U.P. STATE DISASTER MANAGEMENT PLAN ON

FLOOD

Submitted By

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CHAPTER – I

INTRODUCTION

1.0 INTRODUCTION

Disasters are either natural, such as floods, droughts, cyclones and earthquakes, or human-made such as riots, conflicts and others like fire, epidemic, industrial accidents and environmental fallouts. Globally, natural disasters account for nearly 80% of all disaster affected people. According to the insurance company estimates, natural disasters represent 85% of insured catastrophe losses. If one adds the losses in countries like India, where most of the property of the people, especially in the rural areas is uninsured, the losses are astronomical. In 1996, 40 million disaster-affected people depended on humanitarian assistance, a 60% increase over the 25 million in the 1980s.

Present document defines action plan related to natural disasters only. Disasters threaten sustainable economic development worldwide. In the past twenty years, earthquakes, floods, tropical storms, droughts and other calamities have killed around three million people, inflicted injury, disease, homelessness, and misery on one billion others, and caused damage worth millions of rupees. Disasters destroy decades of human effort and investments, thereby placing new demands on society for reconstruction and rehabilitation.

The member of states of the United Nations General Assembly declared the decade 90s as the **International Decade for Natural Disaster Reduction (IDNDR).** This international promotional mechanism was conceived to run from 1990 through 1999, to motivate concerted international action and cooperation which could "reduce the loss of life, property damage, and social and economic disruption caused by natural disasters, especially in developing countries". IDNDR is based on the understanding that there is sufficient scientific and technical knowledge, which can save lives and property from natural and similar disasters through to more extensive application. IDNDR provides a framework and serves as a catalyst for disaster reduction. It provides a stimulus to provoke the **Draft State Disaster Management Plan.**

For planning and coordination of Disaster Management Activities in India, a High Powered Committee (HPC) on Disaster Management was constituted with the approval of the Prime Minister under the Chairmanship of Shri J.C. Pant, a former Secretary to the Government of India in August 1999.

Though the original mandate of the HPC was confined to preparation of plans for natural disaster only, man-made disasters like accidents, industrial and chemical accidents, biological disasters, etc. were included to ensure a holistic approach for preparation of Disaster Management Plans.

The HPC constituted 5 sub-groups to develop detailed history of each type of disaster and the type of plans of actions needed to have the most effective preparedness, response and recovery strategies for each type of disaster. The five sub-groups were on:

- Water & Climate related hazards
- Geological hazards
- Industrial, Chemical and nuclear hazards
- Accidents
- Biological Hazards

Three major functional areas were recognised as necessary components of a comprehensive approach: prevention, response and recovery. Within these areas, the key responsibilities of agencies include:

Planning: the analysis of requirements and the development of strategies for resource utilization.

Preparedness: the establishment of structures, development of systems and testing and evaluation by organizations of their capacity to perform their allotted roles.

Co-ordination: the bringing together of organizations and resources to ensure effective disaster management.

On 23rd December, 2005, the Government of India took a defining step towards holistic disaster management by piloting the enactment of the DM ACT,2005. Further Act mandates the National Disaster Management Society (NDMA) to lay down policies and guidelines for the statutory authorities to draw their plans. In essence, the NDMA will concentrate on prevention, mitigation, preparedness, rehabilitation and reconstruction & also to formulate appropriate policies & guidelines for effective and synergized national disaster response and relief. It will coordinate the enforcement & implementation of policies and plans. Section 23 of DM ACT, 2005 provides that there shall be a DM plan for every state. To manage these disasters at gross root level, it is of paramount importance to have a well documented action plan.

The main vision of this document is to initiate coordinated efforts to have an effective disaster management strategy for the State, which will minimise the impact of future disasters. The other main focus area of this document is to have an extremely quick, efficient and coordinated response and recovery plans in place from the Panchayat to the State level (village being the unit of planning) with a mechanism that will ensure increasing community participation in all disaster preparedness activities.

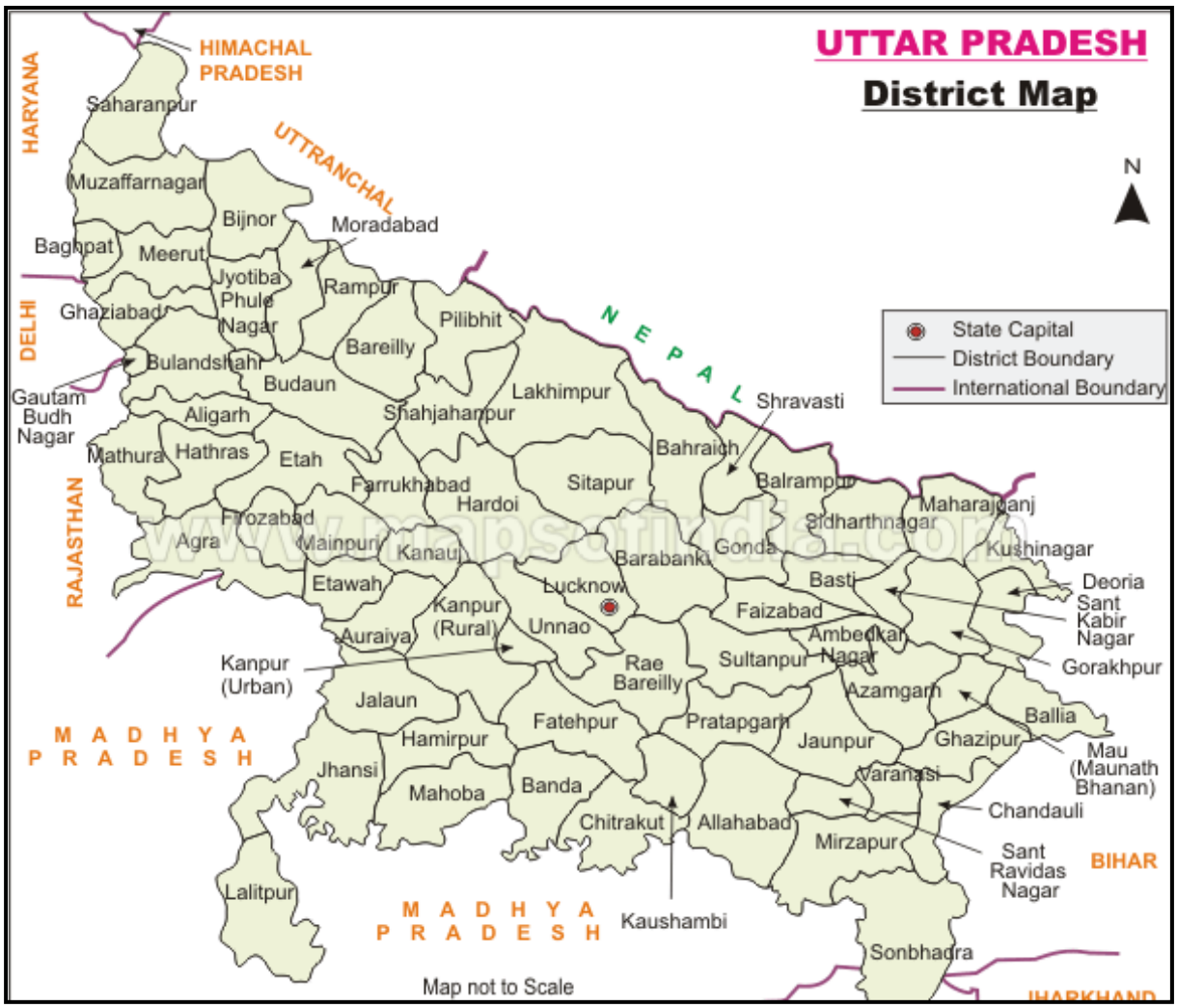
1.1 State profile –

Geography:

Uttar Pradesh is bounded by Nepal on the North, Himachal Pradesh on the north west, Haryana on the west, Rajasthan on the south west, Madhya Pradesh on the south and south- west and Bihar on the east. Situated between 23^{o} 52'N and 31^{o} 28 N latitudes and 77^{o} 3' and 84^{o} 39'E longitudes, this is the fourth largest state in the country. (A part of Uttar Pradesh has been separated and formed into a new state TA on November 9th 2000. The details given here are before the separation).

