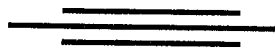
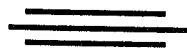


NATIONAL ACTION PLAN
ON
DISASTER MANAGEMENT
IN NEPAL



1996



His Majesty's Government,
Ministry of Home,
Singh Durbar, Kathmandu,
Nepal

Acronyms

CDRC	-	Central Disaster Relief Committee
DDRC	-	District Disaster Relief Committee
DHM	-	Department of Hydrology and Meteorology
DMG	-	Department of Mines and Geology
DOAD	-	Department of Agricultural Development
DOI	-	Department of Irrigation
DOL	-	Department of Labour
DOR	-	Department of Roads
DOSC	-	Department of Soil Conservation
DPTC	-	Water Induced Disaster Prevention Technical Centre
FNCCI	-	Federation of Nepal Chamber of Commerce and Industry
IDNDR	-	International Decade for Natural Disaster Reduction
INGO	-	International Non-Government Organisation
MHPP	-	Ministry of Housing and Physical Planning
MOA	-	Ministry of Agriculture
MOEC	-	Ministry of Education and Culture
MOF	-	Ministry of Finance
MOFA	-	Ministry of Foreign Affairs
MOFSC	-	Ministry of Forest and Soil Conservation
MOH	-	Ministry of Home
MOHe	-	Ministry of Health
MOI	-	Ministry of Industry
MOIC	-	Ministry of Information and Communication
MOLD	-	Ministry of Local Development
MOLJ	-	Ministry of Law and Justice
MOPE	-	Ministry of Population & Environment
MOWR	-	Ministry of Water Resources
NASC	-	Nepal Administrative Staff College
NCC	-	National Cadet Corps
NFC	-	Nepal Food Corporation
NGO	-	Non-Government Organisation
NPC	-	National Planning Commission
NRCS	-	Nepal Red Cross Society
RNA	-	Royal Nepal Army
SWC	-	Social Welfare Council
TU	-	Tribhuvan University
WECS	-	Water and Energy Commission Secretariat

INTRODUCTION:

Nepal is characterized by its rugged topography with high relief, complex geology, concentrated rainfall and a high population density. The country faces several natural hazards and larger part of the country is vulnerable to earthquake, landslide, debris flow, flood, drought and other forms of hazards. Natural disasters occur year after year causing immense damages of public properties and human lives. Sometimes the extent of damage is enormous as we experienced during the earthquakes of 1980 and 1988 and flood of July 1993. Apart from these events, there are several natural calamities, which struck the country in past, the earthquake of 1934 was one of the serious disaster, the country ever faced.

The natural disasters may not be stopped, but efforts can be made to reduce the impact of disaster. Considering this fact, the United Nation General Assembly in its resolution 44/236 of 22 December 1989 decided to launch a far reaching global undertaking for the decade of 1990s to save humanities and reduce the impact of disaster. To initiate a process toward global culture of prevention, the United Nations declared the decade of 1990-2000 as an International Decade of Natural Disaster Reduction (IDNDR). Responding the global call of prevention, Nepal constituted IDNDR National Committee under the chairmanship of Honourable Minister of Home. The National Committee met several times to undertake preventive measures so as to reduce the impact of disasters. The National Committee felt the need of preparing a practical and effective action plan on disaster management as previous efforts were concentrated basically on the rescue and relief operations.

In this connection, four core groups, comprising of experts, administrators, security personnels, academicians, were formed to prepare a National Action Plan on Disaster Preparedness, Response, Mitigation, Rehabilitation and Reconstruction. The preliminary National Action Plan was prepared and also presented in IDNDR World Conference, 1994. The World Conference, after assessing the outcome of the efforts made by member countries, declared the strategy for remaining period of the decade and also accepted a plan of action for disaster reduction.

The preliminary Action Plan on Disaster Preparedness, Disaster Response, Disaster Rehabilitation and Reconstruction as well as Disaster Mitigation which was presented in world conference, were prepared by different core groups separately. Due to this fact these Action Plans lacked consistency and inter-relationship. The

drafted Action Plan tried to cover every aspect of disaster management with more attention on theoretical and procedural aspects rather than prevailing situation of disaster management in the country. Similarly it recommended estimated cost of each activities irrespective of the national capacity and available resources. So, preliminary Action Plan appeared to be difficult for proper execution.

Despite these deficiencies, it must be remembered that the preliminary Action Plan was prepared prior to the World Conference, 1994, the strategies and plan of action adopted by the World Conference were not incorporated.

