

**APPRAISAL OF EMERGENCY AND DISASTER STATUS  
IN  
NEPAL**

Action Aid Nepal  
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We hope that this study and findings result will be helpful to Action Aid Nepal to formulate policies and procedures defined the disaster mitigation programs to lunch in the disaster prone area in an effective way.

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## **1. Introduction**

Action Aid Nepal (AAN) has been working since 1982. The main objectives of ANN is to support the community toward poverty eradication. It has gained a lot of experience from the field by direct intervention through area based integrated social development program initially and recently, it has focused in its all works within major five priority themes; i. Poverty policy and program, ii. Education, iii Community forestry, iv. Gender equity, v. Some extent in emergency supports

## **2. Objectives of the Study**

The main objective of present study is to set up for the appraisal of disaster profiles who are involving in the disaster preparedness, relief works and awareness to the people for precaution measures. Under which review has been made to identify the nature and extent of emergency disaster in the past events and to find out the impact of disaster, emergency cases, basic framework of vulnerability. Government mechanism and information system represents role of the Army, Police and Civil Societies, which assess exciting practice and learning logistics and rehabilitation.

## **3. Methodology**

Action Aid Plan has assigned to collect the information from governmental and non-governmental organizations and international non-governmental organizations (HMG, NGO, INGO) who are contributing to disaster mitigation activities in Nepal. This study helps for the coordination, sharing exchanges ideas and experiences to disaster mitigation and management with each others different governmental and non governmental organizations to run the disaster preparedness activities, awareness development to the people who are living in the disaster prone area. For this purpose first we collected the documents, published articles and other related documents of past disaster and reviewed of them. The team visited to concerning governmental and nongovernmental organizations and collected the information of their emergency input/contribution activities to the disaster mitigation program in Nepal. First we visited to United Nation Development Program (UNDP) and discussed with the chief of Disaster mitigation program and collected the information of disaster management activities. Next day we visited Oxfam and United Mission to Nepal to collect the disaster information activities. Subsequently team surveyed Department of Water induced Disaster Prevention (DWIDP) and Disaster Preparedness Network (DPNET). Similarly team visited to Plan International and Disaster Relief section under the Ministry of Home. Lastly the team visited Lutheran World Federation, Nepal Red-Cross Society (NRCS) and National Society for Earthquakes Technology (NSET). After discussion with concerning representatives of the different government and non-government organizations this short introductory profiles of their objectives and different activities about the disaster preparedness and mitigation has been introduced.

#### 4. Disaster Evidence in Nepal

The Kingdom of Nepal is facing different types of disasters among which flood landslides/river cutting, fires, earthquake and epidemics are recurring almost every year. Several earthquake of big and small scale up to 8.4 Rector were seemed in the past years.

Disaster management has received a great deal of attention after 1993 disaster of Central Nepal by various Governmental and Non Governmental organizations. In Nepal disaster management is extremely important as 83 percent of the country is mountainous and hilly remaining 17 percent is covered by flat land Terai. The country is characterized by fragile, geologically young and seismically active. Due to tremendous difference in altitude (60m to 88848m) within the 200km average width of Nepal, all most all types of climatic zones ranging from tropical to arctic are represented. Nearly 70 to 80 percent of the total rainfall occurs within 4 month from June to September. The mean annual precipitation is almost 1530mm in the country. The variation ranges from less the 300mm in the dry region to more than 5000mm in the wet region. Temperature goes on decreasing from south to north with increasing altitude. The highest mean maximum temperature of almost 40<sup>0</sup> centigrade prevails in the southern plain of western terai and falls below 0<sup>0</sup> centigrade temperature in the snow cold mountains of the northern region in winter season. Nepal is an agrarian country; agriculture accounts for over 90 percent of the total labour force. The population growth is 2.08 percent.

Nepal has various types of landforms and soil types. Three major river systems drain the whole country. These river systems have more than 6000 tributaries.

Most of the rock strata dip northerly, one gain the impression that the normal order of the deposition is inverted, that the youngest rocks lie at the bottom of the sequence with the oldest near the top. There are two major sets of linear features occur along river courses and even small scale structures are found to be reflected along the trends of the rivers. Generally, the hilltops are constituted by resistant and hard rocks, whereas the valley areas consist of soft rocks.

The major types of the land-use are agriculture, forest, grazing and shrub land covering about 28, 37,12 and 5 percent of the country respectively remaining 18 percent includes snow, rock outcrop, water bodies etc.

Table 4.1

Land cover	Area covers in percentage	Population in percentage
Mountain	23	7.5
Hill	42	45.5
Terai	35	46.7

Source: Case Study on Landuse Planning development in Nepal by C.K. Sharma

Table 4.2. Population density of person /per sq. km

	For total land	For arable land
Mountain	28	890
Hill	137	965
Terai	253	667

Source: Case Study on Landuse Planning development in Nepal by C.K. Sharma

### 4.3. Major Disasters in Nepal

As per the Ministry of Home Affairs, 19,675 persons lost their lives due to various types of disasters from 1983 to 1999. Epidemic is the major disaster accounting 58.8 percent out of the total loss of human lives by various disasters. Epidemic includes diarrhoea, dysentery, encephalities, jaundice, gastro-interitis, typhoid etc.

Landslides and flooding are the most common disaster in the country, it shares about 28.7 percent. Landslides occur in the hill slopes of the middle mountain region causing disaster as population density is high in this region. The landslides, debris flow and floods of 1,993 in the Central Nepal is taken as the biggest water induced disaster-causing death of 1,336 persons damaging about 17,113 houses and more than Rs.5million estimated loss.

About 6 percent of the losses of human live by Fire during 1983-1999. Fire disasters are common in individual houses and forests of Terai. Forest fire can be seen in mountains and hills during hot climate and windy season from April to September.

Earthquake of 1934 with 8.4 Rector scale is the biggest one, which accounted 16,875 persons dead and about three hundred thousand houses destroyed all over the country. The earthquake of 1988 with its epicenter in the Udaipur scaled 6.6 Rector and claimed 721 persons dead and 1,05,099 houses destroyed in the Eastern Nepal.

The avalanches of November 1995 in Manag, Solukhambu, Taplejung, Mustang, Panchthar and Jumla caused panic to the mountaineers trekkers and local residents. The avalanches recorded 63 persons dead including 22 foreigners and 21 houses destroyed.