Uttar Pradesh can be divided into three distinct hypsographical regions :

1. The Himalayan region in the North
2. The Gangetic plain in the centre.
3. The Vindyan hills and plateau in the south



Social, Economic and Demographic

Uttar Pradesh is the most populous state in the country accounting for 16.6 per cent of the country's population. It is also the fourth largest state in geographical area covering 9.0 per cent of the country's geographical area, encompassing 2,40,928 square kilometers and comprising of 71 districts, 821development blocks and 97,942 inhabited villages. The density of population in the state is 690 person per square kilometers as against 274 for the country.

Almost all social indicators of the state show that the state stands on 13th or 14th position among the sixteen major States. Bihar and in some cases Orissa, are the only two states which lag behind U.P. in terms of social development indicators like medical facilities, teacher-pupil ratio in primary schools, birth rate, death rate, infant mortality rate, literacy, per capita income, electrification of villages, per capita power consumption etc. Uttar Pradesh is often seen as a case study of development in a region of India that currently lag behind other parts of the country in terms of a number of important aspects of well being and social progress. Their region consists of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh. There are important

differences between these four states. But the cause of social backwardness in these four different States, never the less, appear to have much in common and recent comparative research have pointed to many similarities in the social, cultural and even political makeup of these states which have contributed to their backwardness.

Demographic and Socio-economic profile of Uttar Pradesh State and its comparison to India figures (Table-1 & 2)

(Table-1)

POPULATION (2001 census)	166197921
MALES	565369
FEMALES	632552
SEX RATIO (females/1000 males)	898
DENSITY OF POPULATION (Persons/ Square Km)	689
URBAN POPULATION %	20.78
LITERACY RATE (census 2001) in %	57.36
MALE LITERACY in %	68.8
MALE LITERATE in numbers	48901413
FEMALE LITERACY in %	42.2
FEMALE LITERATE in numbers	26817871
BIRTH RATE (PER 1000) (2002)P	31.6
DEATH RATE (PER 1000)	9.7
NSDP at current prices (2002-2003)* Rs Crores	170424 Rs Crores *(2002-2003)
PER CAPITA NSDP (2002-03) at current prices Rs	9895 Rs *(2002-2003)

(Table - 2)

S. No.	Item	Uttar Pradesh	India
1	Total population (Census 2001) (in million)	166.20	1028. 61
2	Decadal Growth (Census 2001) (%)	NA	21.54
3	Crude Birth Rate (SRS 2007)	29.5	23.1
4	Crude Death Rate (SRS 2007)	8.5	7.4
5	Total Fertility Rate (NFHS-III)	3.8	2.7
6	Infant Mortality Rate (SRS 2007)	69	55

7	Maternal Mortality Ratio (SRS 2001 - 2003)	517	301
8	Sex Ratio (Census 2001)	898	933
9	Population below Poverty line (%)	31.15	26.10
10	Schedule Caste population (in million)	35.15	166.64
11	Schedule Tribe population (in million)	0.11	84.33
12	Female Literacy Rate (Census 2001) (%)	42.2	53.7

1.2 Theme (Flood) :

The Disaster Management Plan for the state is proposed to be developed as an integrated plan encompassing all disasters in the multi-response fashion keeping with the international trend. Albeit, a common planning and operational framework is proposed for all the four disasters which would ensure a systematic assessment, communication and management of risk, appropriate for a disaster and identification of response.

STATE STATUS

Over 40 million hectares (12 percent of land) is prone to floods and river erosion whereas approximately 73.36 lakhs hectare land has been recognized as flood prone due to the flooding in Uttar Pradesh.

The tragedy and the lessons learnt from the severe floods of eastern changed the mindset of the government and the focus of disaster management shifted from ***"Rescue, Relief and Restoration" to "Planning, Preparedness &Prevention".***

By enlarge area around eastern part of Uttar Pradesh regularly faces the problem of severe flooding due to low terrain relief, meandering nature of rivers and lots of suspended sediments load. Since this part of the state is very important as far as agriculture point of view, hence flood risk assessment and damage assessment is paramount importance. Therefore measures are taken up on the basis of information collected by the conventional methodologies which area time consuming and costly. It is better to take precautionary measures using state of the art technology, which could be cost effective and time saving.

1.3 Objectives:

The objectives of the Disaster Management Plan are to ensure that the following components of disaster management are organized to facilitate planning, preparedness, operational coordination and community participation.

Prevention: the elimination or reduction of the incidence or severity of disasters and the mitigation of their effects.

Response: the combating of emergencies and the provision of immediate rescue and relief services;

Recovery: the assisting of people and communities affected by disasters to achieve a proper and effective level of functioning.

Following are the objectives for preparation of the State Disaster Management Plan:

(a). Identification of the various hazards and hazard prone areas in the State

(b) Hazard risk and vulnerability assessment and to identify vulnerable Locations.

(c). The measures to be adopted for the preventions and mitigations of disasters, so that risk involved in vulnerable communities can be reduced

(d). The manners in which the mitigation measures shall be integrated with the development plans and projects.

(e). The capacity –building and preparedness measures to be taken.

(f). The roles and responsibility of each departments of the government of State in relation to the measures specified in clause (b)., (c), and (d) above.

(g). The roles and responsibility of different departments of the Government of State in responding to any threatening disaster situation or disaster.

CHAPTER - II

VULNERABILITY ASSESSMENT AND RISK ANALYSIS

2.1 History of Vulnerability of the state to different types of Natural Disasters

The vulnerability of a particular element of society is defined as the degree of loss which is would suffer as a result of a specific hazard event. The nature of vulnerability and its assessment vary according to whether the element involved represents people and social structures, physical structures, or economic assets and activities. The vulnerability of an area is determined by the capacity of its social, physical and economic structures to withstand and respond to hazard events. Certain groups of people, types of physical assets and economic activities can be particularly vulnerable or susceptible to damage. The concept of vulnerability implies a measure of risk combined with the level of social and economic ability to cope with the resulting event in order to resist major disruption or loss. Vulnerability is thus the liability of a community to suffer stress, or the consequence of the failure of any protective devices and may be defined as the degree to which a system or part of a system, may react adversely to the occurrence of a hazardous event.

In this part, on the basis of nature of hazards, socio-economic parameters and institutional arrangements (discussed previous chapters) and community preparedness Strength, Weakness, Opportunity Threats (SWOT) risk and vulnerability assessment has been conducted.

2.2 Hazard risk assessment and vulnerability mapping

Uttar Pradesh is vulnerable to various disasters. Below table explains (on the basis of hazard analysis) district-wise degree of risk and vulnerability involved in Uttar Pradesh.

S.No	Hazard	Districts of maximum risk (in terms of damage and losses-)	Vulnerability
1	Earthquakes	North East, East, Central , North, North West and West	Less to High
2	Floods	Eastern part of Uttar Pradesh, North western part	Moderate to High
3	Wind	All districts	Low to medium

	storms		
4	Drought	All districts	Medium to high

FLOOD AFFECTED DISTRICTS OF UTTAR PRADESH

WESTERN REGION :
Mathura, Agra, Bulandshahar & Badaun

CENTRAL REGION :
Lucknow, Sitapur, Hardoi, Barabanki, Raebareli

EASTERN REGION :
Gorakhpur, Deoria, Basti, Santkabir Nagar, Siddharth Nagar, Mau, Maharajganj, Kushi, Nagar, Azamgarh, Balia, Gonda & Bahraich

In 1973, 52 districts of the State inundating about 73.36 lac ha area (42.62 lac ha of cropped area), affecting 2,51,00,000 people of 45,666 villages were affected by floods. The details are as below :