Keeping these shortcomings in mind, the IDNDR National Committee in it's meeting on 27 April 1995, felt the need of incorporating Yokohama Strategy in National Action Plan and simplifying the preliminary draft in order to adopt a more practical and implementable Action Plan on Disaster Management. Hence, IDNDR National committee, Nepal, finally prepared an Action Plan on Disaster Management in 30 July 1995 and submitted it to HMG/Nepal for its approval. Later, in 18 Feb. 1996 HMG/Nepal had principally accepted this plan as the "National Action Plan on Disaster Management in Nepal"

A. NATIONAL ACTION PLAN ON DISASTER PREPAREDNESS

The suggested national action plan on disaster preparedness is presented in the form of a matrix indicating priority item group, activities, the time schedule and the executing agencies with specific co-operating agencies.

The priority item group includes following preparedness activities.

1. Measures related to national policy and planning for making institutional arrangement, providing legal framework, adopting national policy and plan on disaster management.
2. Measures related to geological, hydrological and meteorological hazard assessment and environmental engineering studies.
3. Infrastructure specific and hazard specific preparedness measures.
4. Measures related to strengthening fire fighting capabilities in fire prone areas.
5. Measures related to awareness raising, training, rehearsal, simulation activities.
6. Measures related to establishment of disaster management information system and stockpiling of emergency supply materials.

The activities involves the formation of appropriate institutional arrangements in terms of National Disaster Management Council at policy level, a National Disaster Management Centre at the central executive level and various disaster management committees at regional, district and village level for effective implementation. The activities also include the enactment of appropriate legislation with specified responsibilities to concerned agencies.

The action plan also proposes the incorporation of disaster management as a multi-sectoral activities in next five year development plan. The emphasis is given to the preparation of hazard assessment and mapping of the recurring disasters in Nepal like earthquake, flood, landslides, GLOF etc. The activities further specify the selected areas in this concern so as to attain the objectives in the remaining part of the decade.

Several arrangement has been recommended in the context of capacity building at local level. Public awareness programmes, rehearsal, drills, stockpiling of emergency relief materials are included in the action plan. The environmental, geological studies have been prioritized. The measures related to strengthening the vital infrastructures for reducing the impact of disasters have been proposed.

DISASTER PREPAREDNESS ACTION PLAN MATRIX

S.N.	Priority Item Group	Priority Item and Activities	Year of Completion	Executing Agency (Co-operating Agency)
A	Measures related to National Policy and Planning	<p>AI. Making institutional arrangements</p> <p>a) Study on constituting National Disaster Management Council</p> <p>b) Finalize organisational structure for Disaster Management Committees at central, regional, district and village levels.</p> <p>c) Finalize organisational structure and system for disaster management operation unit/agency.</p> <p>A.2. Providing legal framework</p> <p>a) Review existing laws</p> <p>b) Identify and finalize changes needed</p> <p>c) Prepare draft of amendment of new laws and by-laws on disaster management</p> <p>A3. Adapting National Policy and Plan</p> <p>A3-1. Incorporate Policy on Disaster Management in 9th 5 Year plan as a multisectoral activities</p> <p>A3-2 Review of National Comprehensive Plan on Disaster Management</p> <p>a) Prepare TOR for task force for reviewing existing National Comprehensive plan for Disaster Management and prepare updated draft</p> <p>b) Appoint consultants/task force for the task</p> <p>c) Consider and finalize draft plan</p> <p>d) Adopt and publicize plan</p>	Mid 1996	MOH
B.	Measures Related to Geological, Hydrological and Meteorological Hazard Assessment	<p>BI. Earthquake Hazard</p>	1996	MOH (NPC)

DMG	Start now and to be continued 1996	DMG
DMG	DMG	DMG
DMG	DMG	DMG
DMG	DMG	DMG
MHPP(DMG)	1998	MHPP(DMG)
DMG	2000	DMG
MOFSCCCTU DPTC, DMG)	1996	MOFSCCCTU DPTC, DMG)
DMG	1995	DMG
DOI(DPTC, DHM) DOI (DPTC,DHM)	1996	DOI(DPTC, DHM) DOI (DPTC,DHM)
DPTC(TU)	1995	DPTC(TU)

B. NATIONAL ACTION PLAN ON DISASTER RESPONSE

As the activities of disaster response starts only after a disaster has struck in certain area, the Action Plan is prepared as a part of preparedness for actual response operations. This action plan is prepared with the assumption that about 15000 families (with an average of 6 members in a family) will be affected by disaster every year. Considering this size, the items and activities included in this action plan should be carried out so as to build the capability of disaster management by the end of 2000 A.D. In this context equipments necessary for disaster response activities has been recommended and the list of it is included in the Annex A-C

The disaster response action plan includes following activities:

1. Evacuation, Search and Rescue:-

The main objective of the action plan is to strengthen the capability of the agencies involved in rescue and evacuation operation. Identification of dead bodies, need and damage assessment, supply of necessary equipments needed for rescue operations, appropriate training for the rescue personnels and preparation of emergency evacuation site plan are the main activities recommended in this part.