Table 4.3. Disaster types in Nepal

Types of disaster	Location		Reasons
	Major	Minor	
Earthquake	Hill	Terai	Indo Tibetan Plates
Flood	Terai	Hill	Irrigation, Structures
Landslides	Hill		Geomorphology Deforestation Encroachment of marginal land
Fire	Terai	Hill	Lack of awareness Construction Materials close Dwelling Thatched roofs

Source: DSCWM

Table 4.4. Loss of lives by disasters in Nepal since 1984-1993

Types	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Earth quake		-	-	-	-	721	-	-	-	2	-
Flood and Landslides	293	363	420	315	391	328	680	307	93	71	1336
Fires	69	57	52	96	62	23	109	46	90	97	43
Epidemics	217	521	915	1101	426	427	879	503	725	1128	100
Storm/Thunder bolt	-	-	-	-	2	-	28	57	63	20	45
Avalanches	-	-	-	-	-	14	20	-	-	-	-
stampede	-	-	-	-	-	71	-	-	-	-	-
Total	579	941	1387	1512	881	1584	1716	913	971	1318	1524

Source: Ministry of Home

Table 4.5. Loss of lives by disasters in Nepal since 1994-1998

Type of Disaster	1994	1995	1996	1997	1998	1999	Total	In Percent
Earthquake	-	-	3	-	-	-	-	3.7
Flood /Landslides	49	203	258	83	273	193	5656	28.7
Fire	43	73	61	65	54	39	1079	5.5
Epidemic	626	520	494	951	840	1207	1180	58.8
Windstorm Hail/ thunder	47	34	75	49	23	22	465	2.4
Avalanches	-	43	4	12	-	5	98	0.5
Stampede	-	-	-	-	-	-	71	0.4
Total	765	873	895	1160	1190	1466	19675	100

Source: Ministry of Home

Table 4.6. Loss of life and properties (1999)

Drainage types	People			Family affected	Life stock	House destroyed	Cattle shed	Land loss in ha	Loss in NRs
	Dead	Missing	Injure						
Flood and Landslide	193	47	91	8925	458	3382	125	177.32	360116970
fires	39	-	10	1065	148	1035	52	-	45230916
Epidemics	1207	-	-	6119	-	-	-	-	-
Wind and hail erosion	6	-	7	293	1	51	3	-	5516985
Thunder Bolt	16	-	30	55	49	23	8	-	166242
Earth Quake	-	--	-	90	1	90	-	-	633200
Avelanches	5	-	-	1	22	5	-	-	-
Total	1466	47	138	16548	679	4586	188	177.32	41360491

Source: Ministry of Home collected by DWIDP

The losses of life and properties of 1993 to 1998 are attached at the an Appendix

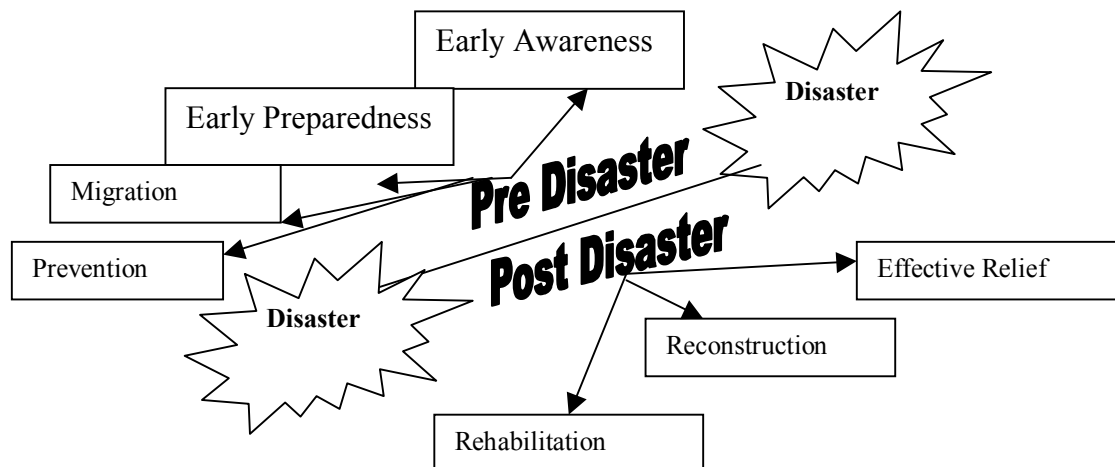


## Disaster

A disaster is an event, natural or man made, sudden or progressive, which impacts with such severity that the effected community has to respond by exceptional measures (Disaster Mitigation in the Asia and Pacific by ADB).

## Hazard

Probability of a potentially damaging natural or man made phenomena occurring at a given place or time.



## 4.2. Disaster Management Frame Work in Nepal

### 4.2.1. Legal Frame Work

Natural calamity act of 1982 is the landmark in disaster management history of Nepal. The act stresses on post disaster activities like rescuer and relief only. The act was amended in 1992 and made the legal framework board encompassing per "Act". The natural calamity means earthquake, fire, storm, flood, landslide, heavy rain, and drought, famine, epidemic and other similar natural disaster including accident caused by explosion or poisoning or industrial accident and any other kind of disaster. Main provisions in the legal framework are-

- Natural calamity relief work, including advance preparation, rescue and relief and rehabilitation.
- Formation and functioning of natural calamity relief committees at central, regional, district and local level.
- Disaster area can be declared as disaster area for specified period, and mandate to the government for giving different orders to any one in order to carry out the relief works in disaster area.
- Formation of Natural Calamity Aid fund at Central, Regional, District and Local Level and according and auditing the receipt and expenditure of the fund.
- Penalties in the branch of the Act and authority to hear the Case.

### 4.2.2. Institutional Frame Work

Ministry of Home Affairs in coordination with other government and non governmental organizations, works as a focal point in disaster management (see Annex)

1. The central disaster relief committee chaired by the honorable Home Minister is the apex body in the disaster management.
2. The central committee is given the mandate to constitute relief; treatment subcommittee is given the mandate to constitute relief; treatment sub committee coordinated by the health minister and shelter and rehabilitation sub committee coordinated by the housing and physical planning minister.
3. The function and duties of the central committee includes, formulation of the national policy regarding relief, rehabilitation, reconstruction, advance preparation implementing polices and programs approved by the government, operating the central Natural Calamity Aid fund, giving Directives to district committees and local committees and other functions.
4. The government has formed district natural Relief Calamity Committee in 75 districts of the country. The district committee chaired by the Chief District Officer is composed of 13 members.

#### **4.3. Others (IDNDR)**

1. International Decade for natural Disaster Reduction National Committee formed in response to the united Nations General assembly resolution 22<sup>nd</sup> December 1989 declaring the decade of 1990-2000AD as the international decade for the natural disaster reduction. The committee has prepared action plans, which includes disaster preparedness, response, mitigation, rehabilitation and reconstruction. Ministry of home chairs this committee.
2. A national comprehensive plan on disaster management is prepared in 1991 in cooperation with UNDP/UNDRO/UNDTCD. The plan covers several aspects of disaster management. It also emphasized on hazard mapping risk assessment, vulnerability analysis etc.
3. Organizations of His Masesty's Government (HMG)

**Table 6. Involvement Organization in the Sectoral Activities**

Activity	Government Agency
National Policy and Planning	Ministry of Home National Planning Commission
Earthquake	Department of Mines, Geology Ministry of Housing and physical Planing
Landslides	Ministry of Forest and Soil Conservation Department of Mines and Geology
Floods	Department of Irrigation Department of Hydrology and Meteorology
Fire	Ministry of Home Ministry of Local Development

Infrastructure Damage	Department of Roads
Disaster preparedness programs	Ministry of Home Ministry of Education
Disaster response	Ministry of Home Ministry of Health
Disaster rehabilitation	Ministry of Home Ministry of Education Ministry of Industry Ministry of Finance
Mitigation	Ministry of Finance Ministry of Forest and Soil Conservation Ministry of Water resource Ministry of Local Development Ministry of Home Ministry of Foreign Affairs Ministry of Industry Ministry of Health Department of Mines and Geology

#### **4.4. International Agencies**

Several international agencies at government and non-government level are engaged to cope with disasters. JICA, UNDP, GTZ, EU, DANIDA are some of the agencies who are helping directly or indirectly in disaster management programs.