S. No.	Area Name	Number of Affected villages	Affected Population	Total Area Affected	Total Affected Crop Area	Number of Houses Damaged	Flood Loss		Total Area (in Lakh Hectare)
							Human Loss	Animal Loss	
	Western Region								
1	Muzaffarnagar	-	8913	54543	92113	2784	-	2	10.76
2	Meerut	158	45039	99764	42443	1053	2	13	14.87
3	Buland Shahar	64	22857	21628	8298	40	-	-	12.08
4	Aligarh	8	140	170	166	25	-	-	-
5	Mathura	110	39093	23883	14332	668	-	-	9.38
6	Agra	35	2714	6000	741	13	-	-	11.90
7	Etah	127	96191	91207	38445	523	-	-	10.97
8	Farrukhabad	407	116392	206338	71205	3625	4	13	11.52
9	Etawah	116	9992	26728	12057	-	-	-	10.07
10	Bijnor	444	119641	151461	61509	7463	13	4	11.54
11	Bareilly	934	231103	175880	84999	909	-	-	10.17
12	Pilibhit	126	6065	128000	34408	39	-	-	8.64
13	Shahjahanpur	672	270106	122864	78666	2164	2	-	11.28
14	Muradabad	735	201758	334032	174444	19069	1	1	14.62
15	Badaun	685	274892	361646	147981	3681	2	-	12.78
16	Rampur	561	238165	162414	144836	7350	-	-	5.73
	Eastern Zone								
17	Varanasi	358	48147	26593	14218	16	-	-	12.57
18	Mirjapur	344	138225	121800	38540	73	-	-	27.96
19	Jaunpur	495	194952	125000	41155	713	4	1	8.87
20	Gazipur	534	312733	125620	71971	15	2	3	8.35
21	Balia	1564	695577	304232	182463	17226	12	2	7.56
22	Gorakhpur	1478	750483	392171	222256	29910	17	8	15.56
23	Deoria	3509	2600000	919097	722470	50882	35	24	13.35
24	Basti	3832	970016	498628	403707	23787	8	1	18.05
25	Azamgarh	1043	675753	228565	409530	2103	14	1	14.21
26	Gonda	-	-	28700	98693	1200	-	-	18.10
27	Behraich	242	50000	63000	54208	489	-	1	16.76
28	Faizabad	721	148400	23360	64122	825	15	-	10.90
29	Sultanpur	213	174995	26284	26284	175	-	-	10.96
30	Prataphgarh	980	712084	228658	186536	288	-	-	9.33

31	Allahabad	537	205922	152391	58197	2981	2	-	17.92
	Central Zone								
32	Kanpur	157	13481	26958	7289	390	-	-	15.08
33	Fatehpur	124	25351	33858	82224	15	-	-	10.39
34	Kheri	137	36605	33207	26860	255	4	1	19.02
35	Sitapur	188	105000	50000	13000	-	-1	-	14.31
36	Hardoi	448	290398	242755	96212	2477	2	3	14.80
37	Lucknow	70	30257	5540	3212	130	1	-	6.20
38	Unnao	476	350000	73612	73612	2595	1	1	11.35
39	Raibariely	1283	874099	831593	270988	7198	6	6	11.25
40	Barabanki	242	92823	101291	52242	1600	1	-	11.96
	Bundelkhand Zone								
41	Jalaun	83	23691	44892	20123	-	-	-	11.28
42	Hamirpur	112	23537	71053	38340	100	-	-	17.76
43	Banda	265	118230	190103	77110	465	-	-	18.86

Source of Data Irrigation Department, U.P.

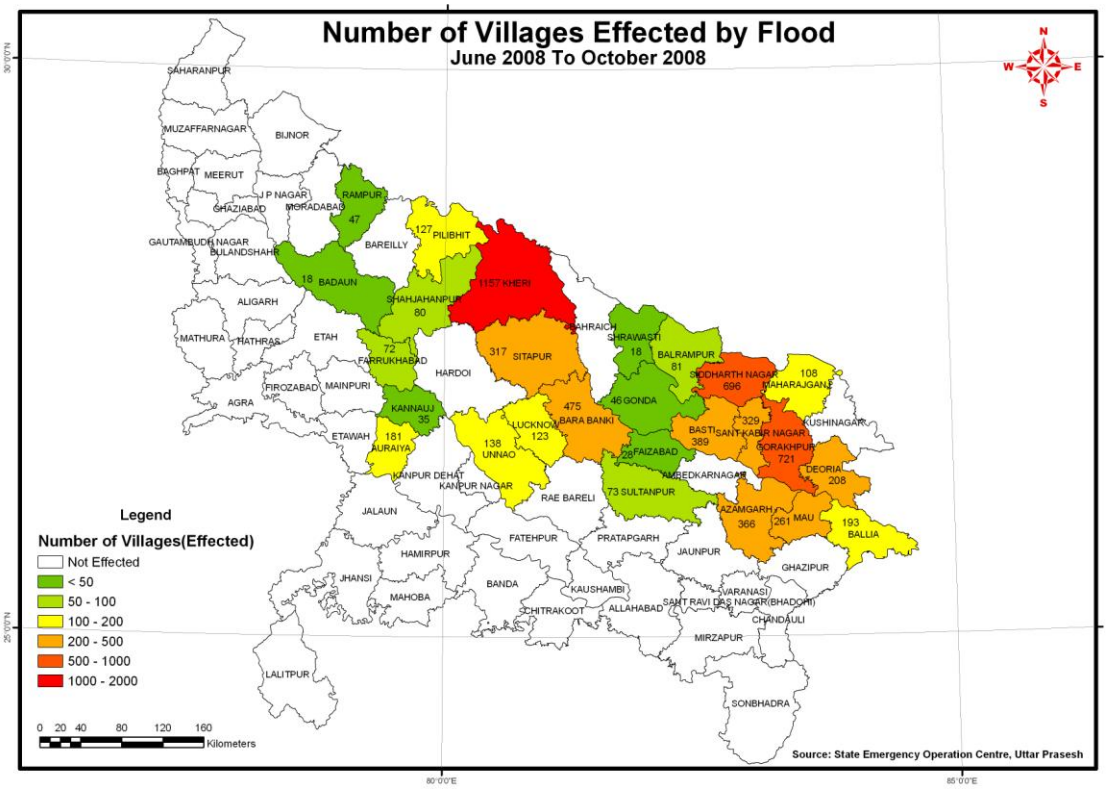
For risk and vulnerability assessment, physical, socio-economic, housing, community and institutional preparedness related parameter has been identified. To assess their importance, checklists were prepared under each parameter and information was gathered from various primary and secondary sources. Based on the information collected under the checklists, few indicators were formulated and status of strength, weakness, opportunity and threat has been assigned which was further utilized for risk and vulnerability analysis.

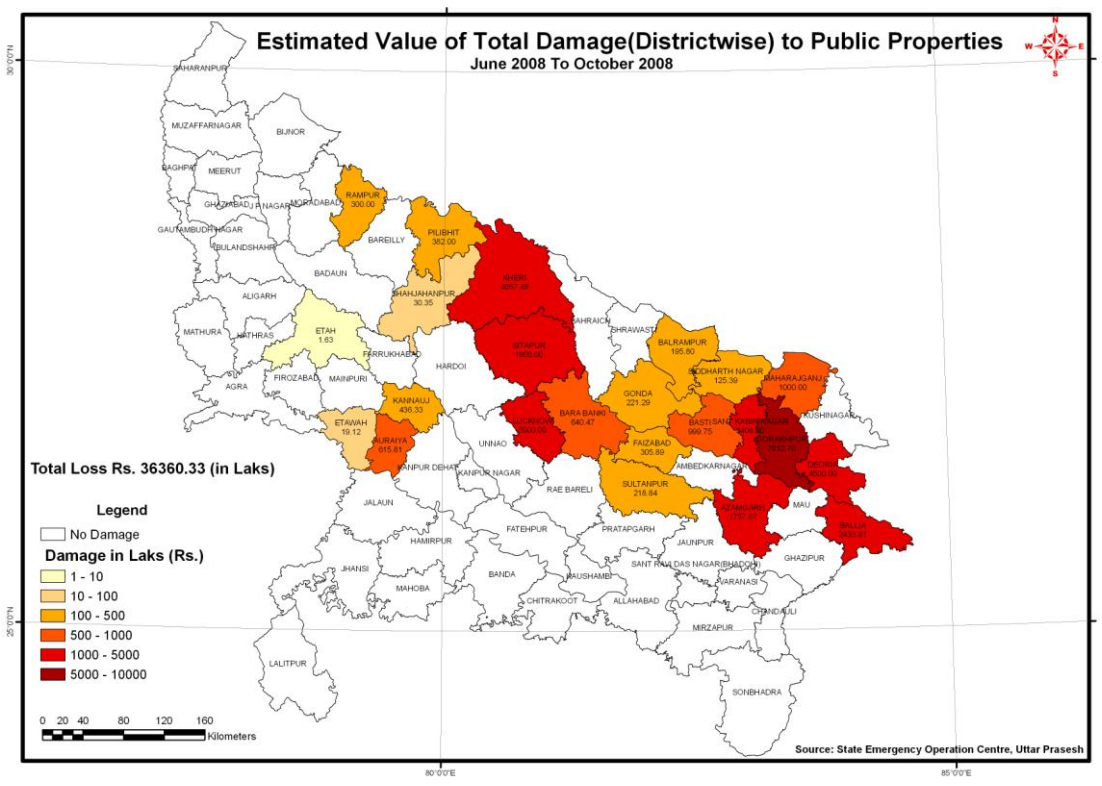
Some of the inferences, drawn, are mentioned below:

