost collapsed buildings due to earthquake 2072 as soon as possible with community participation and support of municipality.
- Protect available water sources, reservoir tanks and open spaces of the ward, even if it is not in use. Cover and clean wells and open spaces at the ward.
- Sensitize the community on safe building and building codes of the municipality and organize awareness activities for disaster preparedness in the community (schools, various groups and stakeholders.)
- Form Response and First Aid team within the ward and train them.
- Establish an emergency fund in a ward or in each tole if possible.

The DRM plan should mainstream in every annual development plan along with optimum utilizing locally available materials and resources while implementation to support the sustainable development and resilient community. Therefore, the DRM plan is important to a document of the ward.

ACRONYMS

CBDRRM	: Community Based Disaster Risk Reduction and Management
CDMC	: Community Disaster Management Committee
DPHO	: District Public Health Office
DRM	: Disaster Risk Management
DRR	: Disaster Risk Reduction
ENPHO	: Environment and Public Health Organization
ERAKV	: The Project for Earthquake Risk Assessment in Kathmandu Valley
FCHVs	: Female Community Health Volunteers
Gos	: Government Organizations
HHs	: Households
HVCA	: Hazard, Vulnerability and Capacity Assessment
I/NGOs	: International/National Non-Government Organization
IEC	: Information, Education and Communication
JICA	: Japan International Cooperation Agency
KMC	: Kathmandu Metropolitan City
LMC	: Lalitpur Metropolitan City
NRCS	: Nepal Red Cross Society
THP	: Tole Health Promoter
WASH	: Water, Sanitation and Hygiene

PART I: INTRODUCTION

1.1. Background

Lalitpur Metropolitan City, historically known as Patan, is the third largest city of Nepal after Kathmandu and Pokhara and it is located in the south-central part of Kathmandu Valley which is a new metropolitan city of Nepal. It is best known for its rich cultural heritage, particularly its tradition of arts and crafts. It is called the city of festival and feast, fine ancient art, making of metal and the stone carving statue. At the time of the 2011 Nepal census, it had a population of 226,728 in 54,748 individual households. The city has an area of 15.43 square kilometres. It is bounded by the Mahalaxmi Municipality in the east, Kirtipur Municipality, Dakshinkali Municipality and Kathmandu Metropolitan City (KMC) in the west, Kathmandu Metropolitan City (KMC) in the north and the Godavari Municipality in the south. The metropolitan city is divided into 29 municipal wards encompassing both the core settlement areas and new settlement areas.

Among 29 wards, Ward no 8 is located at a core settlement ward of the metropolitan city and surrounded by the Mahalaxmi Municipality in the east, LMC -Ward 7 and 6 in the south, LMC Ward 12 in the west and LMC Ward 9 in the north. According to Lalitpur Metropolitan City office, Ward 8 covers around 0.48 square kilometres of the area with a total population of 11,400 including 5,958 male and 5,442 female residing in 2,816 households according to National Census 2011. As per result of a Baseline Survey Report, JICA ERAKV Project, 2016, about 95% people of this ward are Newar of main castes like *Maharjan*, *Shrestha*, *Shakya*, *Bajracharya* and *Shahi*, 3% are Bramhin/Chhetri whereas 2% are undefined. Likewise, 75% of the total population are Hindus, 20% are Buddhists and 5% is undefined. The literacy rate of this ward is about 85%. The major sources of income of the ward population are agriculture, house rent, government services, jobs in the private sectors like industries and business houses. More or less of the population is being engaged as entrepreneurs. The settlement pattern of this ward is traditional and indigenous. Roughly, 10% of houses are made of mud mortar, 40% are with mud mortar with cement plasters, 20% are of cement mortar and load bearing, and 30% are of RCC framed which are freshly constructed. 20% of the total depending on the piped line for drinking water. Similarly, 5% rely on well water, whereas 75% have fully depended on Tanker/Jar water for their drinking purpose.

The ward comprises both old traditional clusters (*Tole*) and new clusters. Clusters namely Guitole, Pinchee, Subahal, Sako, Chapat, Yalamula, Yangubahal, Saugal, Lola are the oldest settlements while clusters namely Balkumari, Bholdhoka, Saraswoti Tole and Harit Colony are detailed as new settlements of the ward. Government facilities like solid waste disposal, telephone line, electricity line, educational institutions, sewer line, and health facilities are easily available in this ward. Unlike the availability of facilities, unmanaged electricity wires, narrow alleys, old traditional houses and newly build tall houses are the major risk elements that can lead to disaster in the community. Nevertheless, the community disaster management committee led by ward secretary is functioning properly

and have been conducting earthquake awareness programs time and again. To belittle the potential damages from existing disaster risks, disaster management through community level is indispensable. For that, it is necessary for the community to coordinate with different local level stakeholders and enhance capacity so that the community can directly involve in the implementation of disaster risk reduction activities. With this view, DRM plan of Ward 8, LMC, is prepared on the basis of *Local Disaster Risk Management Planning 2011* through enhancing community's capacity and engaging them actively and directly so that the plan can be implemented properly and effectively.

1.2. Objective of Plan

The main aim of the plan is to reduce the impact of disaster through optimum utilization of local resources available in the community, enhance the capacity of human resources and an effort to achieve minimum characteristics of disaster resilient community in coordination and collaboration with different government and local bodies along with communities, and relevant stakeholders as well as to involve communities in the implementation of disaster risk reduction activities in an effective and accountable way. Besides that, the specific objectives of the plan are as follows.

- To identify and analyze potential hazards, vulnerabilities and existing local resources and capacities of the community.
- To provide guidance for the formulation of the DRR activities prioritizing disaster risk management in building disaster resilient community.
- To develop a pathway for coordination and collaboration among local intuitions, clubs and relevant stakeholders.
- To institutionalize disaster risk management work and mainstream it in the periodic and annual development activities at local level.

1.3. Rationale and Significance of Plan

Disaster risk management plan is essential to express disaster risk management process in a managed way. Formulation of disaster risk management plan plays a crucial role in the sustainability of annual development programs at the local level. Every community is sensitive to disaster. The consolidation of disaster risk management plan into development programs enable an opportunity for community people to actively engage in development activities. Hence, disaster risk management plan reserves significant position in the development of the community. The importance of the disaster risk management plan is further justified by following points.

- Encourages community participation in vulnerability and capacity assessment of the community.
- Helps to institutionalize disaster risk management in the community.
- Minimizes impacts of disaster through the implementation of before, during and after disaster plans.
- Utilizes locally available resources and capacities for disaster risk mitigation.

- Creates an opportunity for coordination and collaboration among local intuitions, community and prevalent stakeholders.
- Assures a humanitarian assistance during a disaster in the disaster-affected area.
- Helps to disseminate essential information effectively to the targeted population in the community before, during and after a disaster.
- Allows accountability and transparency on activities during a disaster as roles and responsibilities are defined in the DRM plan on the basis of area and subject.
- Helps to aware disaster-affected communities of their rights and responsibilities.

1.4. Limitation of Plan

Every plan and program, whether prepared by the government or non-government or local intuitions have its own limitation despite its significance. Henceforth, this plan has the following limitation as listed below:

- As the plan is an important part of the annual development plan, its formulation should be integrated with development programs in the community.
- The planning of disaster risk management plans should be guided by *Local Disaster Risk Management Planning Guideline 2011* which is endorsed by the government of Nepal.
- The financial requirement for the formulation of the plans needs to be managed through prioritizing the plans and endorsing it in government local bodies.
- In an implementation, monitoring and evaluation of the plans, the community may lack trained human resources.

1.5. Methodology

The plan was prepared on the basis of *Local Disaster Risk Management Planning Guideline 2011* participatory planning process wherein direct and inclusive participation of municipal and ward authorities, representatives of political parties and local intuitions and community people were ensured. Following procedures were adopted for the preparation of the plan.

Preliminary Program: Various levels of coordination meetings and interactions were conducted formally and informally as per necessity with the municipality, ward authorities and different relevant stakeholders to prepare DRM plan. With the main aim to enhance knowledge on disaster risk management, 3 days municipal level training on disaster risk reduction was conducted where representatives from all three municipalities (Lalitpur Metropolitan City, Budhanilkantha Municipality and Bhaktapur Municipality) along with ward authorities, CDMC representatives participated. The training was focused on the local disaster risk management planning process.

Reformation of Community Disaster Risk Management Committee: The reformation of the Community Disaster Risk Management Committee was key to developing the DRM plan. Hence, with a goal to institutionalize disaster risk reduction in the community, community disaster risk management committee was reformed according to a process

indicated in *Local Disaster Risk Management Planning 2011*. The committee was reformed with the composition of 15 community members representing every cluster of the ward. Dissemination of roles and responsibilities of Community Disaster Risk Management Committee completed the formation.

Series of the workshop: The DRM plan was formulated through three level of community workshops. the workshops were conducted with the active and direct involvement of community people, CDMC members, ward authorities, representatives from municipality and representatives from local level stakeholders.

1. The first community workshop was focused to disseminate knowledge on disaster-related terminologies as well as knowledge on assessment of hazards, vulnerabilities and capacities. Besides that, the participants were engaged in identifying potentials hazards and vulnerabilities and existing capacities through using different tools as guided by *Local Disaster Risk Management Planning Guideline 2011*. Different data were obtained based on Hazard Ranking, Historical Timeline, Problem Tree Analysis, Seasonal Calendar, Stakeholder Analysis and Hazard Analysis.
2. The second community workshop was highlighted in the preparation of community-based DRR Map with identifying existing risks and capacities. More in depth information and data related to disaster risks and capacities were obtained through *Town Watching* method in this workshop. The participants directly observed in every corner of the ward to further identify the potential hazards and analyze disaster risks and vulnerabilities. After analyzing the hazards and its risks, DRM plans that can be formulated at a community level were prepared by the community participants. The plans were prepared in three sections (Before Disaster, During Disaster and After Disaster) to mitigate risks and impacts of the disaster.
3. The third community workshop was emphasized on the revision and update on three components specifically on HVCA data, community-based DRR map and the DRM plan. Besides the revision and update, the DRM plans were prioritized for its effective implementation.

Hazard, Vulnerability and Capacity Assessment: Community people actively engaged in the identification of potential hazards and vulnerabilities and existing capacities of the community. With collective consultation and working in-group during workshops has made clarity for further assessment of identified hazards, vulnerabilities and capacities. *Town Watching* method helped the community people in analyzing hazards, vulnerabilities and capacities available in the locality. Frequent discussion and interaction with relevant stakeholders have also assisted in the verification of data generated from hazard, vulnerability and capacity assessment.

Formulation of Disaster Risk Management Plan: Disaster Risk Management Plan was successfully prepared with full community participation. While formulating DRM plans, the participation of different stakeholders like women group, local clubs, CDMC

members etc was also ensured. The plan is mainly focused on mitigating risks of identified vulnerabilities and hazards.

1.6. Plan Implementation Strategy

The plan prepared by the community will be endorsed by CDMC from ward office as well as from municipality through required process and formality.

Budget Allocation

- The budget allocation for prioritized plans, defined by the approved DRM plan will be done as much the capacity.
- For the implementation of the approved DRM plan, different level of coordination will be done with relevant government bodies, local bodies, Nepal Red Cross Society, I/NGOs and donor agencies.

Plan Implementation

- The Community Disaster Management Committee will be a leading body for the implementation of the approved DRM plan.
- Community Disaster Management Committee will implement the approved plan in support from ward office, community, local institutions and the private sector.

1.7. Monitoring, Evaluation and Review

- The monitoring and evaluation of the implementation of the approved DRM plan will be done annually during the monitoring and evaluation of ward level policies and programs.
- The revision and update of the approved DRM plan will be done once a five year through the large-scale program.
- Organizations working for the implementation of DRM plan will present reports to CDMC and Ward office.
- CDMC will organize regular meeting periodically for updated and review on DRM plan.

PART II: HAZARD, VULNERABILITY AND CAPACITY ASSESSMENT

Hazard, Vulnerability and capacity assessment of Ward 8, LMC is analyzed in the participation of the community, stakeholders of community and ward officials to identify the unique status of the ward in disaster risk using following HVCA tools.

- Hazard Ranking
- Problem Tree Analysis
- Hazard Analysis
- Mobility Mapping
- Hazard calendar
- Stakeholder Analysis
- Historical Timeline
- Town watching
- Vulnerability and capacity Identify mapping

2.1. Hazard Ranking

Hazard ranking is an effective tool to rank hazards of community, which has alarming potential to cause more damage to life and property from disastrous outcomes in the community. Simultaneously, the hazards are ranked by the community on the basis of proportion and territory damage.