#### **4.5. Response Mechanism**

##### **4.5.1. Disaster Preparedness**

Disaster preparedness includes measures related to national policy and planning, measures related to geological, hydrological and meteorological hazard assessment, identifying and assessing vulnerability of disaster prone infrastructures like roads and bridges, strengthening fire fighting capabilities, awareness raising program, training and rehearsals, disaster management information system and stockpiling of emergency, relief supplied and rescue equipment and personnel's.

##### **4.5.2. Disaster Response**

Response activities includes evaluation, search and rescue, emergency need assessment team at various levels, communication and transport, temporal settlement including settlement plan at the local level, survivor response, coping and security, setting up of health camps. District disaster relief committee acts immediately after the occurrence of disaster, it reports every things about disaster in the center as per the norms clothes, utensils, food and certain amount of money that will be distributed to the Victims.

#### 4.5.3. Rehabilitation and Reconstruction

In this landsuse damages will be assessed, planning for rehabilitation will be done; reconstruction, income generating and other programs will also be launched for the relief of disaster victims.

#### 4.5.4. Disaster Mitigation

Mitigation helps in the reducing risks of the hazards. It includes engineering, planning, management, and socio-economic, techniques. National land-use plan, formulation of building code, incorporation of disaster reduction in development planning etc.

## **5. Contribution of Governmental and Non-governmental Organizations to the Disaster Management Activities**

### ***5.1. Disaster Relief Section in the Ministry of Home***

#### 5.1.1. Introduction

Disaster Relief Section under the Home Ministry until the 1980 were mainly directed towards Post-disaster activities like rescue, relief and rehabilitation. The natural calamity (relief) act, 1982 came into existence, which was amended twice enunciating the significance of the pre-disaster and post-disaster activities. It made the provisions for the disaster relief committee at the central, regional, district and local levels.

The Disaster Relief Section in the Ministry of Home looks after the disaster management activities as well as works as a Secretariat to the Central Disaster Relief Committee (CDRC) while the District Disaster Relief Committee (DDRC) is mainly responsible for carrying out the post disaster activities. Presently, the Central Disaster Relief Committee (CDRC) is functioning while the other two other regional and local committees can be constituted at the time of disaster.

To operate the rescue, relief, and rehabilitation activities effectively and efficiently at the time of disaster provision has been made for the Central Disaster Relief Fund and the District Relief Fund.

#### 5.1. 2. Objectives

- To prevent the Natural Disaster, as far as possible and to minimize its adverse effect on the society,
- To prevent disaster occurrence and reduce its impact
- To minimize the loss of life and damage by mitigating the impact of disaster through proper disaster preparedness planning and effective rescue and relief operation
- To rehabilitate the victims and reconstruct the damaged infrastructures

#### 5.1.3. Policy Measures

- To identify the disaster prone areas and the extent of vulnerability it and formulation of plan and programs (on preparedness, response, mitigation and reconstruction and rehabilitation) and integrate it with national development plan.
- To identify the activities to be undertaken by key disaster actors and make a Standard operational procedure.

- To make necessary legal framework for the land use planning, water & forest management, building codes, etc.
- To increase awareness among the people and concerned authorities (Gov. & NGOs) on the possible causes and effect of natural disaster including the way to combat it.
- To provide the immediate rescue and relief assistance to the disaster victims.
- To ensure the effective and proper use of national and international assistance to the victims during the emergency
- To explore the possibility of mobilizing resources and seeking foreign assistance in the field of technology transfer, human resource development, material acquisition etc.

#### 5.1.4. Programs

- Vulnerability and risk assessment through the hazard mapping, flooding survey, and geomorphological study.
- Amendment of the existing laws and strengthening of the institutional capabilities
- Installation of early warning system
- Review of the draft National Compressive plan on disaster Management and preparation of sectoral contingency plans.
- Identification of save havens/emergency sites in all districts.
- Construction of model building complexes for the homeless people
- Initiation of the vocational training and food for work program
- Dissemination of information on the possible causes and effects of disasters through different communication media

## **5.2. UN Disaster Management Secretariat in United Nation's Development Program (UNDP)**

### 5.2.1. Introduction

After the 1993 floods, landslides and debris flows, UNDP established a full time UN Disaster Management Secretariat (UN-DMS) to support the government disaster response efforts.

### 5.2.2. Objective

The major objective of the program is to increase disaster management capacity in Nepal; both through the capacity building of the selected communities of selected districts and through direct assistance to UN disaster measurement secretariat communities of selected districts.

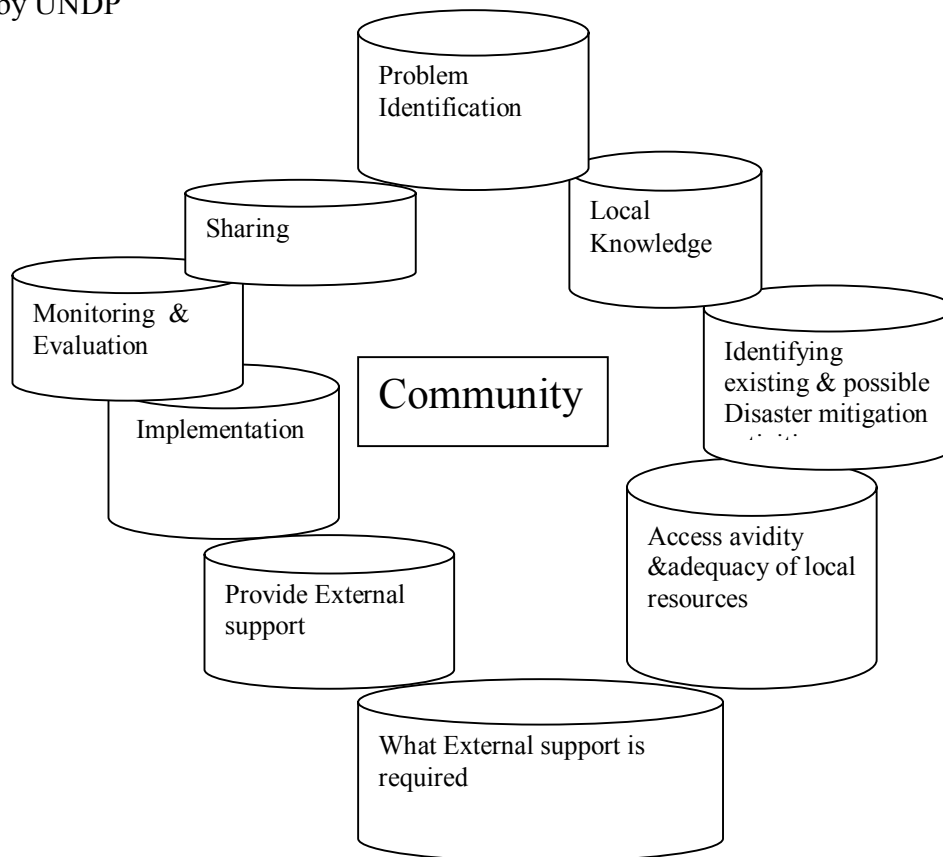
### 5.2.3. Activities

- UN-DMS is planning to tackle disaster management program in three following phase studies. First phase study emergency interagency preparedness and research planning phase. In this situation analysis and overview of the planned resource is done. It's almost in complete stage. In second phase UNDP is going to study about interagency relationship for management. This study is not completed. In the third phase study specific works to be carried out by different sectors of UNDP (FAO) for Disaster Management will be finalized.