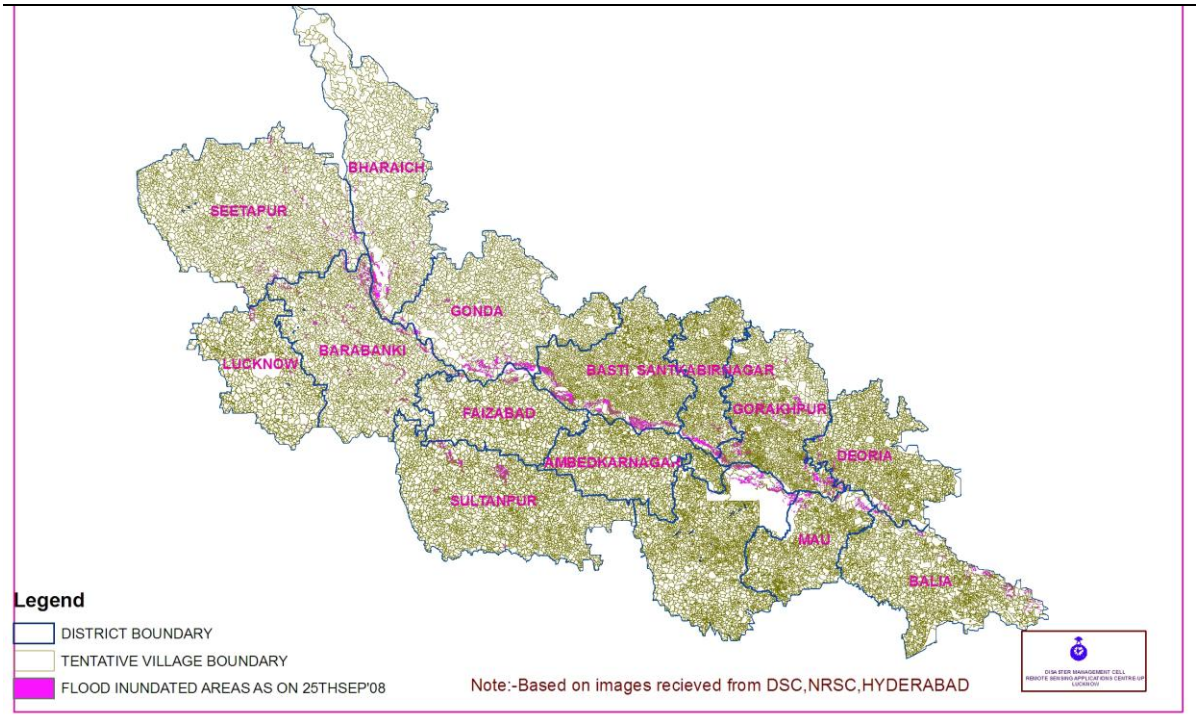
1. Soft alluvial soil around river Yamuna pose risk of high damages during earthquakes and soil in and around eastern part of Uttar Pradesh near rivers Ghaghara, Rapti, Gandak and Ganga, pose grim situation of floods.

A high population, high residential and industrial density, scattered slums, living in poor housing conditions along with poor preparedness and administrative response aggravates the risk and may lead to colossal losses to lives and property during emergencies.

2. On the other hand, Uttar Pradesh is also full of strengths, which may become opportunity in case of any disaster and a systematic approach may also help to overcome from above-mentioned weaknesses. Therefore an approach towards community preparedness for disaster management may help in reducing risk at the local level.


Number of Villages Effected by Flood
June 2008 To October 2008
SAHARANPUR
MUZAFFARNAGAR
BIJNOR
BAGHPAT
MEERUT
J P NAGAR
GHAZIABAD
MORADABAD
RAMPUR
47
127
PILIBHIT
BAREILLY
GAUTAMBUDH NAGAR
BULANDSHAHR
18
BADAUN
1157 KHERI
ALIGARH
SHAHJAHANPUR
80
MATHURA
HATHRAS
ETAH
72
FARRUKHABAD
317
SITAPUR
HARDOI
SHRAWASTI
18
BALRAMPUR
81
SIDDHARTH NAGAR
696
108
MAHARAJGANJ
FIROZABAD
MAINPURI
AGRA
KANNAUJ
35
475
46 GONDA
BARA BANKI
329
KUSHINAGAR
ETAWAH
181
AURAIYA
LUCKNOW
123
138
UNNAO
BASTI
389
SANT KABIR NAGAR
GORAKHPUR
721
28
FAIZABAD
DEORIA
208
AMBEDKARNAGAR
KANPUR DEHAT
KANPUR NAGAR
RAE BARELI
73 SULTANPUR
AZAMGARH
366
261
MAU
193
BALLIA
JALAUN
FATEHPUR
PRATAPGARH
HAMIRPUR
JAUNPUR
GHAZIPUR
JHANSI
BANDA
KAUSHAMBI
VARANASI
MAHOBA
CHITRAKOOT
ALLAHABAD
SANT RAVI DAS NAGAR(BHADOHI)
CHANDAULI
MIRZAPUR
LALITPUR
SONBHADRA
Legend
Number of Villages(Effected)
Not Effected
< 50
50 - 100
100 - 200
200 - 500
500 - 1000
1000 - 2000
0 20 40 80 120 160
Kilometers
Source: State Emergency Operation Centre, Uttar Prasesh
80°0'0"E
85°0'0"E
30°0'0"N
25°0'0"N


Estimated Value of Total Damage(Districtwise) to Public Properties
June 2008 To October 2008
SAHARANPUR
MUZAFFARNAGAR
BIJNOR
BAGHPAT
MEERUT
GHAZIABAD
J P NAGAR
MORADABAD
RAMPUR
300.00
PILIBHIT
382.00
GAUTAMBUDH NAGAR
BULANDSHAHR
BAREILLY
BADAUN
KHERI
4057.48
ALIGARH
SHAHJAHANPUR
30.35
MATHURA
HATHRAS
ETAH
1.63
SITAPUR
1960.00
SHRAWASTI
BALRAMPUR
195.60
FARRUKHABAD
HARDOI
FIROZABAD
MAINPURI
AGRA
SIDDHARTH NAGAR
125.39
MAHARAJGANJ
1000.00
KANNAUJ
436.33
GONDA
221.29
ETAWAH
19.12
AURAIYA
615.81
LUCKNOW
2500.00
BARA BANKI
640.47
BASTI
999.75
KUSHINAGAR
UNNAO
FAIZABAD
305.89
AMBEDKARNAGAR
KANPUR DEHAT
KANPUR NAGAR
RAE BARELI
SULTANPUR
218.84
JALAUN
AZAMGARH
4757.87
MAU
FATEHPUR
PRATAPGARH
HAMIRPUR
JAUNPUR
GHAZIPUR
JHANSI
BANDA
KAUSHAMBI
VARANASI
SANT RAVI DAS NAGAR(BHADOHI)
MAHOBA
CHITRAKOOT
ALLAHABAD
CHANDAULI
MIRZAPUR
LALITPUR
SONBHADRA
Total Loss Rs. 36360.33 (in Laks)
Legend
No Damage
Damage in Laks (Rs.)
1 - 10
10 - 100
100 - 500
500 - 1000
1000 - 5000
5000 - 10000
0 20 40 80 120 160
Kilometers
Source: State Emergency Operation Centre, Uttar Prasesh
80°0'0"E
85°0'0"E
30°0'0"N
25°0'0"N



2.2.1 Hazard risk assessment and vulnerability mapping for floods

The total geographical area of Uttar Pradesh is 240.98 lakhs hectare, of which approximately 73.36 lakhs hectare land has been recognized as flood prone due to the flooding of major rivers like Ganga, Yamuna, Ramganga, Gomti, Ghaghra, Rapti, Sharda & Gandak.