Table 1 illustrates the major hazards of Ward 8, Lalitpur Metropolitan City. The finding of hazard ranking showed fire, windstorm, epidemic, earthquake, monkey terror and high tension wire break as the major hazards that can occur in the ward. According to the ranking, the community is at greater risk from these aforementioned disasters.

Table 1: Hazard mapping and ranking of Ward 8, LMC

HAZARDS	Fire (Manmade)	Windstorm	Epidemic	Earthquake	Monkey Terror	High tension wire break
Fire (Manmade)		Fire (Manmade)	Fire (Manmade)	Earthquake	Fire (Manmade)	Fire (Manmade)
Windstorm			Windstorm	Earthquake	Windstorm	Windstorm
Epidemic				Earthquake	Epidemic	Epidemic
Earthquake					Earthquake	Earthquake
Monkey Terror						High tension wire break
High tension wire break						
Total Points	4	3	2	5	0	1
Rank Obtained	2 nd	3 rd	4 th	1 st	6 th	5 th

Looking at the intensity of destruction caused by the earthquake, it is ranked the first position. Similarly, fire can trigger disastrous event in Ward 2 and hence position in a 2nd rank among all the identified hazards. Likewise, the windstorm is ranked as 3rd, epidemic

as 4th, high tension wire break as 5th and monkey terror as 6th in the ranking. The extent of damages from the monkey terror and high tension wire break are spotted as a least disastrous event in terms of a possible number of victims in ward 8, Lalitpur Metropolitan City.

2.2. Hazard Calendar

A hazard calendar is a timeline prepared for different hazards throughout the year. It usually helps to find out the probability of occurrence with of a particular disaster in a particular month/s of the year. The hazard calendar of Lalitpur Metropolitan city ward no. 8 is shown below:

Table 2: Hazard/Seasonal Calendar of Ward 8, LMC

Hazard	Month											
	Baisakh (Apr- May)	Jestha (May- Jun)	Ashar (Jun- July)	Shrawan (July- Aug)	Bhadra (Aug- Sept)	Ashoj (Sep- Oct)	Kartik (Oct- Nov)	Mangshir (Nov- Dec)	Poush (Dec- Jan)	Magh (Jan- Feb)	Falgun (Feb- Mar)	Chaitra (Mar- Apr)
Earthquake												
Fire (Manmade)												
Monkey terror												
Windstorm												
Flood												
Epidemic												

Above table shows that Earthquake, Fire, Windstorm, Flood, Epidemic (Water brone), Monkey Terror are major hazards that occur in ward no. 8 of Lalitpur Metropolitan City. From the hazard calendar, earthquake, fire (Manmade) and monkey terror may occur at any time throughout the year. Windstorm occurs in the month of Falgun, Chitra and Baishak (February, March, April and May) whereas flood may occur during months

of rainy seasons in Asar, Shrawan and Bhadra (June, July, August and September). The epidemic may spread mainly in rainy months starting from Jestha, Asar, Shrawan and Bhadra, Falgun and Chaitra (May, June, July, August, and September).

2.3. Historical Timeline

Historical timeline shows the hazards that occurred in past and the effects. Through this, information about the tendency of recurring hazards, the damage caused by them and their impact can be projected. The historical timeline of disasters occurred in the ward is listed below.

Table 3: Historical timeline of Ward 8, LMC in Tabular form.

Year B.S. (A.D)	Disaster	Place	Damage	Impact
1990 (1930/31)	Earthquake	Ward no. 8	Guthi House, Buildings, Temples destroyed	7 Dead, 8 injured, no first aid available
2038(1981/1982)	Flood	Outside of Ringroad at border side of ward	Cultivated land and crops	Agricultural depreciation, loss of agriculture land
2045(1988/89)	Earthquake	Ward no. 8	No damage	Psychological effect
2056 (1999/2000)	Flood	Ward no. 8	1 dead, 1 injured	Walls nearby river collapsed
2072(2015/16)	Earthquake	Ward no. 8	445 HHs total damaged 133 partial damage 63 minor damage 28 injured	psychological effect people stayed outside the house for few days
2073(2016/17)	Cholera	Ward no. 8 Bholdhoka	12 Households	Human casualties, illness and hospitalized

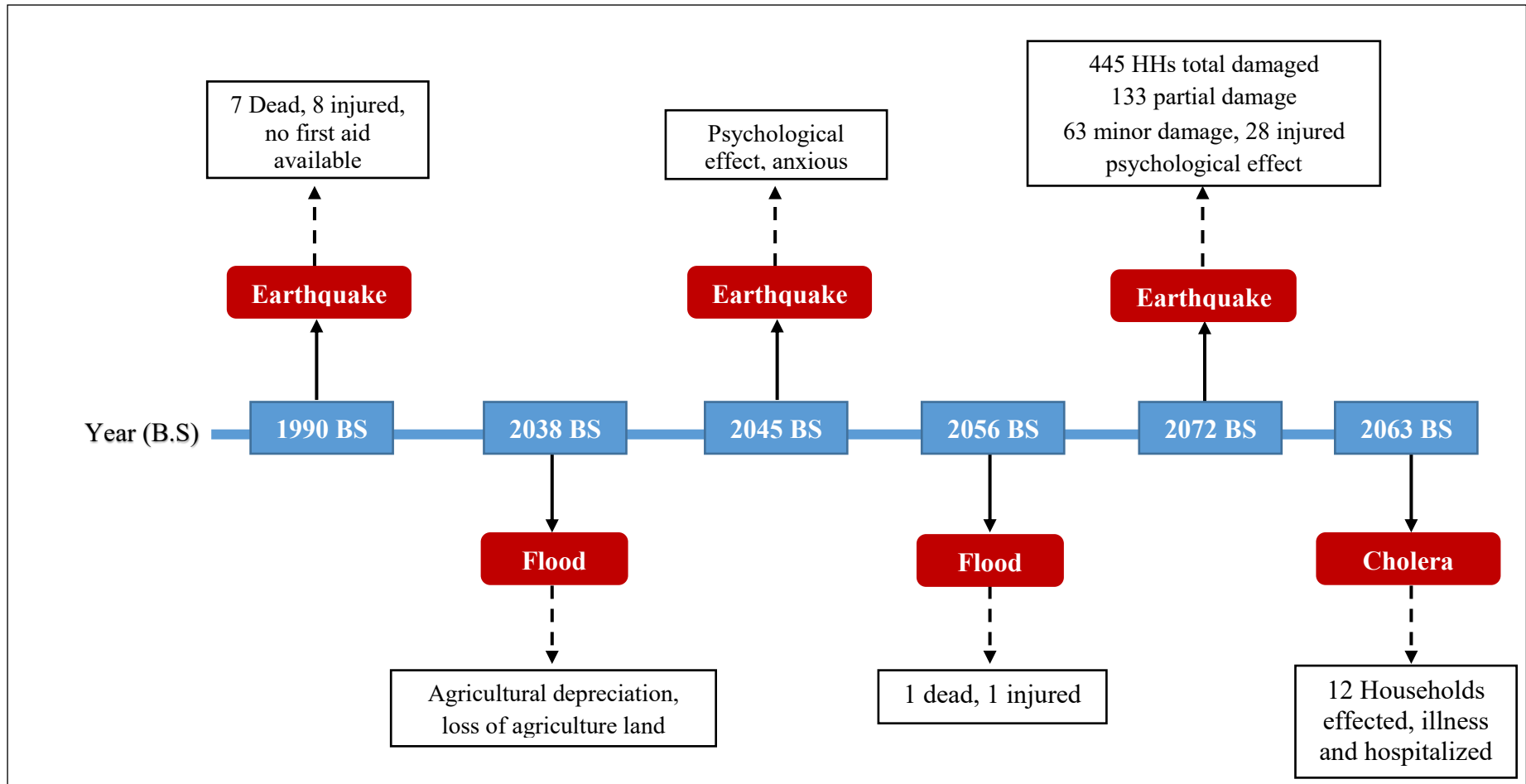


Figure 1: Historical Timeline of Ward 8, LMC

According to table 5, an earthquake occurred in 1990 BS (1930/1931AD) killed 7 and injured 8 people. Private, public and community buildings and temples were destroyed. In the year of 2038 BS, flood at the Karmanasha river (nearby ring road) swept most of the crops. Similarly, in 2056 BS flood in the same river killed a person and got another injured due to the collapse of the wall nearby river. Likewise, during 2063 BS,

cholera outbreak caused human casualties in 12 households of this ward. The earthquake that struck in 2045 BS had psychological effect whereas Gorkha earthquake in 2072 injured 28 people. Besides, 445 HH were totally damaged, 133 were partially damaged and 63 were listed as minor damaged in this ward. As almost 50% of the houses were of mud mortar with cement plaster and few were only mud mortar which increased the vulnerability of the ward. Similarly, narrow streets make it difficult for firefighting vehicles to enter the core area as well as search and rescue during the earthquake and at the time of fire outbreaks.

2.4. Hazard Analysis

Hazard analysis tool helps to identify the causes and impact of the disaster. Similarly, it helps in finding out the time interval of disaster, impact level and capacities to cope with any disaster. Hazard analysis of ward number 8 is given in the below table.

Table 4: Hazard analysis of Ward 8, LMC

Hazards	Type	Danger Sign	Impact Speed	Time Interval	Season	Impact		Impact Level	Capacities that helps to lower the disaster impact
	<i>Natural or manmade</i>	<i>Technical and tradition</i>	<i>Rapidly or slowly</i>	<i>Time duration</i>	<i>Time and year</i>	<i>Component</i>	<i>Sector</i>	<i>High, medium, low</i>	
Earthquake	Natural	Ground movement Crows cawing, Dog Barking	Rapid	Unknown	Might be any season	Human, Animals, Agriculture, Water Sources	Human, Economic, Mental, Physical, Agriculture	High	Trained Human Resource
Fire	Manmade	Smoke and Smell	Rapid and Slow	Twice or more than twice in a year	Mostly Chaitra and Baisakh (March, April, May) but might	Human, Animals, Structure,	Human, Economic and Physical	Medium	Community people, Pond, Dugwell

					occur in any season				
Windstorm	Natural	High wind	Rapid	Once a year	Chaitra, Baisakh (March, April, May)	Human, Property, Agriculture, wire break, Fire	Human, Economic, Physical, Agriculture	Medium	
Epidemic	Manmade	Poor solid waste management, Rise in sick victims	Slow	Waterborne diseases like cholera and typhoid after the mega earthquake	Baisakh, Jestha, Ashar, Shrawan (April, May, June, July, August)	Human health	Human, Economic, Social	High	FCHVs, Health volunteers
High tension wire break	Manmade	Windstorm, Fire in wires	Slow	once or twice a year	Chaitra, Baisakh, Jestha, Ashar (March, April, May, June, July)	Human	Human	Low	
Monkey Terror	Natural	Monkey coming to human-settled area	Slow	Almost every morning	All season	Human, Property especially food item	NA	High	

Further analysis of hazards was done with the help of hazard analysis tool. The earthquake was a major and natural hazard which could not be predicted. Ground shaking is the only way to know the occurrence of the earthquake. However, people also believed that traditional signs like the continuous barking of dog and crows cawing might sometime be signs of an earthquake. Human and animal death/casualties, disruption of social structure, economic loss, mental disturbance, the collapse of physical infrastructure etc. are the impacts of the earthquake.

Likewise, fire is another hazard listed in this ward mainly caused due to human mistakes. Mostly it occurred twice a year especially during the dry season causing human and animal loss as well as structure destruction. However, it seemed that there weren't any preventive or preparedness measures in case of fire except the traditional method of pouring the water from dug well and pond with the support from community people. Narrow streets made it difficult for vehicles to enter in case of fire.

Similarly, windstorm is another hazard listed in this ward. It occurs mostly during the month of the dry season. However, the casualties were not recorded yet. Instead, a windstorm caused electric and another wire break sometimes causing a fire. Waterborne diseases like diarrhoea, dysentery and cholera which could cause epidemic ranked fourth in the hazard ranking. Poor hygiene practice of human beings and drinking of impure water would result in diarrheal diseases which might damage human health. Mostly, this occurs in the summer and rainy season. FCHV's have their regular health programs to prevent and control the outbreak.

The probability of high tension wire break and monkey terror are other listed hazards. The probability of wire break is during the windy season whereas monkeys in the Guita Domar (open space) frequently trouble the houses. Wire break have low impact in the community whereas monkey terror has high impact. Wire break might result in human casualties whereas human property especially food destroyed due to monkey attack.