So far UNDP is planning to concentrate on earthquake, landslides, flood epidemics, drought famine and political turmoil.

- UNDMS is implementing a participatory disaster management program of 1.2 million US\$ with Ministry of Home (HMG) for one year. This program will be launched in 8 VDCs of Bardiya, Syanja, Tanahu, and Chitawan Districts.
- Working partner of UNDP for HMG is ministry of finance. Among INGO's, ICIMOD is also its partner.
- Right now UNDP is preparing three disaster relief response manuals on, i. Food and Agriculture, ii. Health and, iii. Logistics.
- UNDP is helping to some content to different organization to conduct training and seminars on disaster management.

Schematic diagram of the implementation process of the community-lead disaster mitigation prepared by UNDP



### **5.3. Department of Water Induced Disaster Prevention (WIDP)**

#### **5.3.1. Introduction**

Department of water Induced Disaster Prevention was established as name of Water Induced Disaster Prevention Technical Center in October 1991 which was a joint undertaking of concerned agency of HMG/ Nepal with the Ministry of Water Resource as leading agency and Japan Cooperation Agency (JICA). DPTC has been extended as Disaster Mitigation Support Project (DMSP) since September 1999. This project has promoted into DWIDP on February 1999. Activities, which have been done by DWIDP since 1992 for water induced disaster mitigation, are listed in three sections as Saboengineering, Landslides Prevention and Protection, and River Training Works.

### 5.3.2. Objective

Main objective of this project is to promote the counter measures for the Water Induced Disaster by HMG/N and Communities.

- To identify disaster mitigation and counter measure methods suitable for local environment
- Strengthen Disaster Rehabilitation through the technical support of DWIDP/DMSP
- To improve and sharing the disaster information and disaster mitigation technology
- To raise the awareness on the disaster mitigation between HMG/N and communities

#### 5.3.2.1. Working Division

Working Divisions in DWIDP are divided into three working sections according to activities including administration.

##### **A. Technology Development Division**

Engineering methods appropriate to the local condition of Nepal are to be developed through the combination of indigenous method and modern technology development, model construction works are carried out at selected sites to compare the various methods proposed and to identify appropriate ones. Preparation of the technical guidelines and advice on going projects at various sites are also important activities of this Division.

##### **B. Training Division Training**

Training Division conducted through the lectures, experiments and real field problem analysis and on the job training for Nepalese technical personal to enhance their knowledge and skill. General courses about the disaster management are conducted for the middle level technician for one month and Advance course for Technical professional for three month.

##### **C. Information Division**

Data/information relevant to hydrology and meteorology, topography and geology, disaster occurrences prevention/rehabilitation records are located and compiled into database. It is useful for the practical application to various fields of prevention, rehabilitation and preparedness. Various types of seminars on water related disaster is conducted and relevant material is published.

#### 5.3.2.2. Activities

International and national symposium to create awareness and exchange the idea of the disaster mitigation programs and conducting roving seminar for the awareness of the disaster prevention and mitigation in 75 districts of the country. Information collection of water induced disaster and their mitigation are published and managed.

##### **A. Communities Disaster Mitigation**

- Advocacy and education
- Application of appropriate/low cost technology
- Promote participation disaster mitigation activities (Disaster presentation work monitoring and shelter)

##### **B. Disaster Rehabilitation**

- Setup organization framework
- Conduct survey and damage assessment

- Prepare survey report and rehabilitation plan
- Implement emergency rehabilitation model works

### **C. Information and Technology Sharing**

- Implement training and seminar
- Improve database and information system
- Develop the hazard map using G I S
- Support the disaster mitigation courses extent the technical support

### **D. Disaster Mitigation Awareness**

- Recommend to HMG/ N
- Disseminate to communities

### **E. Institutional Facilities**

- Central office in Pulchok main building
- Laboratory at Godawari
- Hydraulic Laboratory for:
  1. Model testing of River (gentle Channel)
  2. Model Testing for debris flow (steep channel)
  3. Model testing for Landslide

### **F. Material Testing for Landslides**

- Soil testing
- Concrete testing

**G.** Develop several model sites in different places of the country and laboratory experiment has been done and prepared the guideline, manual for the disaster mitigation.

#### **a. Sabo Engineering**

- Gully control in Pipaltar-Trishuli, Nuwakot District
- Soil erosion control in Nallu khola Watershed
- River training works at Khajuri Khola at Udayapur District

#### **b. Landslides Prevention and Protection Activities**

- Landslides protection at 19km and 48km along the Trishuli road
- Landslide protection at 62km along Ilam road
- Vertical boring and other construction and maintenance at Santi Basti at Lalitpur

#### **c. River Protection**

Khokana Bagmati River Protection at Lalitpur

Embankment construction and maintenance for riverbank protection of Mahakali River at Dodhara Chadani

Models development of riverbank protection and study in Lohindra Khola at Morang District.

General course training on water induced disaster management in Nepal has given for 154 mid level technician of different departments (15 persons each years) since 1992.

Advance training course on water disaster management for 98 engineers and officers who are involved in the Disaster management activities.



Intensive training course on disaster management has given for 15 persons of Engineers and Officers who are involved in the disaster management activities (3/4 person of each year) up to 6 years from the beginning.

**d. Information**

- Collection of water induced disaster information and database development
- Roving seminar conducted to reduce the water induced disaster
- Palmate publication and models are demonstrated in the exhibition of World Environment Day and IDNDR day.
- ON Climatic Information
- Automatic rain gauge establishment at Tinau Khola of Butwal,
- Automatic rain gauge establishment at Khokana, Lalitpur and data collection development
- Automatic rain gauge establishment at Nallu, Lalitpur

**e. Epidemic Drought Reduction Help Program**

- Community epidemic drought reduction
- Awareness and useful education and economic use of relief facilities
- Management of epidemic drought reduction activities and their monitoring and evaluation
- Helping to epidemic drought reduction settlement shelter development
- Conducting training and symposium; collection and storage of the information of technology development
- Hazard map preparation by using Geomorphic Information system (G I S)
- Helping to involve the epidemic drought reduction information in courses of school's curriculum development and extension of technical help to Epidemic drought

**5.4. Luhrans World Federation/Nepal (Disaster Preparedness Project Kathmandu)**

**5.4.1. Introduction**

Luhran World Federation Nepal has established Disaster Preparedness Project in Katmandu in January 1996 which has been focused on grass root disaster preparedness, response and mitigation. In the phase first of 1997 focused on program establishment and development. In the second phase during 1997 two activities focused on the expansion and implementation, i.e. Community Based Disaster Preparedness (CBDP) on training, local community building, strengthening of strategic relationships, building cooperative partnerships and launching School Earthquake Awareness Training (SEAT) program in the Kathmandu Valley. Phase three, 1998-99 has focused on continuation and consolidation based on relation established. Luhran World Federation/Nepal continues and extend Disaster Preparedness Project in 30 districts with INGO and NGO as new partnerships and spread to CBDP through out the country.