The magnitude of the flood depends upon the snow melt off, intensity of rainfall, its duration and also on ground conditions in the catchment area. When heavy spell of rainfall occurs, floods causes severe damages to human life and properties.

All the major river systems of Indo-Gangetic plain region are transporting heavy amount of sediment load, due to environmental imbalance in the hilly region (which is the origin place of all major river system). Consequently, silt load is gradually increasing in the Indo-Gangetic plain region of river system, causing obstruction in proper flow of surface water in the rivers. This leads to frequent floods in the rivers.

Records from central water commission say that Ghaghara and Rapti river basin has experienced major floods during 1965, 1969, 1973 & 1998. Flood has occurred 2 times in the Balrampur district. 9 times in Basti district and 21 times in Birdghat (Gorakhpur) between 1987 to 1996. (S. Nandargi & Dhar D.N., 1998). The heavy flood of the year 1998 and losses thereof have necessitated to study the area in detail and develop the methodology for flood risk mapping silt load assessment and creation of data base for flood management information system for long term flood prone area planning (RSAC, 1998 & 2008).

2.2.2 Hazard profile (Flood) of State

Over 40 million hectares (12 percent of land) is prone to floods and river

erosion whereas approximately 73.36 lakhs hectare land has been recognized as flood prone due to the flooding in Uttar Pradesh.

Year-wise flood affected villages/area in U.P. are as below :

Year	No. of district affected	Area affected (in lac ha.)
1973	52	73.36
1978	55	72.5
1980	46	58.57
1981	33	29.91
1982	44	55.38
1983	56	38.60
1984	39	16.68
1985	55	40.28
1986	45	10.34
1987	09	5.81
1988	46	31.76
1989	25	10.03
1990	51	22.03
1991	29	8.10
1992	28	5.91
1993	34	15.11
1994	45	9.86
1995	51	12.79
1996	44	11.24
1997	29	3.49
1998	55	25.23
1999	11	5.39
2000	40	7.84
2001	21	4.63
2002	14	1.10
2003	54	23.60
2004	2	2.43
2005	35	3.59
2006	12	4.53
2007	23	8.49
2008	32	4.99

This Plan is the first attempt to bring out a common plan for the State for all categories of possible disasters identified, to which is the State is vulnerable to. The Plan has a **'multi-hazard approach'** and incorporates various action which will

promote a **'Culture of Preparedness.'** Extensive consultations, referring to various Disaster Management Plans globally and as suggested by the HPC have led to the incorporation of specific concepts. They are:

Trigger mechanism is an emergency quick response mechanism, which would spontaneously set in motion all disaster management activities for response and recovery without loss of critical time. This would entail all the participating managers to know in advance the task assigned to them and the manner of response.

Identification of available resources, manpower, material, equipment and adequate delegation of financial and administrative powers are perquisites to the successful operation of Trigger Mechanism.

The Trigger Mechanism is, in essence, Standard Operating Procedure (SOP), which lays down in a scientific and comprehensive manner the implementation plans on receipt of a warning of impending disaster or plans to respond quickly to disasters that give no warning. Activities such as evacuation, search and rescue, temporary shelter, food, drinking water, clothing, health and sanitation, communication, accessibility and public information are important components of disaster management, which would follow on the activation of Trigger mechanism. These activities are common to all types of disasters and will require the **preparation of sub-action plans by each specified authority.**

CHAPTER - III

PREVENTIVE MEASURES

The hydrological processes responsible for flood generation are continuous and interrelated across a river basin. There is a close relation between water resources management, river management, landuse management, forest management, erosion control, agriculture, urban drainage and sewerage within a basin. Changes in the characteristics of the catchments have influence on the characteristics and the magnitude of the flood regime. Flood management measures may have impact on the magnitude of flood down stream thereby transferring the flood risk. The flood management measures therefore should take account off entire basin form up stream to down stream. For example restricting the solution to flood plain alone restricts the option of managing the run off where it is generated. Therefore the strategy for flood risk reduction should be realize through a basin flood management plan such a plan should take a account of all developmental activities undertaken in the basin that has the potential to affect the flood regime. Various organization and institutions with mandates related to development activities that effect the hydrological process in the basin should be counted as stakeholders in the process of formulating basin flood management plans. Basin flood management plans present clear pictures of causes and effect that promote integrated flood management in a basin.

3.1 Natural Disasters (Flood): specific to State

Uttar Pradesh disaster management arrangements are designed to:

Flood Affected Area in State & Detailed of constructed Drains For Drainage

Total Flood Affected Area	**73.36 lac ha**
Western Area	**35.42 lac ha**
Eastern Area	**23.71 lac ha**
Central Area	**6.41 lac ha**
Bundelkhand Area	**7.60 lac ha**
Expected Area to get protected from Flood	**58.72 lac ha**
Constructed Drain (Total)	**40225.38 km**
Trunk Drains	**7081.80 km**
Other Drains	**33143.58 km**

Resterotion of Capacity of Drains & Flood Protection

Resteration of Capacity of Trunk Drains	
Total Length of Drains	**40225.38 km**
Total Length of Trunk Drains	**7080.80 km**
Other Drain.	**33144.58 km**
Length of trunk Drains restored upto year 2000-2001	**1582.60 km**
Progress of Restoration of capacity of trunk drains up to 5/2001.	**140.00 km**

L

ist of Marginal Embankmants Riverwise

S.N	Name of River	No. of Marginal Embankments	Length Marginal Embankments (Km)	Benefitted Area (HA)
1	Old Rapti	15	115.7	33785
2	Rapti	74	592.0	139968
3	Kara Ghonghi	9	110.1	21925
4	Aami	1	1.3	10
5	Ghaghara	36	371.4	175925
6	Manwar	6	69.2	18769
7	Kuwanon	10	83.8	15245
8	Vanganga	5	24.2	8556
9	Gurra River	8	85.3	11800
10	Small Gandak	27	124.7	9383
11	Rohin River	16	117.6	15264
12	Chandan River	1	16.0	700
13	Big Gandak	18	131.7	265903
14	Ganga River	28	156.5	44975
15	Tones River	10	78.3	22060
16	Yamuna River	33	331.9	37401
17	Hindon River	1	19.4	4900
18	Kali River	1	4.6	150
19	Gomti River	3	14.7	2995
20	Solani River	2	10.3	3745
21	Drain	27	83.4	5850
	Total	339	3020.6	10,49,146
		339	3021	10.49 lac ha

3.2 Man-made

At the time of heavy rainfall due to the poor drainage system many low-line areas get flooded. While at the time of heavy flood due to the damage made by the local people to the embankment much more country side area get flooded.