2.5. Problem Tree Analysis

The problem tree analysis tool is used for analysis of the origin of the disaster, its causes and impacts in the community. Under this method, the tree trunk is considered to represent the problem, the roots the causes and the branches and leaves the impact, thereby helping to pin down the realities. This tool is used for disaster risk management by identifying the root cause. The problem tree as per drawn by the group is given below:

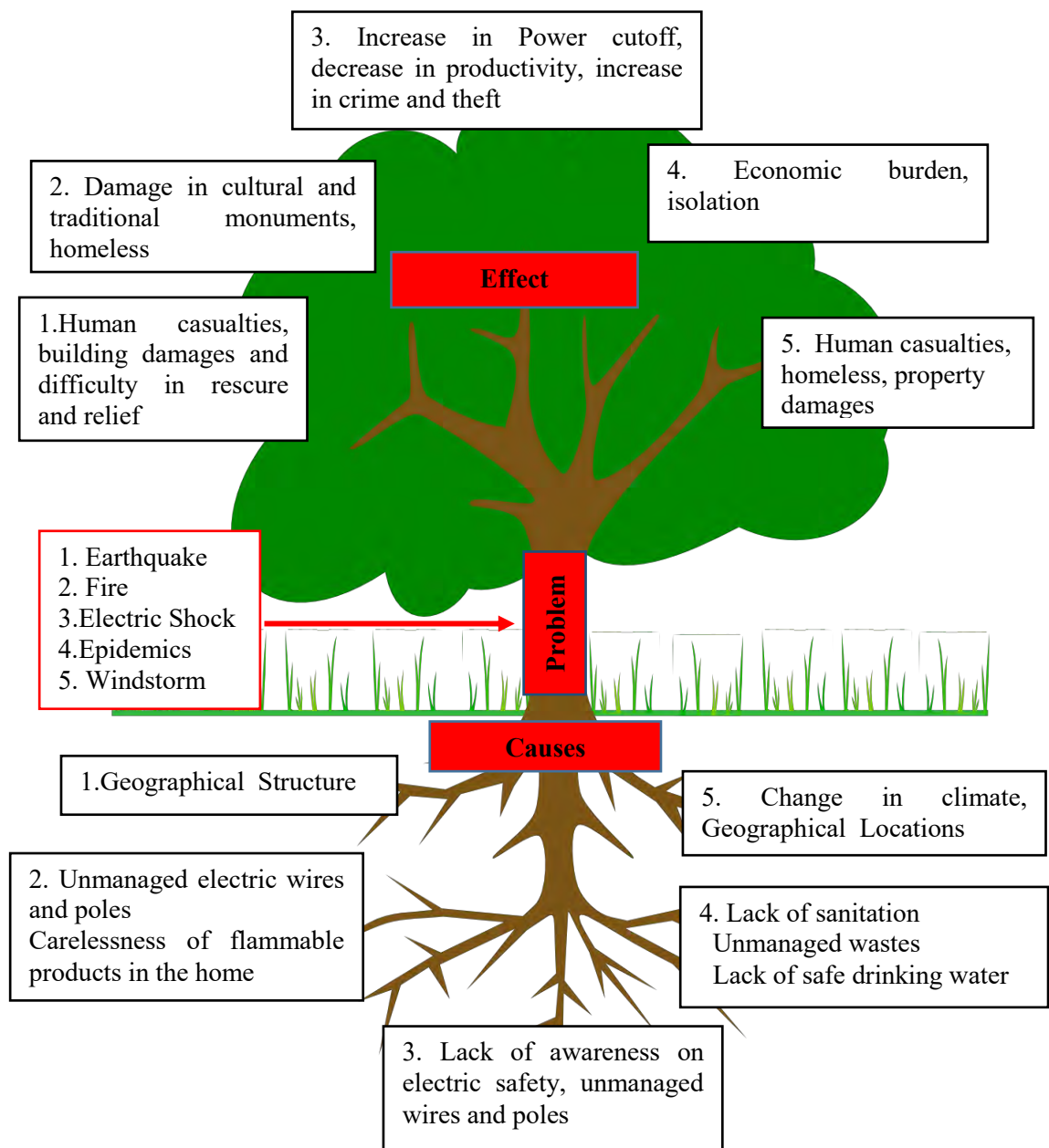


Table 5: Problem Tree Analysis in a tabular form.

Problem	Causes of the problem	Impact in the Community
Earthquake	Geographical Locations	Human casualties, building damages and difficulty in rescue and relief
Fire	<ul style="list-style-type: none"> • Unmanaged electric wires and poles • Carelessness of flammable products in the home 	Damage to cultural and traditional monuments, homeless
Electric Shock	<ul style="list-style-type: none"> • Lack of awareness of electric safety. • Unmanaged Electric Wires and Poles 	Increase in Power cutoff, decrease in productivity, increase in crime and theft.
Epidemics	<ul style="list-style-type: none"> • Lack of sanitation • Unmanaged wastes • Lack of safe drinking water 	Economic burden, isolation
Windstorm	<ul style="list-style-type: none"> • Change in climate • Geographical Locations 	Human casualties, homeless, property damages

The most important factors that influence to convert hazards to disasters and their effects are identified from the table above. As per the problem tree analysis, hazards like earthquake, fire, electric shock, epidemics and windstorm are regarded as the problems for the community as the hazards can lead to more or fewer effects in the community. Though an earthquake is natural hazards, it can trigger human casualties, destruction of buildings, and creates hardness in relief and rescue in the community. Hence, the earthquake is mentioned as problem Likewise, unmanaged electric wires and poles in the community and carelessness of flammable products in the community tend to be a major cause of fire outbreak in the community. The problem tree indicates the consequences of the fire are damage to property along with cultural and traditional monuments and damage to homes. Similarly, solid waste management is always challenging in urban areas. Lack of proper solid waste management system, lack of landfill sites and use of inorganic materials, lack of safe drinking water result in disease outbreak an epidemic, which the community indicates as the problem. Thus, problem tree analysis guides to formulate plans that address the main causes of the problem.

2.6. Town Watching / Transect Walk

Town watching is a tool similar to transect walk wherein community representatives visit clusters of the ward to observe hazards of the ward. This tool is used to

triangulate the interferences from vulnerability mapping and problem tree analysis in the course of vulnerability and capacity assessment. Unlike other tools, this tool helps to generate real-time data regarding the risks, vulnerabilities and capacities. Using this tool helped Ward 8 to verify the VCA data through direct observation in the field, to update DRR map of ward 8 that developed during risk assessment and to collect the experiences of disaster victims of Ward 8, Lalitpur Metropolitan City.

2.7. Vulnerability and Capacity Identify Mapping

It is always important to identify potential hazards, vulnerabilities, risks as well as existing capacities of the community. Preparation of map indicating potential hazards, vulnerabilities, risks as well as existing capacities of the community makes the community people aware of disaster risk reduction and helps to plan for the disaster risk reduction. Community participation is crucial to make the map more informative and effective.



Figure 2: Vulnerability and Capacity Map

This tool is adopted mainly to indicate potential vulnerabilities and capacities of Ward 8 so that the community people can be aware regarding vulnerabilities and capacities in future. A map of ward 8 with ward boundary was provided to community people and an indication of possible vulnerabilities and capacities were indicated accordingly. Possibility areas of the flood, fire source, narrow alleys and tall buildings etc are indicated as the vulnerable sites of the ward while water sources like public taps, water tanks, health centre, open spaces that can be used during disasters etc are indicated as capacities. The data that were inputted in the map are verified through

town watching method with direct observation. The map is finalized through series of meetings, follow up with relevant stakeholders. The map will guide the community people to find out the vulnerabilities and available capacities with exact locations within the community.

Table 6: Result of the social resources mapping and identification of capacities

Resource / capacity	Location
Well	14 in the core area
Deep Borehole	3 inside of ring road
Pond	3 in the core area
Stone tap	3 in the core area
Public Water Storage Tanks	11 in the core area
Small Community Forest	1 central to the ward
Open space	9 inside of ring road
Chowk	4 core area
Public house	18 core area
Public toilet	1 north east of the the
Bridge	2 in east
Government office	2 central and east part of the ward
Health post	1 south of the ward office
Police station	1 in north/ east
Ambulance	Red Cross
Bank	1 east side
School	8 school
Fire extinguisher	1 ward office
Stupa	1 in centre of the ward
Temple	15 inside of ring road

2.8. Capacities of Ward

The capacities are categorized into different resources based on nature such as natural resources, economic resources, physical resources, human resources, and institutional resources. Community forests, rivers, open spaces, well and spout water are regarded as the capacities of the ward. Similarly, community buildings, health facilities, schools, temples etc are included in physical resources of the ward. Likewise, different factories and cooperatives are indicated as economic capacities of the ward. Each capacity of ward could help in many ways during a disaster. Open spaces, human resources, institutions and water resources are important capacities available at Ward 8, Lalitpur Metropolitan City that could help to cope with disaster.

Table 7: List of capacities of ward 8, LMC

Lists of capacities	Name and location	How many? Area occupied	How could available facility be helpful during disaster	Condition of capacity
Physical Capacities				
Public toilets	Balkumari temple	10*20 Ft	Toilets can be used during emergency as it is near open space	Currently in use
Water Well	Saugal, Guitole, Lola, Sako, Chapat, Yalamula, Subahal, Yangubahal, Pinchhe, Balkumari, Guita damar	Approximately 31 in total	For drinking water and another domestic purpose. Can be used to control fire	Few are in use and most of them are not in use
Deep boring	Subahal Guitole Balkumari	3	For drinking Use for domestic purposes. Can be used to control fire	Need to purify water before drinking.
Stone tap	Subahal Guitole Balkumari	1 2 1	For household general purpose	Is in use but need water purification
Fire Extinguisher	Ward office, Guitole	2	For extinguishing fire	
Bridge	Kharibot Balkumari Paku Mahadev	3	Can be used to cross the river, can be used as an alternative way during the normal and emergency period.	It is in use.
Road (Main road)	Balkumari - Kharibot Ringroad		Transportation facility.	Vehicles are passing

	Balkumari - Nyuta Saugal - Sundhara Sudhara - Bhokdhoka Saraswoti tole - Dyoko Mahadev - Pinchhen - Subahal - Sako - Chapat - Yangubahal - Kuti Saugal - Chalachhen - Yalamul. Pinchhen - Guitole - Bholdhoka Balkumari - Deko Mahadev Saugal - Nyuta			through these roads.
Public water reservoir tank	Guitole , Subahal, Pinchhen, Sako, Chapat, Yalamuli, Saugal, Sundhara, Lolha, Balkumari, Saraswoti mandir	Total 12 water tanks of 10000 litre or 5000 litre	Availability of drinking water.	In good condition and is in use
Community building (currently using school)	Shree Shanti High School, Lola Lalit Vikash Lower Secondary School, Saugal	4 Ropani 2 Ropani	To preposition emergency items Can be used for a temporary living during a disaster.	400 Students 300 Students
Government offices	Ward office, Guitole Lalitpur Municipality, Environment and Sanitation Department	5 Ropani	Key responsibility before and after disaster	
Private Schools	Subhakamana Secondary Boarding School, Lolha Oracle English Medium School,	NA	Can be used as an open space.	Is in good condition.

	Guita Damar Moral Academy School, Guitole National College, Balkumari Hindu Vidyapeeth Nepal School, Balkumari Kathford International College, Balkumari			
Human Resource Capacities				
Community Health Volunteers	Female Community Health Volunteers (FCHV) Ward Health Implementation Committee (WHIC) Tole Health Promoter (THP)	30 members	Can assist with first aid and other medical help. Awareness activities before and during a disaster.	actively working in coordination with DPHO and LSMC.
Light Search and Rescue task Team	Ward - 8	20 - 30	Can help to search and rescue victims during disaster	Need refreshment training.
First Aid task team	Ward - 8	40 - 50	Can help to provide first aid to victims of disaster	Need refreshment training.
Teachers	In different clusters	25 - 30	Can help to awareness community and children of community	Need to keep a roster.
Social Capacities and Infrastructures				
Temples	<ul style="list-style-type: none"> • Balkumari Temple. • Saraswati Temple. • Guitole Stupa. 	8*8 ft 30 * 30 ft 12*12ft	For religious purpose, inner peace.	Being used as a religious place and there is open space at

	<ul style="list-style-type: none"> • Ganesh Mandir at Guitole, Chapat, Yalmuli, Subahal, Pinchhen, Yangubahal • Saugal. • Sundhara Narayan Mandir. 	12*12 ft 12*12 ft 12*12 ft 12*12 ft 12*12 ft 12*12 ft		Balkumari temple.
Bahi (Bihar)	<ul style="list-style-type: none"> • Pratham Shree Mahabihar. • Gastla Mahabihar • Subahal Mahabihar • Thaku Bihar • Jaya Manohar Mahabihar 			
Women and mother group	Guitole Mother's Group Pinche Mother's Group Subahal Mother's Group Saraswati Mother's Group Yalamul Mother's Group Chapat Mother's Group Lola: Women's Group Balkumari Mother's Group Saugal Mother's Group Yangubahal Mother's Group	112 members 147 members 125 members 90 members 50 members 40 members 90 members 80 members 50 members 40 members	Volunteering in relief and Recovery Program	Is active in volunteering various metropolitan level activities
Child Club	Yanlgubahal Guitole Subaha			
Police station	Balkumari	1	Security, Search and rescue, dead body	

			management	
Health Post	Guitole Ward Health Clinic	30 * 24 ft	Health facility and service	Good condition
Community Buildings	Guitole	4	To preposition emergency items Can be used for a temporary living during a disaster.	
	Pinchhe	3		
	Sako	1		
	Chapat	1		
	Saugal	2		
	Balkumari	3		
	Subahal	4		
	Yangubahal	3		
	Saraswati tole	1		
Finance Resources				
Saving & Credit cooperative	All over in ward	14	Allowing credit and financing support	
Bank	Kharibot	1	Allowing credit	
Natural Resources				
River	Gwarko Balkumari	1 kilometer		1
Pond	Guitole	5476 sq.ft (1 Ropani)	To control house fire,	3
	Balkumari	273 8 sq.ft (½ Ropani)	To clean	
	Saugal	273 8 sq.ft (½ Ropani)	To drink	
Open space	Guitole	30 ropani	Can be used for temporary camp during emergency	Can adjust 1500 people 400 people 300 people
	Balkumari	2 ropani		
	Saraswoti temple ground	3 ropani		

2.9. Vulnerabilities of Ward

Along with capacities, there are such factors too that could increase loss and damages due to disaster or that can create an event of a disaster. Possible vulnerabilities and risks of ward no, 8 Lalitpur Metropolitan City are analyzed in tabular form.