**5.4.2. Objective**

- Conduct the Community Based Disaster Preparedness/Mitigation Training
- Promote the Community/NGO Disaster Preparedness Capacity Building develop local disaster management information system and integrate the local data in the

## National Disaster Management Plan and Disaster Management Information System

- Conduct the earthquake safety program in Kathmandu, focusing on school and public education.
- Participate in the National Disaster Management Mechanisms
- Develop the partnership with INGO/NGO for joint implementation of CBDP activities in their project areas
- Participate in Regional Disaster Preparedness/Response mechanisms

### 5.3 Activities

Training program on disaster preparedness launched in Baglung, Kailali, Jhapa, Ilam, Sinduli, Morang, Palpa, Jajarkot, Parbat, Bardia, Bnake, Sunsari, Kavre, Sankhuwasabha and Dolkha Districts.

## 5.5. NEPAL RED CROSS SOCIETY

### 5.5.1. Introduction

Disaster management is one of the major programs of the Red Cross Society. In the beginning Red Cross Society was used to help the people and communities as rescue relief support program through out over the country.

### 5.5.2. Major Objective

- Rescue and Relief Operation
- Disaster Preparedness and Community Based Disaster Preparedness Program
- Prevention and Mitigation
- Rehabilitation and Re-construction

**Under the Rescue and Relief Operation** NRCS helps to the lying in the hazard prone zone, natural calamities like earthquakes, floods, fire result in disaster in various scales through out of the country every year.

**Under the Disaster Preparedness Major** aspects of the disaster preparedness are:

- Construction of Warehouses/ Deposits
- Relief Supplies Management/Principal Disaster Relief funds
- Human Resource Development
- Implementation of Community Based Disaster Preparedness (CBDP) program.
- Rehabilitation and Re-Construction

### 5.5.3. Activities

Central Executive Committees (CEC) elected by assembly under Red Cross Society is responsible for implementation of all NRCS activities. The following Central Committees have constituted under CEC to coordinate following multiple activities.

- A. Disaster Management Committee
- B. Organization and Manpower Development Committee
- C. Health Service Committee
- D. Community Development Committee
- E. Junior /Youth Red Cross Committee
- F. Finance & Resource Mobilization Committee

## **5.6. United Mission to Nepal**

### **5.6.1. Introduction**

The United Mission to Nepal (UMN), as one of the largest non-government human service agencies in the country, includes the large number of skilled personal and other facilities which can be helpful in any disaster response situation. Mainly United Mission to Nepal involved in the education health 'rural development, industrial development and personal. UMN has taken few steps on the disaster management activities in Nepal. UMN adopted UMN policy and operational guideline for disaster response.

### **5.6.1. Objective**

Mostly UMN project helps focusing to support in the health, hospital and industrial school education and rural development to the community and personals as single and partnership with government and other line agencies. Under Disaster Response Program, UMN project conducts the training to awareness for the communities, school children for preparedness of disaster mitigation.

### **5.6.2. Activities**

UMN Catastrophic Disaster Plan for Kathmandu Valley in the approval phase

Received 6 program level disaster response plans form

1. Non-formal education program, Jajarkot District
2. Tansen Hospital, Palpa District
3. Community Health and Development Project, Palpa
4. Community Development and Health Project Lalitpur
5. Dhading Resource Management program

#### **Training and Workshop 4-6 Days:**

1. Community Based Disaster Preparedness (CBDP) workshops
  - NFE Jajarkot organized 25 Village Development Committee level
  - Community Health & Development Project(CHDP) Palpa organized 14 Village Development Committee level
2. District level Disaster Management 2 Workshops
3. Disaster Response Program (DRP), UMN and LWF in association with CHDP organized in Palpa
  - DRP and School of Shelter and Environment (SSE) in Association with RDC organized in Pokhara
4. UMN Program level disaster management 2 workshops
  - DRP in association with Dailekh NFE organized in Dullu
  - DRP and SSE in association with the CDHP Makawanpur in Hetauda
5. Kathmandu Valley ward level disaster management 4 workshops
  - UMN in association with National Society for earth Quake Technology (NSET) - Nepal and Lutheran World Federation at Lalitpur Sub. Metro Ward No. 10, Kathmandu Metro Ward No. #4, 11 and 14
    - Established in country partnership with LWEF-Nepal
    - NSET-Nepal Disaster Preparedness Network (DPNET) members
    - School shelter and environment (SSE)

- 34 ward Disaster Management Committee of Kathmandu Metropolitan City
- Development good relationship with HMG minister, other Govt. Offices including Army and Police UND, INGO and NGOs
- Active Participation with HMG Ministry of Science and Technology declared Earthquake safety Events with Bhrikuti Mandap (Exhibition complex): in January 20-22, 1999 and January 20-24, 2000
- Linked Regional cooperation "Partnership" with CASA, India and CCDB, Bangladesh.
- Prefomed Regional Demonstration Model" Earthquake Resistant Housing Program" near Lumbini

## **5.7. CARE NEPAL**

### **5.7.1.Introduction**

Care projects involve wide range of integrated intervention based on community-defined needs. Care is widely organized for the strength of its agriculture and natural resources management programs and its understanding of how to tailor awareness-building effort to specific areas and conditions.

### **5.7.2. Objective**

Over all program goal for CARE Nepal is to strengthen the capacity of the rural poor people to fulfill their basic needs.

- To achieve final goal, the following intermediate program goals has been developed:
- To increase the agricultural communities to identify, plan and implement development activities;
- To increase the agriculture productivity of rural communities to identify, plan and implement development activities;
- To improve communities health status and awareness about health population issues;
- To increase the level of literacy within the rural communities particularly for women
- To increase safe access to trade agriculture and employment opportunities for rural communities thereby increasing incomes;
- To develop, test and document strategies for facilitating self -help communities' development;
- To strengthen programmatic coordination with the government counterparts line agencies, and local and international NGOs.

### **5.7.3.Activities**

**CARE** implements its current projects in collaboration with five government counterparts.

- The Soil Welfare Council for the natural Resource management projects in Mustang and Mohatari.
- The Remote Area Development Committee of the Ministry of Local Development for the remote area
- Basic need projects in Solukhumbu, Bajura, Gorkha and Jajarkot community-Based Poverty Alleviation Projects.
- The development of soil conservation for the Upper Andhikhola Watershed Management Project
-

- The Department of National Parks and wildlife Conservation for the Bardia buffer zone development project
- The Ministry of Forest and Soil Conservation for the Forestry Partnership Project

## **5.8. Disaster Preparedness Network (DPNET)**

### 5.8.1. Introduction

The Disaster Preparedness Network (DPNET) is envisioned as a loose association of individual organizations within the development sector in Nepal, which are concerned with disaster management. The network aim to assist individuals and organization to prepare for and respond to and management disaster should it strikes.

### 5.7.1. Objectives

The main objectives of DPNET are to

- Coordinate with government and other institutions to prepare for and manage disaster most effectively when and where it strikes in Nepal.
- Assist local government institutions to cope with disasters.
- Assist in integrating activities of different agencies involved in disaster management in order to prepare local people to cope with and manage disaster effectively.
- Create awareness of the negative impact of disaster on people and property.
- Enhanced the capacity of community to access available resources to cope with disaster.
- Enhance the linkage between government agencies and communities.
- Foster interaction of community development (CD) and disaster preparedness (DP) activities. CD is major tool for reducing vulnerability of the community.
- Dissemination of National Disaster Management guideline to local communities and authorities.

### 5.8.2. Activities

DEPNET activities work closely with His Majesty's Government of Nepal (HMG/N) through its (HMG/N) agencies which are concerned with disaster preparedness and management. DPNET complements the effort of this agency to inform and prepare organization and communities to deal effectively with disasters.