3.3 Early warning and Dissemination System

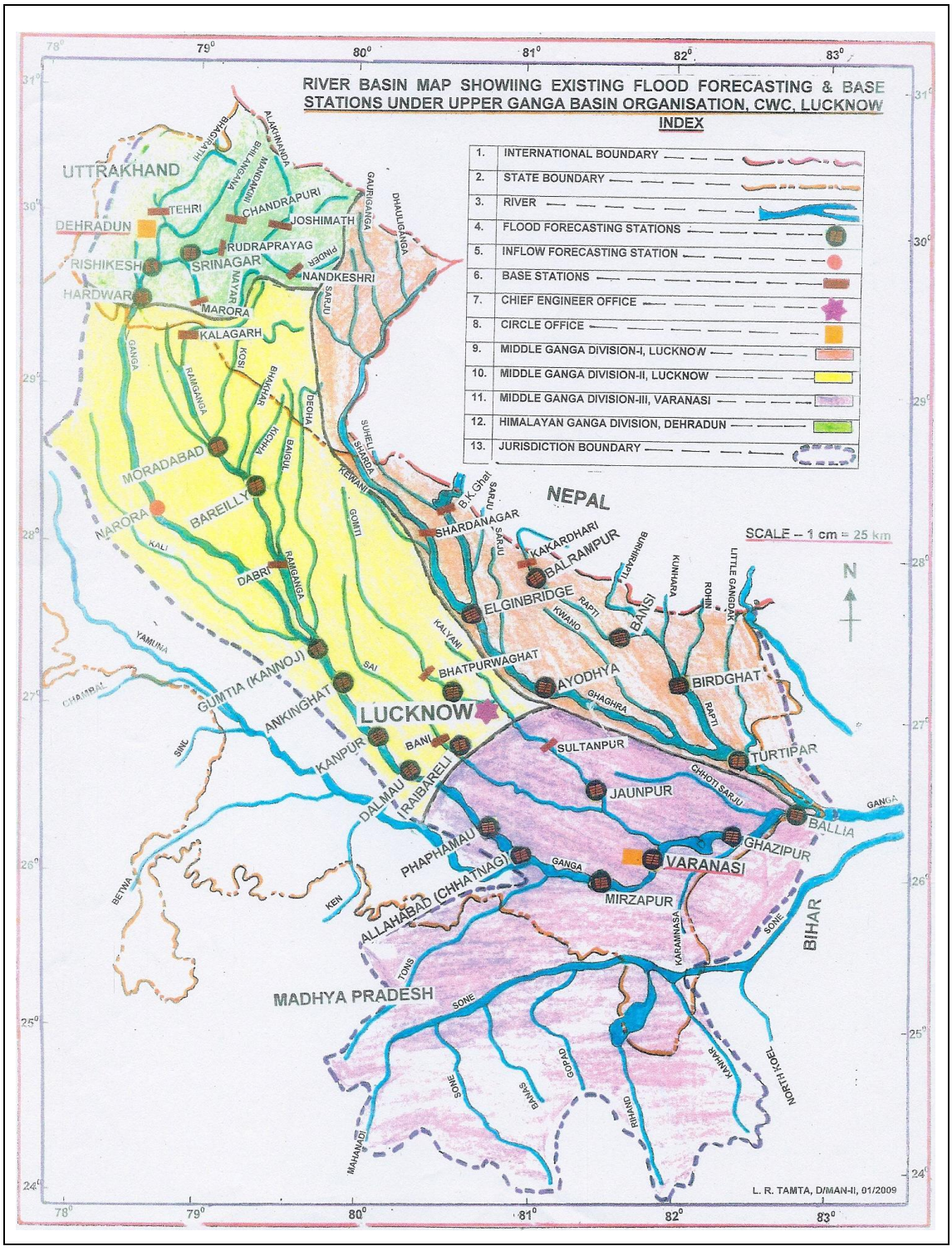
Location & Catchment Area of Gauge Station on different rivers are as below:

S. No.	River Name	Location of Gauge Station	District	Danger Level (in meter)	High Flood Level
1.	Ganga	Rishikesh	Haridwar	340.50	341.72/95
		Bhimgaura	Haridwar	294.00	296.23/78
		Narora D/S	Bijnor	178.42	179.34/98
		Fatehgarh	Farukhabad	137.6	138.06/72
		Gumtia	Kannauj	125.97	126.24/98
		Ankinghat	Kanpur Dht	124.00	124.30/78
		Kanpur Nagar	Kanpur Ngr	114.00	113.46/67
		Dalmau	Raibareilly	99.36	99.84/73
		Fafamau	Allahabad	84.73	87.98/78
		Chatnag	Allahabad	84.73	88.03/78
		Mirzapur	Mirzapur	77.72	80.34/78
		Varanasi	Varanasi	71.26	73.90/78
		Balia	Balia	57.61	60.25/03

2.	**Yamuna**	Kalnaur	Delhi	-	268.80/00
		Mavi	Muzafar Ngar	230.85	232.45/88
		Bagpat	-	-	-
		Mohna		-	196.42/82
		Mathura		165.20	169.73/78
		Agra		152.40	154.76/78
		Etawah		121.92	126.13/96
		Aurraiya		113.00	118.19/96
		Kalpi		108.00	112.98
		Hamirpur		103.63	108.59/83
		Chillaghat		100.00	105.16/78
		Naini	Allahabad	84.73	97.99/78
3.	**Sarda**	Banwasa	Nanital	223.30	222.60/99
		Palian-kalan	Lakimpur	153.62	155.17/08
		Sarda Nagar	Lakhimpur	135.49	136.55/93
4.	**Gomti**	Bhatpurwaghat		114.30	115.55/60
		Hanuman Setu	Lucknow	109.50	110.85/71
		Sultanpur	Sultanpur	84.73	89.45/71
5.	**Ken**	Banda	Banda	104.00	113.29/05
6.	**Ghaghra**	Kartania Ghat	Bahraich	136.78	137.12/75
		Elgin Bridge	Barabanki	106.07	107.46/08
		Ayodhya	Faizabad	92.73	93.84/08
		Turtipar	Balia	64.01	66.00/98
7.	**Gandak**	Balmiki Nagar		109.67	112.70/74
		Khadda		-	-
		Pokhara (Nepal)		-	-
8.	**Rapti**	Bhairwa (Nepal)		-	-
		Kusum (Nepal)		-	-
		Bhinga		119.5	120.10/97
		Kakardhari	Balrampur	131.00	13.35/79
		Balrampur	Balrampur	104.62	105.25/00
		Bansi	Siddhartha Nagar	84.90	85.82/98
		Rigauli	Gorakhpur	80.30	082.12/00
		Birdghat	Gorakhpur	74.98	077.54/98
9.	**Rohni**	Trimohni Ghat	Maharajganj	82.44	85.43/01
10.	**Old Rapti**	Kakrahi	Basti	85.65	88.99/98
11.	**Kunhara**	Uska Bazar		83.52	
12.	**Kuano**	Chandradeep Ghat	Gonda	-	
		Basti	Basti	63.64	
		Mukhlispur	Basti	79.65	
13.	**Ramganga**	Kalagarh		-	259.10/95
		Moradabad		190.60	192.68/78
		Bareilly		163.07	162.88/78
		Dabri		137.30	139.69/83
14.	**Betwa**	Noteghat		-	207.99/89
		Lohana		122.66	133.69/83
		Sahijna		-	-

15.	**Chambal**	Mudraul		-	-
		Kota		-	-
		Pali		-	-
		Dhaulpur		-	145.50/96
16.	**Sai**	Bani		115.50	116.50/85
		Raibareli		101.00	109.81/82

Information from Central Water Commission regarding location of Gauge Sites



River level data are being sent to flood forecasting centers and accordingly they decide about the area to be flooded and the same is communicated to the various officials of the State Government including Relief Commissioner, U.P., Chief Engineer (Investigation & Planning) Irrigation Department, U.P., Lucknow and the concern District Magistrate.

Apart from the above manual gauge station one automatic gauge station is established on Ghaghra Rriver at Ayodhaya.

3.4 Prevention & Mitigation Plans

A hazard becomes a disaster only when it affects human settlements and causes loss of life and damage to property. In order to reduce the impact of such events through mitigation efforts, it is necessary to understand how such hazards become disasters.

Structural measures such as the construction of protective works or alterations designed to diminish the vulnerability of the elements at risk, and non-structural measures, such as regulating land use and building codes, incorporating preventive aspects into development planning, and equipping line departments for damage reduction, can all reduce the impact of a disaster on a region or a population. Everything that is done to reduce or prevent the damages that a disaster may cause is called "mitigation of risks."