Vulnerabilities identified with Group Discussion

Table 8: Vulnerability of Ward 8, LMC

Tole (Cluster)	Major vulnerabilities and risks	Reason for problem	Available Capacity	Support Needed	Effect
Guitole Pinchhen Subahal Sako Chapat Yalamul Saugal Kutisaugal Lolha Yangubahal	<ul style="list-style-type: none"> Narrow roads, houses which are passed through narrow lanes and under another house. Coverless electrical wires and unmanaged poles. Old structured houses with haphazard flower vases and water tanks. Elderly people, people with disability, pregnant 	<p>Traditional settlements, less land making it difficult to respond during a disaster.</p> <p>fire and short circuit</p> <p>Lack of awareness</p> <p>Poor economic status</p> <p>Elderly people, people with disability, pregnant cannot save themselves from disaster and are not prepared individually, community and household level</p>	<p>Accessibility of small vehicles.</p> <p>Installing Wire with safe covers has been initiated.</p> <p>Allowance provided to elderly people by Nepal Government</p>	<p>Keeping adequate space for the road during house construction.</p> <p>Covering all risky wires</p> <p>Placement of transformers in a safe area,</p> <p>Increase in public awareness activities,</p> <p>Activities focused on elderly and livelihood.</p>	<p>Difficulty in response activity.</p> <p>Risk of fire and electric shock</p> <p>Damage to property and human casualties including loss of lives.</p> <p>Psychological disorder</p> <p>Rise in unemployment rate.</p> <p>Poor economic status.</p>

2.10. Stakeholders Analysis/Venn Diagram

Stakeholder's analysis is done on the availability, access and linkages of services and facilities needed at the time of disaster from the government and security agencies, NRCS, local organizations and other humanitarian organizations, financial institutions, cooperatives, public health centres, and so on. A Venn diagram is drawn to analyze the access of community to social and public entities for disaster risk management. Meta cards were given to the participants to draw the Venn diagram for the stakeholder's analysis. The following figure shows the list of organizations that came through the group discussion.

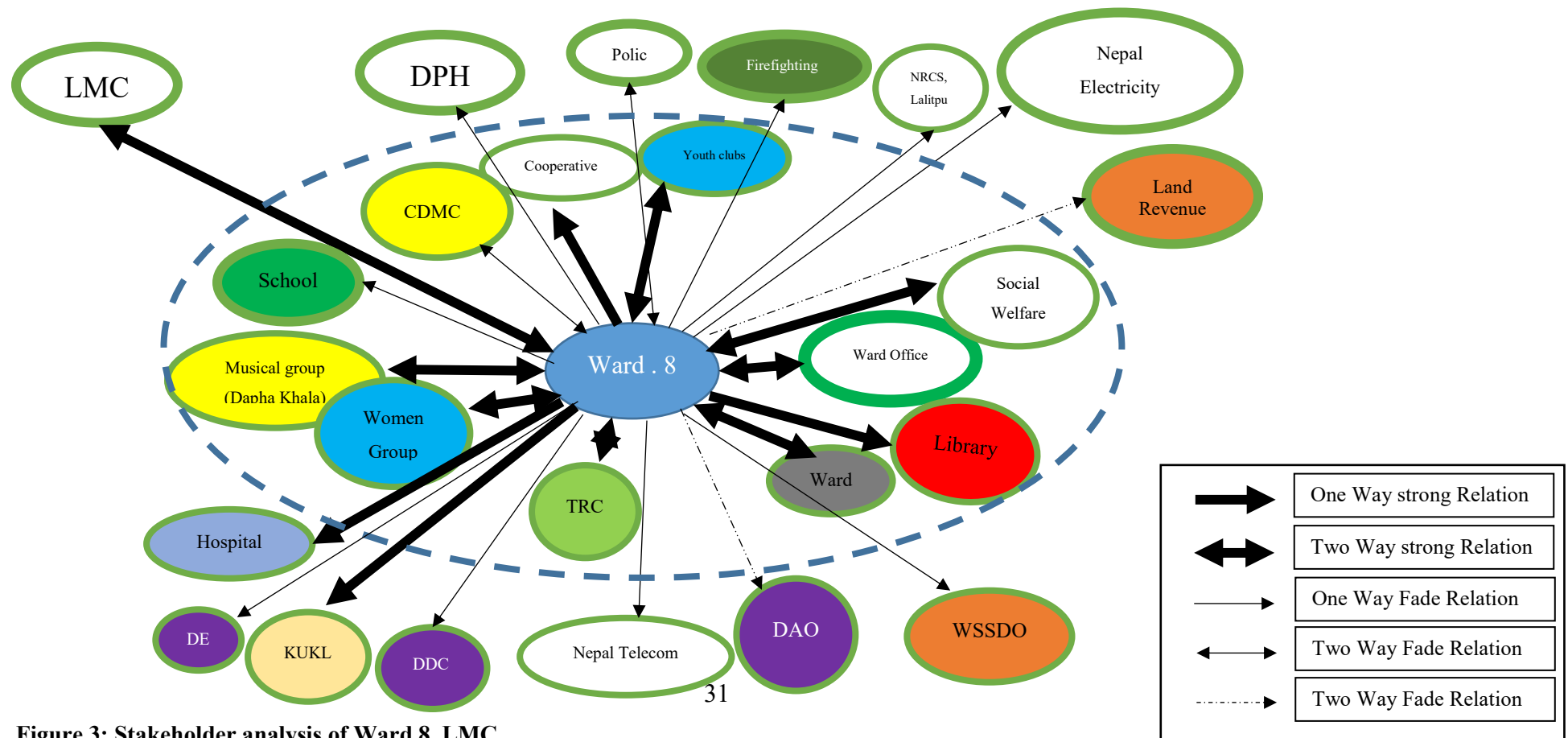


Figure 3: Stakeholder analysis of Ward 8, LMC

2.11. Mobility Mapping

This tool used to analyze the access present situation of people in the community to outside organizations and political and administrative circles. The title also shows meaning; the state of movement in and out of the community people. It is used to check the human capacity at the local level. The people are a move in different places for these particular reasons: employment, entertainment, education, health, water, religion etc. These above elements are the factors for local people move to a different place. This is one of the most important documents for VCA. Through this activity, the community could find their capacity. The following figure is the mobility map of ward number 8.

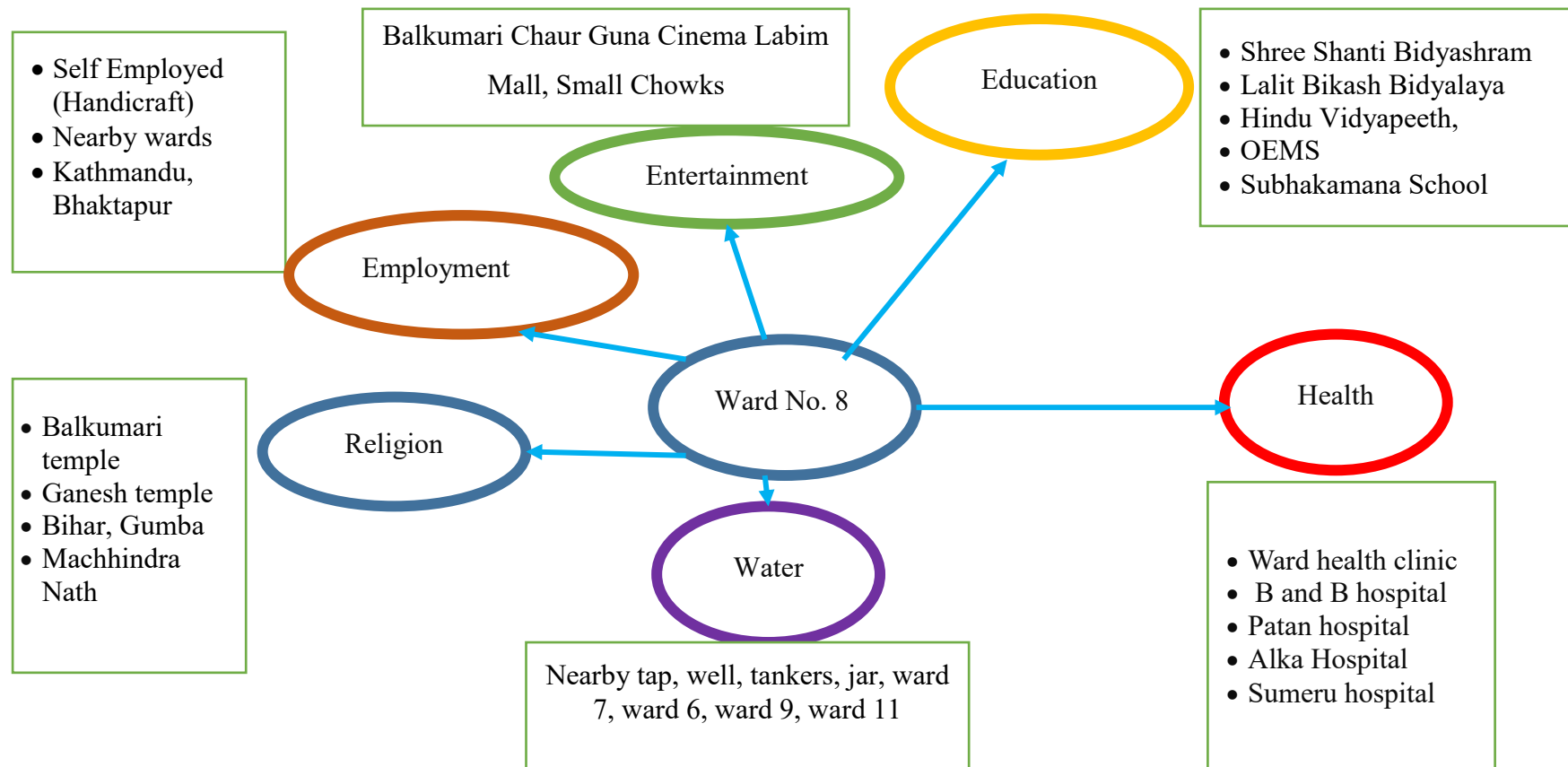


Figure 4: Mobility Mapping of Ward 8, LMC

2.12. Risk Assessment

Risk assessment is a tool which helps to reduce risks within a community. This can be done by identifying the risks that a community faces, accessing the vulnerabilities of the community to those risks and providing capacities available in the community to reduce the impacts of the risks. It assesses likelihood and possibility of the community to be harmed.