2. Communication and Transportation :-

As the means of communication and transportation should be procured not only for disaster response operations, there is a need for preparing inventory and updating it. Communication equipments should be supplied and necessary transportation vehicles including aircrafts, helicopter should be procured for carrying out efficient operations.

3. Temporary Settlement:-

The temporary settlement sites should be identified. For this purpose road side land, community land, unused government land, public buildings like schools can be taken into consideration. There should be a definite plan of settlement sites which can be used during the disasters.

4. Health, Nutrition, and Sanitation:-

For this purpose a disaster unit with minimum facilities should be established in every hospital for emergency operations. The health offices at district headquarters should have necessary emergency medicines.

As the response activities are purely managerial functions, regular trainings and exercises should be carried out at local level every year.

DISASTER RESPONSE ACTION PLAN MATRIX

S.N.	Priority Item Group	Priority Item and Activities	Time of Completion	Executing Agency (Co-operating Agency)
A.	Evacuation, Search and Rescue	A1. Preparation of evacuation plan of public buildings and areas a) Rehearsals/drills exercise A2. Identification of emergency evacuation sites at local level A3. Formation of a permanent search and rescue team at district and local level A4. Training for rescue personnels	1997 2000 1996 Start and continue	MHPP (MOH) DDRC MOH (DDRC)
B.	Emergency Need Assessment	B1. Formation of a permanent need assessment team at district level B2. Preparation dissemination of standard format on need assessment B3. Training and orientation on need assessment	1996 1996 Start and continue	MOH (RNA, Nepal Police, Scout, NCC, SWC, Local NGOs) DDRC MOH DDRC
C.	Communication and Transportation	C1. Establishment of emergency and information operation centre at district level with access to centre C2. Equip the centre with necessary communication facilities C3. Preparation of communication network at the local level C4. Preparation of inventory on transportation facilities and updating it C5. Procurement of appropriate transportation vehicles for rescue and relief operations	1996 1999 Start and continue Start and continue Start and continue Start and continue	DDRC (RNA, Nepal, Police, Experts) DDRC (RNA, Nepal Police) DDRC (RNA, Nepal Police) DDRC (DDRC)
D.	Temporary Settlement	D1. Include open spaces in urban planning for post disaster temporary settlement sites D2. Prepare settlement plan at local level D3. Establish warehouses and stockpile light shelter materials (Plastic sheets, tents etc) at district level	1996 Start & continue Start and continue	MHPP MHPP (MOH)

C. NATIONAL ACTION PLAN ON DISASTER RECONSTRUCTION AND REHABILITATION ACTION

The action plan calls for the development of standard damage assessment format for all types of natural disaster with formation of a permanent damage assessment team at central as well as local level. There is also recommendation on compiling and disseminating the information on extent of damages.

The action plan also includes rehabilitation and reconstruction planning with emphasis on creating permanent committees for such activities centrally and locally. A sector wise expert group for different types of disasters should review the information of damage assessment and should prepare guidelines for rehabilitation and reconstruction works.

For sustainable rehabilitation, income generating programmes should be implemented for which a feasibility study should be conducted to find out the local trends and availability of local resources. A special directives for loans to the disaster victims with subsidized interest rates is also recommended.

The action plan also emphasizes the need of carrying out regular capability assessment and inventory preparation at various level including the resources of local community and NGOs.

E.	Survivor Response, Coping and Security	E1. Health and Nutrition	<ul style="list-style-type: none"> a) Formation of medical assistance team b) Storage of emergency medicines and medical instrument at local level c) Setting up of mobile hospitals with necessary manpower (predetermined) d) Establish disaster unit in each public hospitals 	<ul style="list-style-type: none"> E2. Sanitation and drinking water a) Storage of bleaching powder for chlorination of water in temporary resettlement sites b) Storage of polythene pipes in necessary numbers at local level 	<ul style="list-style-type: none"> E3. Training for manpower involved in coping mechanism E4. Establish temporary police post at the affected area 	<ul style="list-style-type: none"> MOHe MOHe (INGOs) MOHe (INGOs) MOHe MHPP MHPP DDRC (NRCS local NGOs) MOH (Nepal Police)
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DISASTER RECONSTRUCTION AND REHABILITATION ACTION PLAN MATRIX