Such mitigation measures can be integrated with normal development activities and inter-departmental coordination. ***Mitigation is not, in fact, a cost. In the long run it pays for itself. And it does so in lives saved and in real money. All these activities will be performed at the time of L0 level disaster.***

Short Term Plan

Structural

S. No.	Description of Work	Nodal Agency
1.	Repair of embankment and overhauling of Barrage Gates	U.P. Irrigation Dept.
2.	Renovation and cleaning of Trunk Drains/Other Drains	U.P. Irrigation Dept.
3.	Protection river erosion at critical location	U.P. Irrigation Dept.
4.	Deepening of the Water bodies	Minor Irrigation Dept.
5.	To ensure the availability of transport vehicle for supply essential goods at desired locations	Transport Dept.
6.	Creation of awareness among local people through various medium of media.	Jila Vigyan Club (Dept. of Science & Technology)Chairman, Director

7.	Creation coordination committee from different department	Steering Committee & Relief Commissioner
8.	Construction of water and soil conservation structures	Agri.; Soil & Water Cons; Minor Irrigation etc.

Non Structural

S. No.	Description of Work	Nodal Agency
1.	Establishment of flood control rooms at district H.Q	U.P. Irrigation Dept.
2.	Frequency analysis of floods occurrence based on past year experiences through Remote Sensing Data	U.P. Irrigation Dept. & Dept. Science & Tech RSAC-UP
3.	Assessment of flood plains in different river basins	Dept. Science & Tech RSAC-UP
4.	Deepening of the Water bodies	Panchayati Raj/ Revenue Dept.
5.	Proper storage of food Grains & fodder	Food & Supply Dept.
6.	Procurement of sand bags and boulders	PWD

Medium Term Plan

Structural

S. No.	Description of Work	Nodal Agency
1.	Renovation & Modification of exiting embankment & construction of new embankments	U.P. Irrigation Dept.
2.	Constriction of new drains in selected areas	U.P. Irrigation Dept.
3.	Alleviation of the villages	Revenue Dept.
4.	Modification of approach road	PWD & Others
5.	Modification & rectification of critical facilities available at village level	PWD & Panchayati Raj
6.	Construction of warehouses & shelters at safer places	Revenue Department

Non Structural

S. No.	Description of Work	Nodal Agency
1.	Flood risk zonation mapping	U.P. Irrigation Dept. & Dept. of Science Technology (RSAC-UP)
2.	Identification of safer places through GPS surveys GIS Technology	Dept. of Science Technology (RSAC-UP)
3.	Monitoring configuration of rivers channel and changes	U.P. Irrigation Dept.
4.	Assessment effectiveness of flood control work	U.P. Irrigation Dept.
5.	Detecting changes in flood plain and catchments characteristic	U.P. Irrigation Dept.
6.	Strengthening of Medical & Health Facilities	Health Dept.
7.	Creation of awareness among local people through various medium of media.	District Administration & Revenue Dept..
8.	Plantation in the Catchment are of the rivers basin	Forest Dept.

Long Term Plan

Structural

S. No.	Description of Work	Nodal Agency
1.	Establishment of the additional Diesel pumps	Revenue Department & Other Agences
2.	Promotion of Plantation along the river embankment & Bundh	Forrest Deptt.
3.	Establishment of flood wireless centers at different dam and barrages (92Centres)	U.P. Irrigation Dept.
4.	Proper regulation of ponds and barrages	CWC & U.P. Irrigation Deptt.
5.	Removal of encroachment from the river embankment	Police Deptt & NGO's.
6.	Desiltation of rivers	Dept Geology & National Waterways Authorities

Non Structural

Non-structural measures are those which use policies, laws, raising public awareness, training, agreement, education etc to reduce risk and impact of any risk occurrence

S. No.	Description of Work	Nodal Agency
1.	Nomination of Nodal and Flood Coordination Officer	Relief Commissioner
2.	Disbursement of the instructions for zonal officer	U.P. Irrigation Dept.
3.	Nomination of Nodal Officer for mitigation of Inter State Flood Problems, if any	Relief Commissioner
4.	Creation of flood risk zones & flood plain maps at district level	U.P. Irrigation Dept. & Dept. of Science Technology (RSAC-UP)
5.	Publishing of a document for the preparation of flood mitigations	Revenue Dept. & Other Agencies

3.5 Training and Human Resources Development Plan

Mitigation distinguishes actions that have a long-term impact from those that are more closely associated with preparedness for, immediate response to, and short-term recovery from a specific disaster, recognizing that the boundaries are not absolute. Mitigation efforts must not only be a priority for the repair, reconstruction, and rehabilitation of developed areas, but must become a prerequisite for growth in areas that have not been developed.

A complicating factor is that there will always be residual losses from extreme events above and beyond those for which mitigation is cost-effective. It may not be economical to protect buildings and infrastructure other than critical facilities from these more extreme events since the increased cost of construction can far exceed the damage prevented.

One of the most critical components of the Mitigation Strategy is the training to be imparted to the officials and staff of the various departments involved at the state and the district level. Through the training inputs it is visualized that both information and methodology will be shared with the concerned persons. The training activity will be undertaken both at state level through State level training institute and at the district level through NGOs, government training institutions and institutions affiliated to universities and research centers.

The need for action and intervention in a disaster situation is at multiple levels and cuts across various sectors. The quality of intervention depends a lot on the inter-sectoral, inter-departmental coordination and efficient teamwork Thus, it is pertinent to assess the specific training requirements of the key personnel to be involved in the intervention.

Training Needs Assessment (TNA) exercises for different categories and levels of functionaries, will enable identification of the gaps that need to be attended

to through training activities. These will be done by assessment of the level of knowledge, attitudes and skills, with respect to the task to be undertaken and the expected levels of knowledge, attitudes and skills. Preparation of training modules and materials based on such TNA exercises will be undertaken by the training institutions.

Goals of Mitigation Strategy

- To substantially increase public awareness of disaster risk so that the public demands safer communities in which to live and work; and

- To significantly reduce the risks of loss of life, injuries, economic costs, and destruction of natural and cultural resources that result from disasters.

CHAPTER – IV

INTEGRATION OF MITIGATION MEASURES WITH THE DEVELOPMENT PLAN

The best way to Integrate the Mitigation Measures with the Development Plan can be through adoption of disaster resistant construction technologies specific to the kind of hazards in different areas. More precisely it can be stated that for a particular hazard eg. Flood.

4.1.1 Natural Disaster Resistant Housing

Over the years, the National Association of Home Builders (NAHB), in partnership with the U.S. Department of Housing and Urban Development (HUD), has been funding major research and empirical studies involving the NAHB Research Centre and universities around the country to examine a variety of structural performance issues related to natural disasters. The research findings are being used to guide the future use of existing and new construction technologies and building systems. One of the Research Centre's (ICFs) are able to resist natural hazards such as hurricanes, earthquakes, tornadoes, floods and fires.

4.1.2 Reinforcing Concrete

Reinforcing concrete to keep it from cracking is nothing new. There are records to show that ancient civilizations used to make use of natural fibres to inhibit cracking in structure. Today, synthetic-fibre reinforcement is available to reinforce non-structural concrete applications with superior results. Currently, the most widely accepted form of reinforcement is Welded Wire Fabirc (WWF). It is a mesh of thick steel wires that is placed in concrete. However, synthetic fibre reinforcement avoids the increased labour, costs and difficulty in placement that are associated with WWF.

4.1.3 Disaster Resistant Pier System

A good foundation of the house is of immense help in making it disaster resistant. For manufactured houses, one option is a disaster resistant pier system, with stout members rigidly connecting the house's chassis to a slab, grade beam, or array of pads. Some systems incorporates lateral or diagonal bracing for greater resistance. Though often referred to as Earthquake Resistant Bracing (ERB) systems, these also resist high winds, frost heaves and floods. Not only are these systems cost-effective in reducing structural movement (compared to conventionally manufactured housing foundations): they can even save lives and property.

4.2 Some measures for Integrating Development schemes with Disaster Management Schemes

- River basin catchment management by various government agencies to reduce the run off and soil erosion.
- Elevation of the village habitation above the maximum flood level and measures to protect the village community from the flood.