DPNET are concerned with natural disaster such as earthquake, floods, droughts and landslides. It also covers disaster such as epidemic, flood and fire that occur often in towards and village.

The major proposal of DPNET is to enhance the capacity and improve the performance of its partners to implement and sustain disaster preparedness activities in Nepal. In addition, DPNET aims to promote and spread Disaster Preparedness throughout Nepal.

## **5.9. International Center for Integrated Mountain Development (ICIMOD)**

### 5.9.1. Introduction

The concern of wide spread poverty and degradation of the environment in the Hindu Kush-Himalayan Mountains lead to the establishment of International Center for Mountain

Development (ICIMOD) Nepal in December 1983. Since its establishment, ICIMOD has been actively involved in developing and implementing programs of environmental degradation and poverty in the HKH region in close partnership with the ICIMOD member countries and donors.

Since its inspection ICIMOD has been promoting the development for better understanding of landslide hazards. Various activities have been completed. So far which include several training programs dealing with mountain risk engineering focusing on improving road construction along unstable mountain slopes, a view of landslides hazard management activities in China and field assessment of landslides and flood events in south Central Nepal following extreme climatic events during July 1993.

### 5.9.2. Landslides Hazard Management and control

One of the Goals of the ICIMOD in its Mountain Natural Resources Programs is to "Improve the condition of mountain resources and environments by halting and eventually reversing their degradation ". Program activities envisaged to achieve the above goal are directed towards.

- Identification of measures to mitigate different types of natural hazards which result in the loss of natural resource.
- Promotion of skills and methodologies for natural hazard assessment
- Improvement of public awareness for better disaster preparedness in mountain areas

ICIMOD program on Landslide Hazard Management and Control focus on these concerns on helping to protect valuable natural resources from different types of natural hazards. This program is based on the already on-going activities of ICIMOD initiated in 1994 with the support from the Government of JAPAN.

- Preparation of state-of -the art review on Landslide Management and control in selected countries.
- Regional Training Program on Slope Instability Hazard Mapping using Remote Sensing and GIS.
- Preparation of a Climatic-Hydrological Atlas of Nepal based upon available information

## 5.9. Plan International

### 5.9.1. Introduction

Plan Internal has been established to help the children benefit worldwide after the world war second. Plan International is a large international organization in Nepal, which is established in 1987. The organization began its child focused development programs by providing financial help to the community development programs in Nepal.

### 5.9.1. Objective

- Promote healthy development of infants and children in a stimulating environment.
- Ensure early child hood care and healthy development for children between 3-6 age group with focus on ethnic minority and disadvantage communities
- Provide access to inform and services for young girls, boys, men and women, which allows them to make informed choices in areas of reproductive health.
- Strengthen communities based health service with a focus on prevention health.

## 5.9.2. Activities

With the current understanding of poverty and its linkages with children, it has become essential that PLAN International Nepal review its focus. PLAN International Nepal aims to focus the program, gearing towards benefiting deprived children, both male and female the involves working more closely with deserved communities, using participatory approaches that enables to people to understand and analyze their one problems and work in partnership with PLAN to solve them. Main activities are focused in education and child development, skill development, Micro-credit Security, Institutional development, Building relationship. This project has lunched the activities in BNAKE, RAUTAHAT/BARA, MAKAWANPUR, SUNSARI/ MORANG, SALYAN AND BHOJPUR Districts.

## 5.10. Oxfam

The Oxfam is committed to support such poor and disadvantaged people to bring about positive and sustainable change on their lives and reduce their vulnerability to flood disaster through the river basin program. The aim of the Oxfam have a long term program is to reduce vulnerability of the people living in Terai region of Nepal by improving their social, economical and political sustained.

### 5.10.1. Objectives

The main objectives for the long-term program are as followings

- To make people awareness on the issue like;  
Increasing trend of flood disasters and its' ways of reducing negatives effects on the lives of people living along the reveere areas.
- Exploration of the early warning system in order to provide early information of flood disasters at local and regional level, land rights and land revenue to the people belong to the sand-casting formulas,
- Cause of social discrimination due to caste, (poverty) gender illiteracy etc.
- Faculty design of development infrastructures by large donor, government and others etc
- To provide livelihood supports to the flood affected communities of the six districts through the following ways of the intervention like.
- Woman commencing, right to be heart, emergency responsible river basin program flood affected community relief package program in Saptati, Bara, Rautahad, Chitawan, Nawalparashi and Rupandehi.
- Providing skill development training to the land less families and facilitate them to explore the product market, support marginal farmers to grow the high value of crops, provide livestock improvement support and small income generation purposes.
- To provide health and sanitation supports to flood affected communities for the six District through the intervention like; awareness to the people to importance of toilet use, felicitities to construction of the toilets, improving safe drinking water, keeping healthy environment and family planing systems.
- To provide the capacity building supports to the grass-root organizations partners and Oxfam GB Nepal Staff.

Collect the information to different extent of food disasters monsoon period, reduced vulnerability and potential early warning systems through discussing with food effected communities and specialist concerned, provide institutional support, planning, management, implementation, monitoring and evaluation techniques for effective use of limited resources.

### 5.10.2. Activities

Oxfam Nepal works through NGO partners and the main focus is empowerment of partners to act as facilitators for programs implementation effectively. In order to cover 11 districts, there will be nine NGO partners in order to carry this program. Form this, three are six NGO partners in the targeted six Districts mainly; Koshi, Sarokar Samuha, Rural Service Organization, Jwalamukhi Club, Development Nepal Campaign Service Center and Friend Service Council.

There are six partner organizations responsible to meet the above-mentioned objective together with Oxfam GB Neal.

- I. Public awareness institutional supports empowerment to the flood-effected communities, advocacy and lobbying to the major concerns of flood disasters.
- II. Livelihood supports to the flood-effected communities especially land less, marginal woman and elderly headed households through the various on farms and off farm activities.
- III. Provide supports on health and sanitation, reduced water borne diseases due to dirty water, awareness on several health issues needed at the communities level,
- IV. Reclaimed the sand deposited farmlands (sand casting) and project these farmlands by adopting various means of local technologies.
- V. Capacity building supports to Oxfam GB Nepal Staff, partner staff, direct beneficiaries key person of the districts and government of line agency on the issues like the causes flood disaster, water rights with the project manager for effective uses of limited resources.
- VI. Development the partner's capacity for an effective response during emergency situations, more specially flood disaster situations.

## 5.11. National Society for Earthquake Technology -Nepal

### 5.11.1. Introduction

The National Society for Earthquake Technology -Nepal (NSET) has taken responsibility for creating and implementing this plan. NEST, a multidisciplinary professional society, promotes awareness of earthquake risk and implementation of seismic risk reduction project in Nepal. The propose of this plan is to assist His Majesty 's Government of Nepal, concerned agencies, and the municipalities in Kathamandu valley to reduced Kathmandu Valley earthquake risk over time by identifying, coordinating and focusing risk management activities.