Table 9: Risk Statement of hazards of Ward 8, LMC

Hazard	Where	When	When and How many	How	What are affected	Available capacity
Earthquake	All the areas of Ward 8	Every month	<ul style="list-style-type: none"> • Devotees of Balkumari temple, Almost 700 people can get affected • Elderly, differently abled people, children, pregnant woman including 80% population, Approx. 600 - 700 HH and 480 people can get injured 	<ul style="list-style-type: none"> • Due to fall of the cracked temple, old buildings nearby. The transformer may fall and cause a fire. • Due to fall of cracked and damaged HH. • Difficult to evacuate from alleyways. • Difficult to evacuate people whose houses are through another house. • Lack of awareness for earthquake preparedness. • Delay in medical help and first aid, rescue. • Lack of trained human resources and their records. • Dependency on other organizations outside the ward. 	<ul style="list-style-type: none"> • Human, cultural and historical heritages and infrastructures. • Environment, people, cultural and traditional heritages, infrastructures, elderly and psychological and economic effects 	<ul style="list-style-type: none"> • Open spaces, Police station, 3 pati-pauwa and clubs. • Open spaces, well, ponds, co-operatives, FCHV, schools and various groups
Flood	Harit colony to Balkumari chowk	Mostly June and July	<ul style="list-style-type: none"> • Houses nearby river. Approx. 300 - 400HH, 1500 people can get 	<ul style="list-style-type: none"> • Houses are built at near to river bank and rivers are being narrow in size 	<ul style="list-style-type: none"> • Houses, College, road, transportation, agriculture, 	<ul style="list-style-type: none"> • Environment and sanitation division of LMC, Paku. • Mahadev Park, a

			affected		industries, Environment and sanitation division of LMC.	community with a good attitude.
Fire	<ul style="list-style-type: none"> • Balkumari chowk (Petrol pump), Saraswati chowk. • Most of the places of ward - 8 	<ul style="list-style-type: none"> • Especially during March, April and May. 	<ul style="list-style-type: none"> • Approx. 500 people can get affected who lives near a petrol pump. 	<ul style="list-style-type: none"> • Smoking, carelessness and leakage at petrol pump can cause a fire. • Carelessness during use of LP gas, electricity short circuit, attached houses, unmanaged wires, lack of trained firefighters, difficulty in access to fire brigade due to narrow alleyways. 	<ul style="list-style-type: none"> • Community, electricity line, infrastructures 	<ul style="list-style-type: none"> • Fire extinguisher at the petrol pump, pond, deep boring at Saraswati Khel, wide ring road and river. • Fire brigades at the municipality.
Epidemics	<ul style="list-style-type: none"> • Paku, Balkumari • Lholha, Yangubahal, Yalamul, Kutisauhal, Saugal 	<ul style="list-style-type: none"> • April, May, June July 	<ul style="list-style-type: none"> • Approx. 500 people. • Approx 250 HH are affected 	<ul style="list-style-type: none"> • Consumption of contaminated water and unmanaged solid waste. • Unhygienically conducted Slaughter houses at Lolha, • Community behaviour of not purifying drinking water. • Leakage of drainage. • Haphazard urbanization. 	<ul style="list-style-type: none"> • Environment and community, economic loss. 	<ul style="list-style-type: none"> • Ward health care centre, clinics and polyclinics, hospitals nearby, Communication and media.
Animal terror	<ul style="list-style-type: none"> • Guitole damar 		<ul style="list-style-type: none"> • People living near (periphery of the ward) to Guita Damar. 	<ul style="list-style-type: none"> • Monkeys living at Guita Damar has lacked in food. So, monkeys visit houses and attacks people and foodstuffs. 	<ul style="list-style-type: none"> • People, materials and foodstuffs at houses 	

PART III: DISASTER RISK MANAGEMENT PLAN

The plan is an effort to mainstream disaster risk reduction and management subjects into development plans/policies/strategies of local and central government to enforce community towards disaster resiliency. This section incorporates disaster risk management plan of Ward 8, Lalitpur Metropolitan City which was formed in the guidance of *Local Disaster Risk Management Plan Guideline 2011* in a participatory way including male and female representatives of various community-level stakeholders, representatives of ward office, municipality and as well as the representatives from the central level. The plan formed is transparent, accountable, gender inclusive and socially viable. Because of these attributes, the plan is expected to facilitate the community and government line agencies to implement the plan as per need.

The plan was formed after series of workshops, meetings, assessments and follow-ups with the community, ward officials and municipality. After hazard vulnerability and capacity assessment of the ward, earthquake, fire, epidemics and road traffic accident were listed as major hazards as mentioned in HVCA. Based on HVCA, the pre-disaster plan was formed to capacitate community to cope with disaster, minimize loss due to imminent disasters. Likewise, next emphasis was developing a DRM plan focusing on disaster situation to capacitate community for operating rescue, relief and response activities whenever disaster strikes. The third stage was to formulate a post-disaster DRM plan and this plan included activities of recovery, rehabilitation and reconstruction. The DRM Plan were made after identifying major risks and problems that might happen pre, during and post-disaster. Activities were planned to minimize risks by highlighting the major responsibilities of the community and stakeholders, identifying locally available resources and required period. The DRM plan is a document that requires annual review and update to make it operative. Pre-disaster plans are preparatory plans which need to be performed soon because plans for during and after a disaster are directly influenced by pre-disaster plans. Pre, during and post-disaster activities are described as follows:

Pre Disaster Plan (preparation, mitigation and prevention): Includes awareness; capacity building activities; improvement of physical infrastructures and capacitating human resources; institutionalization; development of plans, policies and strategies; protection of existing natural and social resources; mainstreaming development agendas, disaster, and livelihood etc.

During Disaster Plan (Emergency relief, response, search and rescue): Includes emergency help to disaster victims, search and rescue of victims, provide first aid, fulfilment of emergency basic needs for disaster-affected individuals, mobilization of human resources and task forces, management of camps, provide medical support, education and awareness activities during a disaster. Also, the plans incorporate concepts in coordination with stakeholders, ward officials and CDMC.

Post Disaster Plan (Recovery phase - rehabilitation and reconstruction): Includes shifting disaster-affected families to safe camps, provide basic facilities like food, clothes, water and sanitation to ensure their protection. The post-disaster plan also includes livelihood support activities, educational activities and activities that are conducted to minimize disaster risk that may occur in future. This plan also contains activities for 'Build Back Better'.

Earthquake (Before Disaster)					
Major Problem	Activities for disaster management	Major responsibilities	Management of resources		Timeline
			Internal	External	
<ul style="list-style-type: none"> • The community has not prepared materials that are required during a disaster for a response. • Communities are dependent on outsiders due to lack of prepositioning materials. 	<ul style="list-style-type: none"> • Preposition disaster preparedness materials (First Aid, Search and Rescue, Fire control, tarpaulin etc) in each cluster of the ward and handover to representatives of the cluster. 	<ul style="list-style-type: none"> • CDMC • Ward Office 	<ul style="list-style-type: none"> • Trained Human resources of CDMC • Budget allocated to Ward office. • Community buildings and schools for prepositioning materials. 	<ul style="list-style-type: none"> • Budget request to LMC. • JICA, Red Cross and other organizations. 	Till end of 2074 B.S
<ul style="list-style-type: none"> • Many human resources are trained on DRR but refresher training is not being organized. Also, they are not in regular communication with CDMC. 	<ul style="list-style-type: none"> • Refresher DRR, first aid, WASH, search and rescue training at least every 2 years. • Formation and reformation of task groups every year. 	<ul style="list-style-type: none"> • CDMC. • Different local stakeholders. • Small groups and clubs in the ward. • Ward officials 	<ul style="list-style-type: none"> • Human resources. • Budget allocated to Ward office. 	<ul style="list-style-type: none"> • Allocation of budget for disaster management by LMC. • GOs and NGOs for technical support on CBDRRM 	End of 2074 B.S
<ul style="list-style-type: none"> • Many partially damaged houses are risky to pedestrians and community. • In addition, street lamps are not available. 	<ul style="list-style-type: none"> • Demolish such houses as soon as possible with close communication between ward officials and house owner. • Install warning boards in risky zones. 	<ul style="list-style-type: none"> • CDMC • Ward Office • Community and household owners. 	<ul style="list-style-type: none"> • Human resources • Cluster Development Committees 	<ul style="list-style-type: none"> • LMC and various organizations 	End of 2074 B.S

	<ul style="list-style-type: none"> • Arrange street lights in such risky alleys to minimize accidents. 				
<ul style="list-style-type: none"> • Buildings are built against building codes. 	<ul style="list-style-type: none"> • Conduct awareness programs in support of LMC technical officials in each cluster. • Household visit, miking programs regularly to aware people on safe building construction. 	<ul style="list-style-type: none"> • CDMC • Ward Office • Various groups exist in the ward 	<ul style="list-style-type: none"> • Human resources. • Ward office 	<ul style="list-style-type: none"> • Technical Support from LMC • IEC materials 	Till end of 2074 B.S
<ul style="list-style-type: none"> • Most of the community buildings are not earthquake resistant while they are usually used for many purposes during and pre-disaster. 	<ul style="list-style-type: none"> • Approach with the related agency to allocate budget for making community buildings earthquake resistant. 	<ul style="list-style-type: none"> • CDMC • Ward office 	<ul style="list-style-type: none"> • Ward Chairperson 	<ul style="list-style-type: none"> • Budget for making buildings earthquake resistant 	Initiate from the current year 2074 B.S
<ul style="list-style-type: none"> • People are not aware of disaster preparedness activities, responsibilities and measures to minimize disaster impact. 	<ul style="list-style-type: none"> • Conduct disaster awareness programs from ward office mobilizing community level stakeholders like mother's group. • Include DRR messages in ward level programs. • Place hoarding boards with DRR information at the ward. • Disseminate IEC materials at households with DRR messages and safe open 	<ul style="list-style-type: none"> • CDMC • Stakeholders of community. 	<ul style="list-style-type: none"> • Human resources. • FCHVs • Child and youth groups. • Trained CDMC members. • open spaces 	<ul style="list-style-type: none"> • Posters and Pamphlets of DRR messages from LMC and various other organizations. 	Throughout the year.

	places in the ward.				
<ul style="list-style-type: none"> • Increase in haphazard urbanization at new settlement areas of the ward. 	<ul style="list-style-type: none"> • Conduct awareness activities in new settlement areas as well. • Strictly ensure implementation of building code and regular monitor by ward officials and monitoring team. 	<ul style="list-style-type: none"> • CDMC • Cluster Development Committees • Ward officials 	<ul style="list-style-type: none"> • Monitoring team of building construction. 	<ul style="list-style-type: none"> • Monitoring from the municipality. • Regular awareness training and activities to staffs and ward level monitoring team 	Regularly in the year 2074 B.S
<ul style="list-style-type: none"> • Electricity poles, lines and telephone lines are not managed properly which can create problem during earthquake 	<ul style="list-style-type: none"> • Approach with the related agency to properly tie and manage wires on the road to make them less risky. 	<ul style="list-style-type: none"> • Ward office • Cluster Development committees. 	<ul style="list-style-type: none"> • Cluster Development committees. 	<ul style="list-style-type: none"> • Related stakeholders and agencies 	<ul style="list-style-type: none"> • Initiate from the current year 2074 B.S
Earthquake (During Disaster)					
Major Problem	Activities for disaster management	Major responsibilities	Management of resources		Timeline
			Internal	External	
<ul style="list-style-type: none"> • Difficulty in rescue and relief activities due to the debris of collapsed houses and risk of unmanaged electric wires. 	<ul style="list-style-type: none"> • Try to remove collapse structure mobilizing local youth groups and local materials. • Seek help from government expert team. 	<ul style="list-style-type: none"> • CDMC • the local community, youth, mother groups and community people. • Cluster Development Committees. 	<ul style="list-style-type: none"> • Nepal Police, Mangalbazar. • Trained member from CDMC. 	<ul style="list-style-type: none"> • Financial support from LMC. • Technical support from Government and non - governmental organization 	<ul style="list-style-type: none"> • Immediately after disaster
<ul style="list-style-type: none"> • Delay in rescue from 	<ul style="list-style-type: none"> • Conduct search and rescue 	<ul style="list-style-type: none"> • Trained task 	<ul style="list-style-type: none"> • Fund allocated 	<ul style="list-style-type: none"> • Technical and 	<ul style="list-style-type: none"> • Immediately