S.N.	Priority Item Group	Priority Item and Activities	Time of Completion	Executing Agency (Co-operating Agency)
A.	Damage Assessment	A1. Preparation of standard damage assessment format for recurring types of disasters A2. Orientation training for damage assessment format users A3. Formation of permanent team for damage assessment at district level A4. Collect, compile and disseminate information on extent of damage B1. Formation of permanent committee for rehabilitation and reconstruction planning at district level	Mid 1996 1997 & continue Start & continue	MOH(MHPP, DOR, DOISC, DMG, DOI) MOH (DDRC) CDRC, DDRC
B.	Rehabilitation Reconstruction Programme	B2. Setup permanent sectorwise expert group for different types of disaster to review of damage assessment report. B3. Prepare guidelines for resettlement rehabilitation and reconstruction (eg low cost disaster resistant housing, low cost sanitation measures etc) B4. Develop manuals for rehabilitation and reconstruction operations. B5. Formulation of rehabilitation plan for victims (disabled and orphan) encouraging social institutions C1. Feasibility study of local income generating activities in each district C2. Design special directives for loan with subsidized interest rate to disaster victims D1. Capability assessment of GO, NGO and other. a) Regular capability assessment b) Inventory preparation c) Feed back	Mid 1996 Mid 1996 1999 1996 1997 2000 1997 Start and continue	MOH MOH (MHPP DOR, DOI, DPTC, TU) MHPP MOEC MOI (DOAD, DOL) MOF CDRC, DDRC
C.	Income Generating Activities			
D.	Capability Assessment			

D. NATIONAL ACTION PLAN ON DISASTER MITIGATION

The action plan recommends the identification and recognition of the major natural hazards by the government for proper management and also for the direction of mitigation measures effectively for rest of the decade.

As the disaster mitigation is multi sectoral activities each sector needs proper resources to conduct their programmes. Hence, allocation of financial resources for disaster management and mitigation programme to each disaster actor in National Budget is inevitable. As the internal resources could not meet the demand for disaster mitigation activities, international assistance should be encouraged. There should be special disaster cell in the organization of every key disaster actor to conduct mitigational works regularly.

The formulation of building codes and by-laws for disaster resistance structures, preparation and dissemination relevant measures to increase resistance in existing structures is also necessary. The National Land Use and Land Cover Plan and National disaster reduction programmes for impending disasters should be formulated and implemented. The action plans call for national programmes on the hazards like earthquake, landslide, flood, drought and fire.

According to the strategies of IDNDR World Conference, 1994, the following activities has been included in the action plan.

- a) Risk assessment for development planning
- b) Policies on the role of NGOs, local community, private sector and also policies on peoples' participation especially women and socially disadvantaged groups.
- c) Incorporation of Environment Impact Assessment for disaster reduction in development planning.
- d) Promotion of regional and sub-regional co-operation between countries exposed to same types of hazards.
- e) Establishment of documentation centre on disaster reduction activities.

DISASTER MITIGATION ACTION PLAN MATRIX

S.N.	Priority Item Group	Priority Item and Activities	Time of Completion	Executing Agency (Co-operating Agency)
A.	Mitigation Strategies	A.1 Identification of major types of natural hazards A2. Recognise and disseminate the results	1996	CDRC
B.	Financial Strategies	B1. Allocate financial resources for disaster management and mitigation programme for each disaster actor in National Fiscal Budget B2. Encourage international donor agencies (bilateral, multilateral and INGOs) for the financial resources to manage and mitigate disaster activities.	Start and Continue	MOF
C.	National Land Use and Land cover Plan	C1. Formulation of National Land Use and Land cover Plan C2. Implementation of plan	Start and Continue	MOF (MOFA, SWC)
D.	Construction of Earthquake resistant Building	D1. Formulation of building code and by-laws D2. Approval and implementation of building code D3. Formulation of relevant national legislation D4. Implementation of national law on relevant measures prepared for increasing resistance	1998 and Continue 1995	MOFSC (MOWR) MHPP
E.	Risk Assessment	E1. Develop risk assessment programme for all types of disasters. E2. Incorporate the results of risk assessment in development activities	1996	MHPP (MOLJ)
F.	Policy on Disaster Reduction Measures	F1. Formulation of policies on disaster reduction F1. 1. National Disaster Reduction Programmes: a) Landslides and debris floods b) Floods	1995	MHPP
			Start and Continue	CDRC (Various line agencies) HMG line agencies.
			1998 1998	MOWR (DMG) MOWR