### 5.11.1. Objective

- Improve emergency response planning and capability
- Improve awareness of issue relating to earthquake risk
- Integrate seismic resistance into the process of new construction
- Improve the safety of school children and school buildings



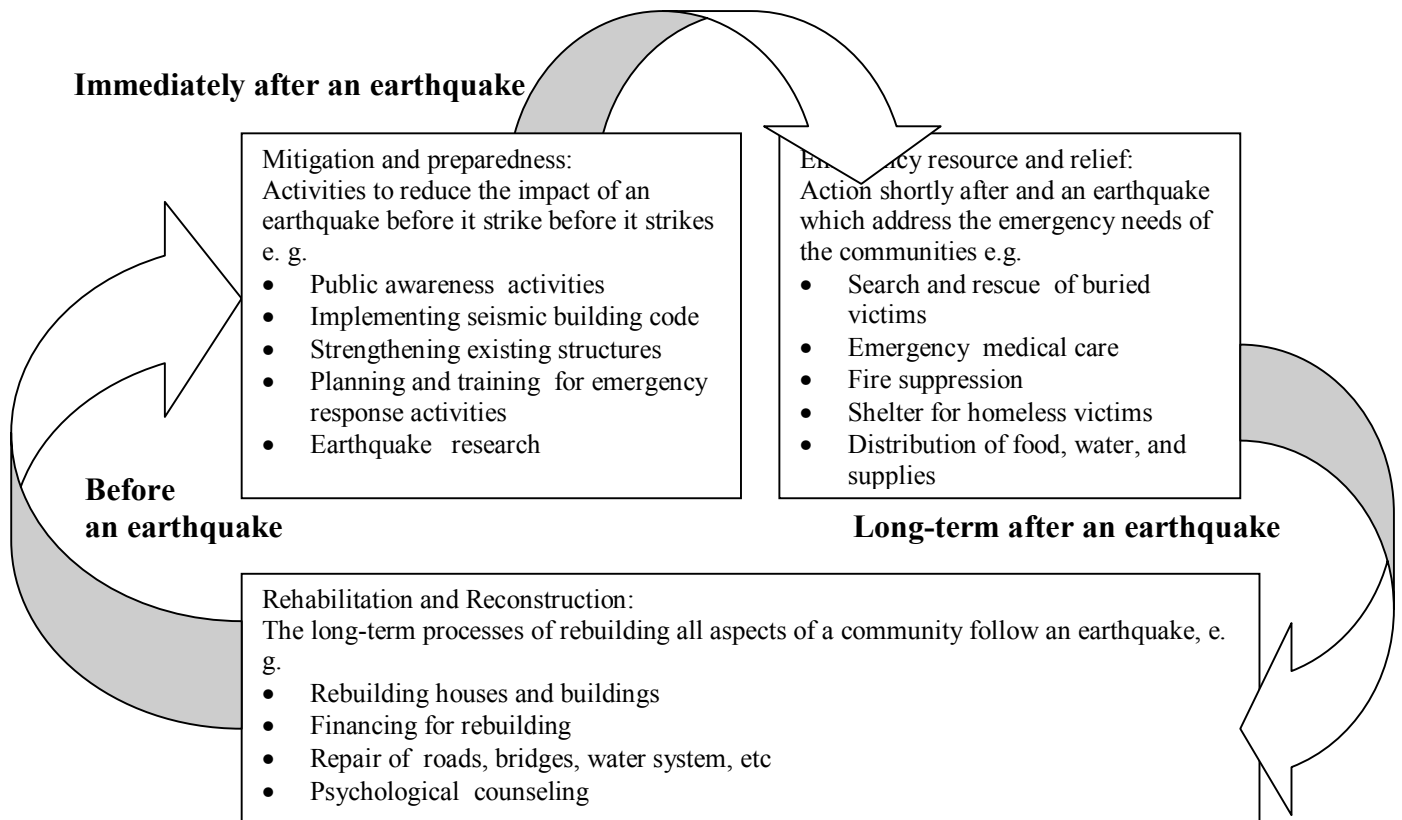
- Improve seismic performance to existing buildings
- Improve seismic performance of utility and transportation systems
- Increase the expert's knowledge of the earthquake phenomenon, vulnerability, consequences and mitigation techniques.
- Prepare for long term community recovery following damaging earthquakes.

#### 5.11.2. Activities

NEST is responsible for the implementing this plan, or in other words conducting activities that increase the likelihood of success of specific initiatives including in this plan. The specific initiatives will be implemented by other local institutions.

- Building Support for the Plan and Earthquake Risk Management in General
  - Using Transparent and Inclusive Processes
  - Making Decision Rationally
  - Using Open Financial policies
  - Foreign Relationships
  - Forgoing Relationships with Other Groups
  - Raising General Awareness
  - Educating decision makers through awareness
  - Conducting Uonthly Public Hearings
  - Formally Presenting Plan to Government
  - Informing the International Community of Kathmandu Valley about the plan
- Supporting individual supporting
  - Coordinating Initiatives
  - Planning Initiative
  - Arranging Technical Support
  - Conducting Peer Review of Initiatives
  - Seeking External Funding for Organizations Implementing Initiatives
  - Publicizing Successful Initiatives
- Keeping the Plan Current
  - Monitoring the Initiatives Annually
  - Evaluating the Objectives and Strategies Periodically.

Current responsibilities for the earthquake risk Management in Kathmandu valley



### **5.11.3. Kathmandu Valley Earthquake Management, Disaster Preparedness and Mitigation**

#### **5.11.3.1. Introduction**

NEST 's non-governmental, non-profit status as professional organization similar to NEST has successfully. The Kathmandu Valley Earthquake Risk Management Project (KVERMP) is an 8<sup>th</sup> month project which started on September 1,1997. The project being implemented by the National society for earthquake Technology-Nepal (NSET-Nepal) and zeo-hazard International (GHI) and its part of the Asian Urban Disaster Mitigation Program (AUDMP) funded by USAID/OFDA.

#### **5.11.3.2. Objective**

KVERMP has following four objectives

1. To evaluate Kathmandu valley earthquake risks and prescribes an action plan for managing that risk
2. To reduced the public schools' earthquake vulnerabilities
3. To rise awareness among the Public Government Officials, the International Community Resident in Kathmandu Valley's, International Organizations about the Kathmandu Valley's Earthquake Risk.
4. To build local institutions that can sustain the work lunched in the project.

#### **5.11.3.3. Activities**

KVERMP includes a wide variety of activities aimed at beginning a self-sustaining earthquake risk management program for Kathmandu Valley. Which are simplified

earthquake Scenario and action plan, the school seismic safety programs, and public awareness and institution building activities.

Under the simplified earthquake Scenario, the simple loss estimation study was conducted for repeat of the 1934 earthquake in modern day in Karhmandu Valley. Collect the information and interviews was combined with previously conducted studies and then a loss of estimation study was conduct using ATC-13 and other earth quake loss models. Some result of the loss estimation study published in the earthquake Risk Management Action Plan, to be complete.

Under the school seismic safety programs, the purpose of assessment is not to identify individual school as vulnerable, but to quantify the risk faced by the entire risk system. In addition to beginning the process of the reducing Kathmandu valley's Public Schools' Risk, this component of the project has boarder applications such as determining appropriated methods and costs of retrofits for the typical Nepalese construction, and examining such issues as acceptable levels of risk for Nepali cultures.

Under the public awareness and institution building, the project has appeared frequently in newspaper stories, has been fractured on television and has been presented wide variety of other forms.