Outsider.	<ul style="list-style-type: none"> activities mobilizing youth groups and community people. • Provide first aid to victims mobilizing doctors, nurses and Health volunteers of the ward. • For further treatment carry to nearby hospitals - Patan hospital, Global hospital etc. 	<ul style="list-style-type: none"> teams. • CDMC • FCHV • Doctors and nurses of the ward 	<ul style="list-style-type: none"> from ward office for disaster. • Trained task teams. 	<ul style="list-style-type: none"> material support. • Support from the hospital. 	<ul style="list-style-type: none"> y after disaster
<ul style="list-style-type: none"> • Historical monuments, temples, traditional resources could get affected. So, they may be lost. 	<ul style="list-style-type: none"> • Mobilize youth groups and community people for the security of those resources and keep them safe. 	<ul style="list-style-type: none"> • Youth groups • Community volunteers 	<ul style="list-style-type: none"> • Janaheet Women's group. • Yalamula Women's group. • Youth groups. 	<ul style="list-style-type: none"> • Security from Nepal Police 	<ul style="list-style-type: none"> • Immediately after disaster
<ul style="list-style-type: none"> • Affected households may not have a place to settle and unavailability of food, clothes, water and toilet. 	<ul style="list-style-type: none"> • The arrangement of temporary settlement at open spaces nearby clusters and schools in coordination with LMC, donors and ward. • The arrangement of food, water, cloths along with hygiene materials and toilets. 	<ul style="list-style-type: none"> • Community people • Guthi • Groups 	<ul style="list-style-type: none"> • Lalit Vikas School, Kutisauhal. • Shree Shanti School. • Guita Damar • Community themselves 	<ul style="list-style-type: none"> • Government and Non- government Organizations. 	<ul style="list-style-type: none"> • Immediately after disaster
<ul style="list-style-type: none"> • Fire may outbreak after an earthquake if fire and electrical appliances are not off. 	<ul style="list-style-type: none"> • Inform community people to put off the fire and electrical lines at their home while staying at 	<ul style="list-style-type: none"> • Family member. • Cluster Development Committees 	<ul style="list-style-type: none"> • Local habitants 	<ul style="list-style-type: none"> • Fire extinguisher in case of fire 	<ul style="list-style-type: none"> • As soon as possible as disaster

	temporary camps.				
<ul style="list-style-type: none"> • An interruption in the communication channel. So, the case of missing people and psychological disturbances in people may happen due to loss. 	<ul style="list-style-type: none"> • Collect information from family members by volunteers in the cluster and identify missing people. • Mobilize response team of the ward. • Counsel to affected families mobilizing volunteers. 	<ul style="list-style-type: none"> • Volunteers • Response Team 	<ul style="list-style-type: none"> • Community help • Volunteers 	<ul style="list-style-type: none"> • Support to search and rescue if anyone is missing 	<ul style="list-style-type: none"> • As soon as possible as disaster
Earthquake (After Disaster)					
Major problem	Activities for disaster management	Major responsibilities	Management of resources		Timeline
			Internal	External	
<ul style="list-style-type: none"> • Difficulty in passing ambulance and other service providing vehicle due to narrow road and debris collected due to the earthquake. 	<ul style="list-style-type: none"> • Clear debris from the road mobilizing different youth groups and mother groups mobilizing. 	<ul style="list-style-type: none"> • CDMC Team, LMC and local stakeholders. 	<ul style="list-style-type: none"> • Trained members from CDMC 	<ul style="list-style-type: none"> • Equipment and materials, training and financial support from LMC. • 	<ul style="list-style-type: none"> • Within 3 to 4 weeks after disaster
<ul style="list-style-type: none"> • Chance of transmission of water-borne diseases rapidly due to negligence in safe water and safe sanitation. 	<ul style="list-style-type: none"> • Awareness campaigns at camps mobilizing FCHV on Water Sanitation, Hygiene and Safe place. 	<ul style="list-style-type: none"> • Local youth groups and FCHV 	<ul style="list-style-type: none"> • Fund allocated from ward office for disaster. 	<ul style="list-style-type: none"> • Government and non-governmental organization for Relief package 	<ul style="list-style-type: none"> • Simultaneously with other activities of response.

<ul style="list-style-type: none"> • Problems may increase for settlement as government open spaces are very limited. 	<ul style="list-style-type: none"> • Proper planning for camp management in available spaces. • Support and aware displaced communities mobilizing community volunteers and various groups in the community. 	<ul style="list-style-type: none"> • Cluster Development Committees • Various groups 	<ul style="list-style-type: none"> • Human resources 	<ul style="list-style-type: none"> • Relief materials and other supports from various NGOs and INGOs. • NRCS • Nepal Police 	<ul style="list-style-type: none"> • After 2 weeks of disaster
<ul style="list-style-type: none"> • Poor and marginalized communities may not be able to reconstruct houses soon so due to economic condition. 	<ul style="list-style-type: none"> • The arrangement of settlements for certain time at open spaces nearby. • Support affected vulnerable HHs to access subsidy provided by the government. • Co-ordinate local cooperative companies to provide house loan in low interest. 	<ul style="list-style-type: none"> • Ward office, municipality, CDMC • Volunteers • Co-operatives 	<ul style="list-style-type: none"> • open spaces • Local finances and cooperatives 	<ul style="list-style-type: none"> • Materials, financial supports 	<ul style="list-style-type: none"> • After 1 - 2 months of the disaster.
<ul style="list-style-type: none"> • Stockpile materials may get missed • Aftershocks may repeat. So, learning from recent disaster and identifying gaps is necessary. 	<ul style="list-style-type: none"> • Discuss with local stakeholders of the ward and maintain proper logistic. • Note learnings from each and every group. • Conduct most important training like first aid, search and rescue etc to minimize further disaster effects. 	<ul style="list-style-type: none"> • CDMC • Ward officials • volunteers 	<ul style="list-style-type: none"> • Communication and co-ordination from CDMC. • Co-operation from stakeholders and community. 	<ul style="list-style-type: none"> • Advice and training from LMC and other organizations. 	<ul style="list-style-type: none"> • After 1 - 2 months of the disaster.

Fire (Before Disaster)

Major Problem	Activities for disaster management	Major responsibilities	Management of resources		Timeline
			Internal	External	
<ul style="list-style-type: none"> • Probability in leakage of Gas from gas cylinder used in the kitchen and may cause a fire. • Electricity and electronic appliances are used in every household and carelessness while using it can cause a fire. 	<ul style="list-style-type: none"> • Conduct awareness programs on the safe use of gas cylinders, electric appliances etc mobilizing mother's group. 	<ul style="list-style-type: none"> • Respected Tole Development Committees. • CDMC. • Elected ward committee members. • Youth and mother groups. • Ward Office 	<ul style="list-style-type: none"> • Human resources. • Fire Extinguisher in ward office. • Ponds and wells. • Arrange fund from ward office 	<ul style="list-style-type: none"> • Expert human resources. • More advanced equipment to control fire. NRCS and other organizations. 	
<ul style="list-style-type: none"> • Narrow alleys and compact houses at Chalchhen, Yalamul, Yangubahal areas of the ward can block ambulances to serve. • Also unmanaged and uncovered wires around that area are making riskier. 	<ul style="list-style-type: none"> • Install hose pipe through narrow alleys of Chalchhen, Yalamul, Yangubahal to put off fire where fire brigades are not accessible. 	<ul style="list-style-type: none"> • CDMC. • Ward Office • Cluster Development Committees. 	<ul style="list-style-type: none"> • Budget request from ward office • Support from local community 	<ul style="list-style-type: none"> • The budget for installing pipes. • Materials 	Start process from 2074 B.S

<ul style="list-style-type: none"> • The community is not adequately aware of preventive and control measures of fire. • Accidents may happen by children while playing and can be cause for the fire. 	<ul style="list-style-type: none"> • Conduct household level awareness for preventive measures of fire and conduct training for firefighting. • Practical training to put off a fire at the household level. 	<ul style="list-style-type: none"> • CDMC • Cluster Development Committees. 	<ul style="list-style-type: none"> • Budget request from ward office • Support from local community 	<ul style="list-style-type: none"> • Budget and trainer for conducting firefighting training. 	In 2074 B.S
<ul style="list-style-type: none"> • The community is not prepared for materials for controlling fire. 	<ul style="list-style-type: none"> • Store water to use during an emergency in few of the water tanks available in the ward. • Place a fire extinguisher in clusters of the ward. 	<ul style="list-style-type: none"> • CDMC • Cluster Development Committees • JICA and ENPHO 	<ul style="list-style-type: none"> • Budget request from ward office • Support from local community • Plan implementing budget from JICA and ENPHO 	<ul style="list-style-type: none"> • Addition support from municipality 	End of 2074 B.S.
Fire (During Disaster)					
Major Problem	Activities for disaster management	Major responsibilities	Management of resources		Timeline
			Internal	External	
<ul style="list-style-type: none"> • Fire may spread to nearby houses because houses are joint to each other. 	<ul style="list-style-type: none"> • Eliminate combustible and inflammable materials from houses nearby as soon as possible. 	<ul style="list-style-type: none"> • Local youth groups. • 	<ul style="list-style-type: none"> • Human resources. • Fire extinguisher 	<ul style="list-style-type: none"> • Fire brigade. • Expert. 	Immediately
<ul style="list-style-type: none"> • Narrow alleys and compact houses in core areas of the ward can block ambulances to serve. 	<ul style="list-style-type: none"> • Use available water sources to put off the fire. • Collect water available nearby • Start putting off fire together by the community. 	<ul style="list-style-type: none"> • Local youth groups. • CDMC • Trained people of community 	<ul style="list-style-type: none"> • Human resources. • Fire extinguisher 	<ul style="list-style-type: none"> • Fire brigade. • Expert. 	Immediately

	<ul style="list-style-type: none"> • Call municipal level expert and fire brigade. 				
<ul style="list-style-type: none"> • Loss of property and may be a human casualty as well. 	<ul style="list-style-type: none"> • Help to shift victims and physical materials in safe place as soon as possible using local materials and human resources. • Rescue people if they are trapped. • Support and counselling by neighbour and relatives 	<ul style="list-style-type: none"> • Neighbors and relatives • Rescuers. 	<ul style="list-style-type: none"> • Support from neighbours 	<ul style="list-style-type: none"> • Police and army 	Immediately
Fire (After Disaster)					
Major problem	Activities for disaster management	Major responsibilities	Management of resources		Timeline
			Internal	External	
<ul style="list-style-type: none"> • Loss of settlement 	<ul style="list-style-type: none"> • Arrange safe temporary settlement to the victim in nearby community building. 	<ul style="list-style-type: none"> • CDMC and Ward office. • Neighbors 	<ul style="list-style-type: none"> • Human resources (Communities) • Financial support • Temporary shelter. 	<ul style="list-style-type: none"> • Extra aid for victim 	-Within one week
<ul style="list-style-type: none"> • Loss of food and property. 	<ul style="list-style-type: none"> • Arrange fund for victim's living from ward and community • Manage food for affected families with help of the community. 	<ul style="list-style-type: none"> • CDMC and Ward office. • Neighbors 	<ul style="list-style-type: none"> • Food items. 	<ul style="list-style-type: none"> • Response materials and fund for reconstruction 	Just after an accident happens.

Epidemic (Before Disaster)					
Major Problem	Activities for disaster management	Major responsibilities	Management of resources		Timeline
			Internal	External	
<ul style="list-style-type: none"> The community is drinking water neglecting water purification and may cause illness. 	<ul style="list-style-type: none"> Conduct awareness activities on solid waste management, safe water and sanitation including one participant from each household every 3 months mobilizing mother's group, child group and youth groups, THP 	<ul style="list-style-type: none"> CDMC and tole health Promoter (THP) 	<ul style="list-style-type: none"> Human resources, (FCHVs) 	<ul style="list-style-type: none"> Financial support and technical support from DPHO and LMC and Private Hospitals 	<ul style="list-style-type: none"> Before rainy season
<ul style="list-style-type: none"> Wastes are not managed within ward and increase in pollution. 	<ul style="list-style-type: none"> Conduct awareness programs every 3 months. Involve members of every family. 	<ul style="list-style-type: none"> CDMC and tole health Promoter (THP) 	<ul style="list-style-type: none"> Human resources, (FCHVs) 	<ul style="list-style-type: none"> Financial support and technical support from DPHO and LMC and Private Hospitals 	<ul style="list-style-type: none"> Before rainy season
<ul style="list-style-type: none"> Unmanaged slaughter centres at Lolha 	<ul style="list-style-type: none"> Aware owners of slaughterhouse to keep it in safe place and keep it clean 	<ul style="list-style-type: none"> CDMC FCHVs 	<ul style="list-style-type: none"> Human resources, (FCHVs) 		
Epidemic (During Disaster)					
Major Problem	Activities for disaster management	Major responsibilities	Management of resources		Timeline
			Internal	External	
<ul style="list-style-type: none"> Difficult to identify 	<ul style="list-style-type: none"> Mobilize volunteers for the 	<ul style="list-style-type: none"> CDMC 	<ul style="list-style-type: none"> Well trained 	<ul style="list-style-type: none"> Technical support 	<ul style="list-style-type: none"> Immediately