G.	Policies on NGOs Private Sector and Communities on disaster	G.1 Formulation of national plan on involvement of NGOs, reduction on following areas a) Community based approach and peoples participation b) Involvement of women and other socially disadvantaged groups c) Local non-government organization d) Efforts of private sector H1. Incorporation of Environmental Impact Assessment for disaster reduction in development planning.	1997	CDRC (NPC)
H.	Environment and Indigenous Technology Disaster Reduction	H2. Application of traditional knowledge, practices and values of local community for disaster reduction a) Study on Indigenous technology b) Preparation of reports and dissemination c) Adoption of the results in development planning H1. Setup bilateral or multilateral Joint Committees on disaster reduction	1998 1999 2000	CDRC (DDRC) CDRC (DDRC) CDRC (DDRC) NOFA (MOWR, MOI)
I.	Promotion of Regional and Sub-Regional Cooperation between Countries	I2. Exchange information and share experiences for disaster reduction issues I3. Implement disaster reduction strategies J1. Establish documentation centre for compiling collecting, publishing and disseminating information on disaster management.	Start and Continue 1997	MOFA (MOWR, MOI) MOWR, MOI
J.	Exposed to same Natural Hazards (like Floods and Earthquakes) Establishment of Documentation Centre on Disaster management		1998	MOH

ANNEX-A

EQUIPMENT AND MATERIALS FOR RESCUE AND EVACUATION

AIR CRAFTS:

- (a) C-130 (Hercules)..... 1 (one)
- or
- CASA -212..... 4 (four)
- (b) Super Puma Helicopter..... 4 (four)
- (c) Allouette/Bell/Equirell Helicopter..... 4 (four)

TENTAGE

- (a) Stores Tents (80 X 40)..... 5 (five)
- (b) Stores Tents (40 X 40)..... 10 (ten)
- (c) 50 Men Tents..... 10 (ten)
- (d) 30 Men Tents..... 10 (ten)
- (e) 10 to 15 Men Tents..... 50

COMMUNICATION EQUIPMENT

- (a) HF Radio Set Complete Stations..... 10 (ten)
 - (aa) Frequency 2-30 MHz
 - (bb) RF Power output 100 to 150 watt PEP
 - (cc) Power input 220 volt AC, 50 Hz
- (b) HandHeld VHF/FM Radio Set Complete station..... 30(thirty)
 - (aa) RF Power output 5 watt
 - (bb) Frequency 30.88 MHz
- (c) Mobile VHF/FM Radio Stations Complete..... 10 (ten)
 - (aa) RF Power output 50 watt
 - (bb) Frequency 30.88 MHz
 - (cc) Input voltage 12 volt DC

Supplement

While implementing the plan, with a view to make it easier & more effective some amendments were made by IDNDR, National Committee on 29 Sept. 1994 which are as follows:-

1. The executing agency for (i) Flood Hazard Mapping, and (ii) the establishment of Flood Forecasting & Warning System is to be the Department of Hydrology & Meteorology instead of Department of Irrigation.
2. As a part of Disaster Mitigation Action Plan :-
 - (A) the policies on - (i) prevention & preparedness, (ii) participation of NGOs, private sector & local communities and (iii) incorporating environmental impact study in development plan, have to be carried out by Ministry of Population and Environment instead of CDRC.
 - (B) Ministry of Land Reform & Management has to be the co-operating agency for (i) the preparation of land use plan, (ii) rehabilitation plan and (iii) reduction programmes.
3. Regarding the amendments in the specified time frame, if it is needed, the concerning agencies are requested to inform the IDNDR National Committee.
4. To monitor the execution of the action plan, a Monitoring and Evaluation Committee comprised of representatives from Ministry of Home, National Planning Commission, Ministry of Finance, Ministry of Water Resources, Ministry of Industry (Department of Mines and Geology), Nepal Red Cross Society and Royal Nepal Army has been constituted.

ANNEX-C

LIST OF MATERIALS AND MEDICINES

1. Vehicles
2. Ambulances, stretcher
3. Cardiopulmonary resuscitation set
 - Ambu bag
 - O2 cylinder
 - ECG Machine
 - O.T. tubes
 - Airway tube
 - drugs : Dexona i. v. fluids
 - Avil, Hydrocortisone, Astropine
 - Morphine
 - Ethidine
 - Fortwin
 - Sod. bicarbonate
4. Suture sets
5. Crash injury set
6. Antibiotics, oral, local, parenteral
7. Rehydration fluids
8. Vit A,D,B 12 and Vit C
9. Folic Acid, Iron
10. Antiprotozoal/Antihelminthic drugs
11. Chlorine/bleaching powder
12. Water container, safe with small mouth
13. Milk powder
14. Nutritious and proteinous flour