## **6. Recommendation and Conclusion**

### ***6.1. Leading and Coordination for Disaster Management***

Nepal is a small mountainous country mostly predominated with disaster prone area. The people in Nepal are suffering from different types of disasters every year. Several agencies and organizations from the governmental and non governmental sides as well as international supporting agencies are involved and working actively in the disaster mitigation programs in all over the country. However there is no defined about the activities where they are working and who are working what they are working. There is no any coordination with each other's. There is no any data base records how many people have been provided relief or benefits from the disasters mitigation programs. Some time same programs have been lunched by different agencies on the same places too. Therefore, the different organizations, which are involving or contributing to disaster mitigation activities, should be lead and coordinated by the government organization defining the activities of each organization The government organization shall be lead by the following general points.

1. Natural calamity relief act.1980 should incorporate mitigation measures enrolled of NGO's
2. Prepare building codes, hazard maps, risk assessment and vulnerability assessment
3. Mass awareness programs, rehearsals and training must be conducted at various levels
4. Establishment of comprehensive international data on natural (geology, climate, hydrology) and human processes (land use, socioeconomic aspect) should get priority.
5. Priority for sustainable and affordable technical option: integration of local indigenous knowledge with modern methods and techniques

Land-use policy/regulation for new settlements in newly accessible areas need to be developed urgently.

## **5.2. Causes of Disasters in Nepal**

### **Epidemic**

Water pollution, malnutrition, unhygienic shelter, low level of public awareness, inadequate public health facilities etc. are contributing to the epidemic disaster.

### **Flood and landslide**

Deforestation, sedimentation, shifting and encroachment of riverbed soil erosion due to heavy rainfall and winds, construction of houses and roads on steep areas are augmenting the problem more.

### **Fire**

Negligence and carelessness among fire users; use of timber, saw and fire provoking materials in house construction; insufficient precaution measures against oil fires are aggravating the fire disaster.

### **Earthquake**

Himalayan mountain ranges are young, unconsolidated and still active in organic movement, which make the country earthquake prone. Poor and unsafe housing construction is aggravating the problem further more.

6.

## **6.3. Technology for Disaster Management**

### **Prediction, Warning and Dissemination: -**

If possible, predict about disaster well ahead of time and forecast warning should be well disseminated

### **Zoning**

Disaster wise sensitive and high-risk areas should be zoned and restricted for settlement or economic purposes.

### **Public awareness**

People of disaster affected area should be made of the impact of disaster. A successful public awareness campaign might include a high profile effort on a national awareness.

### **Development of the Proper Institutional Framework**

Indigenous should exist at the national, regional and local levels having both horizontal and vertical linkages for implementing programs for mitigation of disaster with people's participation

### **Training**

Training should be imparted to planner workers and designers, community leaders, field workers and general public. Training aspects for disaster preparedness and management should be given.

#### **6.4. Issues**

1. Deforestation, encroachment of riverbeds, haphazard extraction of sands of boulders from rivers/chure hills, unsafe settlement in steep hills and mountain, unsafe house construction unhygienic living and malnutrition are causing various hazards.
2. Building code is not yet implemented hazard maps, risk map and vulnerability assessments are yet not preferred.
3. Problems of communication and coordination among disaster managing organizations are felt time and again.
4. Natural calamity relief act 1980 focuses only on disaster response. A comprehensive policy on disaster management is needed.
5. Inadequate trained manpower
6. Limitation of resource.

#### **6.5. Recommendation**

1. Disaster Management Advisory Board;
  2. 5% of the total budget for emergency or disaster management
  3. Environmental education and extension components
  4. Awareness of the importance of the environmental management is needed
  5. In analyzing environmental problems and issues, it is quite important to take into account the difference among the countries in terms of the social, cultural and physical contexts in which they emerge.
  6. To indicate the weather hazard
- The Disaster Management Advisory Board should be under the Prime Minister's leadership
  - Village and cultivatable lands are washed out annually, which can create food deficiency for growing future generation.
  - Flood control including water resource development of the country is required.
  - Forecast, warning and dissemination system should be developed and used against the disaster.
  - Awareness of the mass people for disaster management
  - Change of land-use pattern
  - Per-disaster preparedness with man materials and money should be in practice
  - Community/people's participation is essential for the effective planning and implementation of disaster management programs.

The most of the remotest areas are more affected by Maoist movement which are more discipline fighter insurgents and some INGO and NGO have been influenced by them. In this situation the working strategy of INGO and NGO should be in different way. For this purposes, it can be recommended that the vision mission, goal and objective, approaches of the launching activities should be clear with this budget and working procedure should be transparent.

It should be identified that the program is real need to the given community and full participation of the beneficiaries. This program should be clear, honesty, and proper use to the village people.

Design of the disaster management program should be based on collected information incorporating local people and decision-making processes should be more people participatory approach that will be more effective to fulfill the goals.

## Annex-A

### Central Disaster Relief Committee

1.Home Minister	Chairman
2.Housing and Physical Planning Minister	Member
3.Health Minister	Member
4.Secretary, Ministry of Finance	Member
5. Secretary, Ministry of Defense	Member
6.Secretary, Ministry of Home Affairs	Member
7.Secretary, Ministry of External Affairs	Member
8. Secretary, Ministry of Public works and Transport	Member
9. Secretary, Ministry of Water Resources	Member
10. Secretary, Ministry of Information and Communication	Member
11. Secretary, Ministry of Forest and Soil Conservation	Member
12. Secretary, Ministry of Women and Social welfare	Member
13. Secretary, Ministry of Supplies	Member
14. Secretary, Secretariat of National Planning Commission	Member
15.Brigadiar, Royal Nepal Army	Member
16.Inspector General of Police, Police Headquarters	Member
17.Representative, Social Welfare Council	Member
18.Representative, Nepal Red Cross Society	Member
19.Representative, Nepal Scout	Member
20.Director General Department of Hydrology and Meteorology	Member
21.Director General, Department of Mines and Geology	Member
22.Two persons nominated by his Majesty's Govent.	Member
23.Joint Secretary (Natural Calamity), Ministry of House	Member Secretary

## Annex-B

### Terminology

**Disaster:** A disaster is an event, natural or human, sudden progressive, which impacts with such severity that the affected community has to respond by exceptional measures (Disaster mitigation in Asia and Pacific by ABC).

**Hazard:** Probability of a potentially damaging natural or man made phenomena occurring at a given place or time.

**Risk:** The probability of meeting danger or suffering human

$$R = \frac{H \times V}{C}$$

R= Risk

H = Hazard

V = Vulnerability

C = Capability to Management

**Vulnerability:** The capacity of a household, community or society to absorb the loss damages and disruptions arising from a hazard event and to be able to recover from those losses.

**Epidemic:** An appearance of a disease in the people, which occur due to the calamities like earthquake, landslides, flooding etc.

**Drought:** Disaster occurrence due to continues dry weathering



## Annex-C

### List of the contacted persons by the study team

Organization	Contact Person
NEST	Mr.Mahesh Nakarmi
LUTHRAN	Mrs. Bimala Rizal Mrs. S. Rizal
MINISTRY OF HOME	Dr. M. B. Chhetri
CARE NEPAL	Mr. Govinda Rajbhandari Mr. Santosh Sharma
PLAN INTERNATIONAL	Mr. Krishna Ghimire
OXFAM	Mr. Ram Prasad Luitel
UNDP	Mr. M. B. Thapa
DWIDP	Mr. Damodar Bhattarai
UMN	Mr. Murari Binod Pokhrel
ICIMOD	Mr. P. Mool