particular area of contamination.	assessment. • Train community on safe drinking water and sanitation regularly.	• Female Community Health Volunteers and THP of LMC.	(FCHV) human Resources. • Pharmacies in the ward. Ward clinic	from DPHO and Public health Department of LMC.	
• Diseases can get transmitted quickly if measures are not taken in time.	• Mobilization of mobile health camps in affected areas. • Distribute chlorinated water in affected areas and surrounding community. •	• CDMC • Female Community Health Volunteers • Volunteers and THP of LMC.	• Well trained (FCHV) human Resources. • Pharmacies in the ward. • Ward clinic	• Technical support and medicines support from DPHO and Public health Department of LMC.	Immediately
Epidemic (After Disaster)					
Major problem	Activities for disaster management	Major responsibilities	Management of resources		Timeline
			Internal	External	
• The same problem may repeat if negligence is done on sanitation	• Continue awareness activities on safe drinking water, sanitation and solid waste management.	• Tole Sudhar Committee.(community development committee). • Community Disaster Management committee. • THP, FCHV DPHO	• Human resources	• Material and technical support from DPHO and Public Health Department, LMC	Quickly after epidemics
• Financial crises may	• Conduct income based activities	• Tole Sudhar	• Human	• Material and	Quickly after

affect low-income community people.	in the community. <ul style="list-style-type: none"> • Store Oral Rehydration Solutions and other basic medicines in ward clinic as per need. 	Committee.(community development committee). <ul style="list-style-type: none"> • Community Disaster Management committee. • THP, FCHV • DPHO 	resources	technical support from DPHO and Public Health Department, LMC	epidemics
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Road Accident (Before Disaster)					
Major Problem	Activities for disaster management	Major responsibilities	Management of resources		Timeline
			Internal	External	
<ul style="list-style-type: none"> • Excessive speed of vehicle. • Most of the roads are under construction, narrow and muddy. 	<ul style="list-style-type: none"> • Build Speed controlling block on road. (from Sundhara to chalche) 	<ul style="list-style-type: none"> • Ward office and related Tole Development committee. 	<ul style="list-style-type: none"> • Human resources 	<ul style="list-style-type: none"> • Financial and technical support from LMC. • Financial support and collaboration with associated government offices form ward office. 	2074/Chaitra
Road Accident (During Disaster)					
Major Problem	Activities for disaster management	Major responsibilities	Management of resources		Timeline
			Internal	External	
<ul style="list-style-type: none"> • If any accidents happen, the quick rescue couldn't be possible. • Quick communication with family and hospital could be difficult. 	<ul style="list-style-type: none"> • Contact ambulance of nearby hospital. • Give first aid to the victim with help of THP available near the accident spot. 	<ul style="list-style-type: none"> • Traffic Police • Police. • Community 	<ul style="list-style-type: none"> • Human resources. • Clinics and medical centres nearby accident area. 	<ul style="list-style-type: none"> • First aider and ambulance 	Immediately
Road Accident (After Disaster)					

Major Problem	Activities for disaster management	Major responsibilities	Management of resources		Timeline
			Internal	External	
<ul style="list-style-type: none"> • Difficulty in identifying family members of the victim. 	<ul style="list-style-type: none"> • Try to connect families and friend. • a report in Police station. 	<ul style="list-style-type: none"> • Traffic. • Police • Civilian 	<ul style="list-style-type: none"> • Human resource 	<ul style="list-style-type: none"> • Police and traffic to further investigate the case 	Within 5 days of the incident.

APPENDIX

Annex I: some glimpses for formulation of DRM plan



Participants working for understanding DRR terminologies in the 1st workshop.



Participants discussing on HVCA tools in the 1st workshop.



Participants working on Seasonal Calendar during the 1st workshop.



Participants working on DRR map of the community.



Ryoji Takahasi, ERAKV project team leader having closing remarks in the 1st workshop.



Group photo of participants along with project team in the 1st workshop.



Ward Secreary, Ward 8 welcoming the participants in the 2nd workshop.



A participant working on Community based DRR map.



Participants along with project team working in Town Watching.



Participants working on DRR map during Town Watching



Participants presenting group work in the 2nd workshop



Group photo of participants along with project team in the 2nd workshop.



Ward chairman, ward 8, welcoming participants in the 3rd workshop



Participants updating and revising HVCA data



Participants reviewing information on DRR carte.



Participant briefing on DRM plan prepared through group work



Participants discussing for prioritization of DRM plan.



Group Photo of participants along project team in the 3rd workshop.

Annex II: Name List of Community Disaster Management Committee, Ward 8

S.N	Designation	Name	Contact No	Address
1	Chairman	Hem Maharjan		Guitole
2	Secretary	Shree Krishna Khatri		
3	Treasurer	Saraswoti Bajracharya		Yalamula
4	Member	Ramita Maharjan		Guitole
5	Member	Sanukaji Maharjan		Pinche
6	Member	Buddhiman Maharjan		Subahal
7	Member	Sarmila Maharjan		Sako
8	Member	Uttam Shakya		Chapat
9	Member	Surendra Maharjan		Yalamula
10	Member	Bhagwan Maharjan		Saugal
11	Member	Maila Maharjan		Lola
12	Member	Khadgalal Maharjan		Balkumari
13	Member	Suman Maharjan		Guitole
14	Member	Subarna Maharjan		Guitole
15	Member	Suraj Sthapit		Kutisaugol

Annex V: Name list of participants in the workshop

Name list of participants in workshop on Learning Risk and Disaster Risk Reduction and Management System			
S.N	Participants' Name	Address	Contact
1	Mr. Abalesh Shrestha	Yangubahal Tole Sudhar Samiti	
2	Ms. Anju Shakya	Yangubahal Tole Sudhar Samiti	
3	Ms. Sirjana Shakya	Yangubahal Tole Sudhar Samiti	
4	Ms. Sanu Chhori Maharjan	Balkumari	
5	Ms. Sarmila Maharjan	CDMC	
6	Mr. Saasaram Maharjan	Youth club, Sako	
7	Ms. Laxmi Maharjan	Saraswati Maa Pucha, Sako	
8	Mr. Krishna Maharjan	CDMC Member	
9	Mr. Ratna Maharjan	Pinchhe	
10	Mr Manoj Maharjan	Youth representative, Pinchhe	
11	Mr. Bhim Pokharel	Lalit Bikash School, Kutisaugal	
12	Ms. Tulsi Neupane	Lalit Bikash School, Kutisaugal	
13	Ms. Rita Maharjan	Pinchhe Maa Pucha, Pinchhe	
14	Sanu Chhori Maharjan	Tole Health Promoter, Guitole	
15	Bimala Maharjan	Tole Health Promoter, Lhola	
16	Suman Maharjan	CDMC Member, Guitole	
17	Maaila Maharjan	CDMC Member	
18	Rajib Maharjan	Tole Sudhar Samiti, Lhola	
19	Nirmala Maharjan	Tole Health Promoter, Subahal	
20	Pramila Maharjan	Subahal Maa Pucha	
21	Durga Maharjan	Subahal Maa Pucha	
22	Ramesh Maharjan	Lhola	
23	Binod Maharjan	Lhola	
24	Ramita Maharjan	CDMC Member	
25	Ram Maiya Maharjan	Guitole Maa Pucha	
26	Baburaja Maharjan	Guitole Tole Sudhar Samiti	
27	Indra Kumari Shakya	Guitole Maa Pucha	
28	Maiya Maharjan	Yalamula Maa Pucha	
29	Bina Maharjan	Yalamula Misha Pucha	
30	Laxmi Maharjan	Yalamula Misha Pucha	
31	Pranish Maharjan	Subahal	
32	Mr. Sanukaji Maharjan	Guita Domar Samrakchha samiti	
33	Sujin Maharjan	Lhola Tole Sudhar Samiti	
34	Jasmine Maharjan	Gashi Tole Sudahr Samiti	
35	Dasha Maharjan	Subahala Maa Pucha	

Name list of participants in workshop on Preparation of Community-Based DRM Map, Formation of Evacuation Map and Plan			
S.N	Name	Organization/ Address	Contact
Special Participation from ward office and municipality			
1.	Harish Chandra Lamichhane	Engineer, LMC	
2.	Hem Bahadur Maharjan	ward president, LMC - 8	
3.	Shree Krishna Khatri	Ward Secretary - LMC - 8	
Community Participation			
4.	Suman Maharjan	CDMC, LMC - 8	
5.	Sanuchhori Maharjan	Gashitole - 8	
6.	Anju Shakya	Yangubahal - 8	
7.	Sanuchhori Maharjan	THP Guitole -8	
8.	Sahil Maharjan	Guitole - 8	
9.	Bimal Maharjan	Ward health clinic - 8	
10.	Rita Maharjan	Pichhen Maa Pucha -8	
11.	Nirmala Maharjan	THP Guitole -8	
12.	Ramila MAharjan	CDMC, LMC - 8	
13.	Bina Maharjan	Yalamul Misha Pucha	
14.	Maiya Maharjan	Yalamul Misha Pucha	
15.	Jasmine Maharjan	Gashi tole -8	
16.	Nirmala Maharjan	Subahal Maa Pucha -8	
17.	Roji Maharjan	Subahal Maa PUcha - 8	
18.	Uttam Shakya	Chapat tole Sudhar Samittee -8	
19.	Buddhi Man Maharjan	Subahal Tole sudhar samittee -8	
20.	Krishna Maharjan	Elected ward member, LMC - 8	
21.	Tulashi Prasad Neupani	Lalit Bikash School	
22.	Prakash Maharjan	Elected ward member, LMC - 8	
23.	Bhim Pokharel	Lalit Bikash School	
24.	Geeta Maharjan	Social mobilizer, LMC -8	
25.	Laxmi Maharjan	Yalmul tole sudhar samittee - 8	
26.	Dev Lal Maharjan	Balkumari Mandir Samrakchyan Samittee	
27.	Bikash Maharjan	Balkumari Mandir Samrakchyan Samittee	
28.	Ram Maya Maharjan	Guitole Maa Pucha	
29.	Indra Kumari Shakya	Guitole Maa Pucha	
30.	Laxmi Maharjan	Elected ward member , LMC 8	
31.	Sanu Kaji Maharjan	Guitadamar Samrakhchyan Samiti	
32.	Saraswoti Bajracharya	Yangubahal -8	

33.	Baburaja Maharjan	Guitole -8	
Representation from ENPHO and JICA project team			
34.	Luna Thapa	RRNE JICA	
35.	Natsuki Takeuchi	RRNE JICA	
36.	Raj Mukut Bhusal	RRNE JICA	
37.	Yoshihiko Uchikura	RRNE JICA	
38.	Apil K.C	ERAKV JICA project	
39.	Miki Kodama	ERAKV JICA project	
40.	Merina Maharjan	ENPHO	
41.	Subarna Maharjan	ENPHO	
42.	Sarmila Maharjan	ENPHO	
43.	Rajesh Byanjankar	ENPHO	
44.	Bivor Maharjan	ENPHO	

Name list of participants in workshop on Prioritization of Disaster Risk Management Plan			
S.N	Name	Designation/ Address	
Special participation from Governmental Organization			
1.	Hem Maharjan	Ward Chairperson / Chairperson, CDMC	
2.	Harish Chandra Lamichhane	Senior Engineer, LMC	
3.	Shrikrishna Khatri	Ward Secretary / Secretary, CDMC	
4.	Gita Maharjan	Social Mobilizer, LMC Ward - 8	
Community Participants			
5.	Prakash Maharjan	Elected ward member	
6.	Krishna Maharjan	Elected ward member	
7.	Laxmi Maharjan	Elected ward member	
8.	Uttam Shakya	CDMC member	
9.	Sanukaji Maharjan	CDMC member	
10.	Suraj Sthapit	CDMC member	
11.	Sarmila Maharjan	CDMC member	
12.	Nani Maharjan	Representative of mother's group	
13.	Sanu Chori Maharjan	LMC - 8	
14.	Jasmin Maharjan	LMC - 8	
15.	Suman Maharjan	CDMC member	
16.	Saraswoti Bajracharya	Treasurer, CDMC	
17.	Tulashi P. Neupane	Teacher	
18.	Bhim P Pokharel	Teacher	
19.	Surendra Maharjan	Tole representative	
20.	Sanu Krishna Chitrakar	Tole representative	
21.	Kiran Gobinda Vaidhya		
22.	Sushil Man Shrestha	Tole representative	
23.	Rita Maharjan	Representative of mother's group	
24.	Sanuchori Maharjan	THP	
25.	Nirmala Maharjan	THP	
26.	Bimala Maharjan	THP	
27.	Sahil Maharjan	Representative form Guitole	

28.	Indra Kumari Maharjan	Representative form mother's group
29.	Ram Maya Maharjan	Representative form Guitole
30.	Subarna Maharjan	CDMC Member
31.	Anju Shakya	Tole representative
32.	Shrijan Shakya	Tole representative
Representation from ENPHO and JICA Project Team		
	Bivor Maharjan	Project Co-ordinator, ENPHO
	Rajesh Byanjankar	Assistant Project Officer, ENPHO
	Sarmila Gwachha	Assistant Project Officer, ENPHO
	Merina Maharjan	Assistant Project Officer, ENPHO
	Ani Maharjan	Finance Officer, ENPHO
	Miki Kodama	CBDRRM Expert, JICA
	Apil K.C	Consultant, JICA

Annex VI: Attendance sheet of workshop participants

Environment and Public Health Organization (ENPHO)
 JICA project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley (ERAKV) in Nepal
 2 days Workshop on Learning Risk and DRM System of pilot ward

उपस्थिति

मिति: २०७३/१२/२४ स्थान: गुडिचौल मिका, ल.पु.नं. ५१

क्र.सं	नाम	ठेगाना	प्रतिनीधि	सम्पर्क नं	हस्ताक्षर	
					पहिलो दिन	दोस्रो दिन
७०	शुक्लमसु प्रेम	चन्द्रबहाल	बाल सुब्बा			
७१	शिला चौधरी	"	"			
७२	सिर्जना खान	"	"			
७३	सानु शोरी महर्जन	बालकुमारी	शोरीको प्रानि			
७४	शक्ति लाल महर्जन	संगी	मिपद व्यवस्थापन			
७५	सालमन महर्जन	सा.का	मुद्या			
७६	लक्ष्मी महर्जन	" "	असम्पत्ती शो.पु.			
७७	सुरज महर्जन	भद्र	CO M.C. Memb			
७८	रमण "	पि.ड.	प्रति निवेद			
७९	मनोहर "	"	युवा प्रति निवेद			
८०	प्रमि पोखरेल	ल.पु. कुवैरिगत	लाभित विवेद			
८१	तारुणी गार्गान	"	"			
८२	विता महर्जन	पि.ड.	शो.पु. प्रतिक			

Environment and Public Health Organization (ENPHO)
JICA project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley (ERAKV) in Nepal
 2 days Workshop on Learning Risk and DRM System of pilot ward

उपस्थिति

मिति: २०७३/१२/२४

स्थान: गण्डकाल मंका, काठमाडौं, ल.पु.न.पा

क्र.सं	नाम	ठेगाना	प्रतिनीधि	सम्पर्क नं	हस्ताक्षर	
					पहिलो दिन	दोस्रो दिन
✓ १५	सायब हरेण महेर्जण	गण्डकाल	T.H.P			
✓ १६	किमला महेर्जण	लौक	THP			
✓ १६	सुश्रवा महेर्जण	COMC-४ गण्डकाल	COMC-४ सल्लेख			
✓ १७	साइला महेर्जण	लाक	COMC-४ सल्लेख			
✓ १९	बाबुराज महेर्जण	लाक	राजेश्वर महेर्जण			
✓ २०	हिमाल महेर्जण	गण्डकाल	T.H.P			
✓ २१	प्रमिला महेर्जण	सुबेदाल	मा फुल			
✓ २२	कृष्ण महेर्जण	सुवादेवा	मा फुल			
✓ २३	प्रधान प्रधान	सुवादेवा	मा फुल			
✓ २४	अमिता महेर्जण	सुवादेवा				
✓ २२	इमोला	लाक				
✓ २६	विष्णु महेर्जण	लाक				
✓ २७	शर्मिला महेर्जण	गण्डकाल	C.D.M.C			

Environment and Public Health Organization (ENPHO)
JICA project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley (ERAKV) in Nepal
 2 days Workshop on Learning Risk and DRM System of pilot ward

उपस्थिति

मिति :

स्थान :





क्र.सं	नाम	ठेगाना	प्रतिनीधि	सम्पर्क नं	हस्ताक्षर	
					पहिलो दिन	दोस्रो दिन
22	Harish Chandra Lemichhale	Lalitpur, Metropolitan City	LMC			
23	Apil K.C.	Kusumthi, Lalitpur	JICA Project			
20	Miki Kodama	(Kobe, Japan)	JICA ERAKV Project			
29	राजेश्वर महर्जन	गुडहोले	माँ पुच			
32	बाबुराज महर्जन	डाईरोल	दोल सुधार			
32	इन्द्र कुमार शाक्य	गुडहोले	माँ पुच			
34	प्रेम महर्जन	महर्जन	माँ पुच			
34	विना महर्जन	थलमूल	मिसा पुचः			
36	लक्ष्मी महर्जन	थलमूल	मिसा पुचः			
36	प्रतिश महर्जन	सुबाहेत				
37	स्वानुभाजी महर्जन	पिपे	गु.दा.स.क.			
35	सुनिन महर्जन	लीन-ट	दोल सुधार			
30	जोसिमन महर्जन	पारसि गाँ.सु.स	गालि दाँ.सु.स			

Environment and Public Health Organization (ENPHO)
JICA project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley (ERAKV) in Nepal
 2 days Workshop on Learning Risk and DRM System of pilot ward

उपस्थिति

मिति : २०७३-१२-२५

स्थान :

क्र.सं	नाम	ठेगाना	प्रतिनीधि	सम्पर्क नं	हस्ताक्षर	
					पहिलो दिन	दोस्रो दिन
१	होमि जे. देवान	बुधनका पालिका, एच.पु.	डा. प्रकाश कोचिष्टर	—		
२.	Rudra Pd. Gaire	" "	कृष्णमाला षडुग, २१६८-	—		

Environment and Public Health Organization (ENPHO)
 The Project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley in Nepal (ERAKV)
Attendance Sheet

Program/Event: 2 day workshop on PRR mapping and DRM planning harmonization -
 Venue: Manika Chae, Guitale

Date: 2074-08-17 and 2074-08-18

S.N	Name	Organization/Address	Contact	Signature	
				1st day	2nd day
1	Suman Mahajan	CDHC - LMC - 8 kumber			
2	Sanechhari Maharjan	स्टाट टिड #8			
3	8165 01122	११, 2, 20, 21, 22 - 8			
4	Sanu chori Maharjan	T.H.P. टिडले - 8			
5	Sahil Mahajan	Guitale - 8			
6	Bimel	वसिष्ठानाथ आर्या - 8			
7	Rites Maharjan	गितले मा, गुते			
8	Nirmala Maharjan	T.M.P गुड्डा - 8			
9	Ranjita Maharjan	C.D.M.C - 8			
10	Bina Maharjan	यल्ले मिति गुते			
11	Maitya Maharjan	पुस्तक मिति गुते			
12	Jasmin Maharjan	गितले - 8			
13	Nirmala Maharjan	गुड्डेले मा गुते			
14	Rodi maharjan	गुड्डेले मा गुते			
15	Uttam Sherkya	Chapat Tale			
16	Buddhiman Maharjan	Subhad Tale			
17	Shreekrishna Khatri	अन्य ठाउँ			

Environment and Public Health Organization (ENPHO)
 The Project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley in Nepal (ERAKV)
Attendance Sheet

Program/Event: 2 day workshop on DRR mapping and DRM planning /formation
 Venue: Manako Chhe, Guwote
 Date: 2074-03-17 and 2074-03-18

S.N	Name	Organization/Address	Contact	Signature	
				1st day	2nd day
3	Hanish Chandra Lamichhane	Lalitpur Metropolitan city			
	Luna Thapa	RRNE JICA			
	Natsuki Tokunoh	"			
	Raj Mukut Bhusal	" Project			
	Toshiko Uchikura	"			
	Hem Mahajan	Lalitpur Metropolitan			
	Subarna Mahajan	ENMID			
	Masina Mahajan	"			
	Sasmita Mahajan	"			
	Rajesh Byambakar	"			
	Priya Mahajan	"			
	Apil K.C.	ERAKV JICA Project			
	Miki Kadama	JICA ERAKV Project			
	Subarna				

Environment and Public Health Organization (ENPHO)
 The Project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley in Nepal (ERAKV)
Attendance Sheet

Program/Event : 2 day workshop on DRK mapping and DRM planning/formations
 Venue: Manika Chhe, Gauri-tole
 Date: 2074-08-17 and 2074-08-18

S.N	Name	Organization/Address	Contact	Signature	
				1st day	2nd day
20	Krishna May Mahajan	चौ. एस्टेब्लिश्मेन्ट			
21	Pulasi Prasad Neupane	habif Bikash school.			
22	Potkash Mahajan	8 No. ward member			
23	Bhim Pokhriol	Lalit Bikash.			
24	Geeeta Mahajan.	S.M-08.			
25	Laxmi Mahajan	बलभूत			
26	दुर्गा लामा महजन	दास कुमारी खत्री			
27	विकास महजन	बाल कुमारी खत्री			
28	शुभमती महजन	गडौल नै पुर			
29	सुवर्षा महजन	सुवर्षा			
30	सुमित्रा खत्री	सुवर्षा			
31	इन्द्र कुमारी शाय	गुडन साउथ			
32	लक्ष्मी महजन	वडा सदस्य			
33	मानुकाणी महजन	गुडन साउथ स.स. नै			
34	सुवर्षा खत्री	गुडन साउथ			
35	बाबुराजा महजन	गडौल नै पुर			
36	विजो महजन	ENPHO			

ब्राह्म मिति २०७४/०५/०९ गते मंगलबारका दिन यस ललितपुर
 महानगरपालिका वडा नं. ०८ का वडा अध्यक्ष श्री हेम
 महर्जन एवं नो अध्यक्षतामा वडा स्तरीय विपद जोखिम
 व्यवस्थापन योजना प्राथमिकीकरणको लागि वपिनो कार्य
 शाला गोष्ठी, २०७४ मा निम्न अनुसारको उपस्थिति
 रहेको ।

क्र.सं.	पद/विभाग.	नाम थर.	फो. नं.	हस्ताक्षर.
१)	अध्यक्ष	श्री हेम महर्जन.		
२)	वडा सदस्य.	श्री प्रकाश "		
३)	"	श्री कृष्ण "		
४)	"	श्री लक्ष्मी "		
५)	वडा सचिव.	श्री श्रीरत्न सुत्री.		
६)	आ.प.	श्री जीता महर्जन.		
७)	सदस्य.	श्री. उत्तम शान्त.		
८)	"	श्री. आनन्दली "		
९)	"	श्री. सुरज स्थापित		
१०)	"	श्री शार्वेला महर्जन		
११)	कुडटोल प्रा.पुस	श्री नानी "		
१२)	गर्सी लेल.	श्री सायुधोरी "		
१३)	" "	श्री. लक्ष्मीन "		
१४)	सदस्य	श्री सुजन "		
१५)	कोषाध्यक्ष	श्री सरस्वती कर्णकार		
१६)	ललित मा. वि.	श्री तुलसी प्र. न्यौपाने		
१७)	" "	श्री श्रीम प्र. पोरबरेल.		
१८)	सदस्य	श्री सुरेन्द्र महर्जन.		
१९)	सौजल ले.	श्री. आनुरुद्ध विक्रम.		
२०)	"	श्री किरण जोतिरे वैद्य		
२१)	कुडटोल	श्री नानी महर्जन		
(२०)		श्री सुशील शाह शर्मा		
२१)	सिपा महर्जन			
२२)	पिन्धु मा पुन	श्रीता महर्जन		
२३)	रामु हाडी महर्जन T.H.P.	रामु हाडी महर्जन		
२४)	१५१८ T.H.P.	गिरीला महर्जन		

24	वडा नं ४ THP	विमला महजन	
25	वडा नं ४ गोलमखेल ३ ENPHO	अजि महजि	
26	Miki Kodama	JICA Project Team	
27	April २००८	..	
28	Garnilo Gwachho	ENPHO	
29	Sahil Maharjan	Quitole	
30	रवि कुमार शाह	उड टोल	
31	Ram maya	Quitole	
32	विमला महजन	ENPHO	
33	नारदा महजन	u	
34	सवर्ण महजन	वि:ध.स-८	
35	हरिश्चन्द्र लामिदान	लमम नं.पा	
36	जय व. तामाड		
37	अनिल का.पु	यंगुवाहा	
38	सिर्जना शान्य	यंगुवाहा	
39	प्रमोद प्रधान	ENPHO	
40	सत्येश धरमजका	ENPHO	

निर्णय :

आफ्नो यस कार्यशाला जोषीबाट निम्न लिखित योजना एक JICA २ ENPHO को परित्रोजनामा प्रस्तापीत गर्ने निर्णय गरियो।

- १) ८ नं वडाका सबै टोल टोलमा २ वटा fire extinguisher राख्ने निर्णय गरियो।
- २) प्रत्येक टोलहरूमा त्रिपाल २० वटा राख्ने निर्णय गरियो।
- ३) प्रत्येक टोलहरूमा त्रयाङ्ग १ वटा राख्ने निर्णय गरियो।
- ४) प्रत्येक टोलहरूमा emergency light + mega phone + wire cutter + track राख्ने निर्णय गरियो।
(बाकस)

प्रस्तावित माथि उल्लेखित निर्णयहरूमा विपद व्यवस्थापनका

आमाची आवश्यकता अनुसार थप घट गरी वितरण गर्ने
सन्निवेश।

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