DISASTER MANAGEMENT CONCERNS IN TO DEVELOPMENTAL PLAN/PROGRAMME/PROJECTS

4.3 Economic and Social Infrastructure

S. No.	Description of Work	Nodal Agency
1.	Construction & Repair of embankment and overhauling of Barrage Gates	U.P. Irrigation Dept.
2.	Renovation and cleaning of Trunk Drains/Other Drains	U.P. Irrigation Dept.
3.	Protection river erosion at critical location	U.P. Irrigation Dept.
4.	Deepening of the Water bodies	Minor Irrigation Dept.
5.	To ensure the availability of transport vehicle for supply essential goods at desired locations	Transport Dept.
6.	Creation of awareness among local people through various medium of media.	Media & NGO's
7.	Creation coordination committee from different department	Steering Committee & Relief Commissioner
8.	Electrification of the villages	UPPCL`
9.	Water & Sanitation	U.P. Jal Nigam
10.	Roads	PWD & RES
11.	Buildings, Schools & Housing	PWD, RES, DRD
12.	Hospitals	Health Dept.
13.	Heritage & Monuments	Archeology Dept.
14.	A-forestation	Forest Dept.
15.	Maintenance of Ponds & Lakes	Panchayati Raj/ U.P. Irrigation Dept.
16.	Preparation of Remote Sensing & GIS maps	Dept. of Science & Technology
17.	Establishment of flood control rooms at district H.Q	District Magistrate
18.	Frequency analysis of floods occurrence based on past year experiences through Remote Sensing Data	Dept. of Science & Technology
19.	Assessment of flood plains in different river basins	Dept. of Science & Technology
20.	Proper storage of food Grains & fodder	Food & Supply Dept.

4.4 Elements of Impact Assessment

As soon as the disaster occurs, it throws a deep impact on the environs nearby. Natural Resources and infrastructural facilities get deteriorated, which in turn changes the existing scenario. To minimize such affects a proper management and assessment of disaster is required. All natural resources and information of infrastructure may be the key elements for impact. Without disturbing the available resources and facilities further plans can be suggested, so that a minimum of harm may be caused.

CHAPTER - V

PREPAREDNESS MEASURES

Preparedness

The State Plan for preparedness attempts to protect the lives and properties of the people of the state from potentially devastating hazards by the implementation of an effective long term State Disaster Management Policy. The initiatives under this plan lay down certain objectives and suggest definitive strategies leading to the achievement of goals in a set time frame. The ultimate goal for the Government of Uttar Pradesh with respect to various hazards is to have prepared communities in such a way that when the hazards strike, there is little or no loss of life; least number of injuries and the losses to property should occur.

Each element in this plan has a specific role and significant contribution towards the end target of a disaster controlled state. All the elements attend to a distinct but interrelated with the area of concern. The plan rests on the conviction that well defined strategies, goals and end targets with identified players, roles and responsibilities are the precursors of successful implementation of any project. The strategies for hazard loss reduction aim at reducing losses in the event of a future occurrence of a hazard. Mitigation measures need to be considered in land use and site planning activities. Necessary mitigation measures need to be built into the design and costing of development projects.

Preparedness and focuses on plans to respond to a disaster threat or occurrence. It takes into account an estimation of emergency needs and identifies the resources to meet these needs. It also involves preparation of well-designed plans to structure the entire post-disaster response, and familiarising the stakeholders, particularly the communities through training and simulation exercises. Preparedness has to be supported by the necessary legislation. means a readiness to cope with disasters or similar emergencies which cannot be avoided.

The **first objective** of preparedness is to reduce the disaster impact through appropriate actions and improve the capacity of those who are likely to be affected most .

The **second is** to ensure that ongoing development continues to improve the capacities and the capabilities of the system to strengthen preparedness efforts at community level.

Finally, it guides reconstruction so as to ensure reduction in vulnerability. The best examples of preparedness activities are the development of local warning and community evacuation plans through community education, evolving local response structures such as Community based Disaster Management Teams (DMT) and administrative preparedness by way of stockpiling of supplies; developing emergency plans for rescue and relief.

Since disasters affect economic and social processes, preparedness and mitigation must emphasize the socioeconomic rather than just the physical aspects. If disasters demonstrate the vulnerability of the social system, then any policy for disaster management must include the potential reduction of such vulnerability.

5.1 Technical Preparedness

This will include the following :.

a) Regulation for land use and building construction bye-laws.

b) Dissemination of information regarding different level of flood and selection/construction of appropriate location and camping facilities in case of occurrence of flood.

c) Formation of technical committee.

5.2 Social Preparedness

This will include following :

a) Training of the people in the vulnerable areas and NGO's and volunteers :- awareness about flood, health, hygiene, including casualty, evacuation, confidence building measures under Chairmanship of Gram Pradhan and V.D.O. as Member Secretary.

b) Identification, enlistment and registration of NGO's who can be entrusted with the flood disaster relief operations.

c) Identification and mobilization of resources including money for disaster relief from the people themselves.

5.3 Organization and administrative preparedness.

This will include the following :-

5.3.1 Formation of Crisis Management Groups/disaster Management Committees at Region, Macro and Micro Level

Formation of District Crisis Management Group (DCMG) at the district level under Chairmanship of District Magistrate or his Nominee not below the rank of ADM, Tehsil Crisis Management Group (TCMG) at sub-division/tehsil level under Chairmanship of officer not below the rank of SDM and Village Disaster Management Committee (VDMC) level for disaster management. This organization at sub divisional level should include representatives of Irrigation/Revenue/P.W.D./Health/police and public representatives.

5.3.2 Emergency Expansion Plan for Hospitals and Health Centres

Emergency expansion plan for hospitals and health centres both for Centres, States Govt. and for private hospitals and nursing homes, in flood prone areas are required where Schemes for mobile medical teams for post-disaster situation are needed.

A Team of Medical Expert/Specialist for identifies diseases and its treatment, specially developed in flood prone areas and adjoining areas.

Identification of hospitals owned by Army in the vulnerable areas and adjoining areas where flood victims shall be treated. Prior reservation must be done, considering the hazard assessment. Medicines like oxygen, saline water, OT and life-saving drugs should be kept ready. Doctors and Para medical staff should be identified and posted in these hospitals. Training of Doctors and Para medical staff on flood incidence must

be done. So far as flood is concerned, a trauma center should be developed to normalize the mental condition of the victims. Assessing the nature and number of injuries the bed facility, medicines, oxygen, bottles of saline water, life-saving drugs and medical expertise should be made available at the time of need. The Air-force should be made alert to transport the seriously injured victims which require more care in Medical Colleges, Command Hospitals, AIMS and PGIs.

5.3.3 Identification of Warehouses/Godown Identification of warehouses of Supply Department as centres for storage of relief material and its distribution.

5.3.4 Emergency Communication Systems Planning, updation and mobilization of existing radio communication resources in emergency and acquisitation of satellite phones to make them available at the Tehsil or block level in the districts. Establishment of strong Telecommunications Network, for Mobile & Satellite Phone.

5.3.5 Training of Functionaries

- The state administration should arrange periodical training programme for all concern functionaries and should also give instruction to all the District Administration for arranging training programmes for the concern department at their respective places. The trained officials should be interested to train other lower level officers and Panchayat representatives. Experts in different field may be invited to train the state and district level functionaries.
- LBS Academy will train the senior level officers and strengthen the ATIs.
- ATIs will train the State and District level officers.
- SIRD will train the PRIs, sub-divisional, block, and village level functionaries and people.

5.3.6 Simulation exercises

- Periodic simulation exercises may be carried out to test the preparedness of the concern role players. Drills may be carried out at various sites and levels. The shortcoming and weakness observer during exercises must be identified and eradicated with proper and timely action. Till now the PRIs or the Block or Village administration have not been included in the hierarchy of Disaster Management. Past experiences have proved that peoples participation can do miracles in Disaster Management. Zila, Khetra and Gram panchayat should be motivated, injected and provided with basic necessary infrastructure and sufficient training to manage their job.

5.4 Inventory of human resources :

Inventory of human resources may consist the following:

- Names and addresses of principal functionaries, all concerned departments at the district level are to be kept in the State Emergency Operation Centre and District Control Room (DCR).
- Names and addresses of all key functionaries of all concerned departments at the district to be kept with the principal functionary of the department.
- List of equipment and stores for rescue and relief operations in each type of disaster and their availability at various places-private and government-be

prepared and kept in the State Emergency Operation Centre and District Control Room (DCR) with the concerned department at the district level.

- Preparation of list of members of the community, NGOs and their members and elected representatives who could be helpful in management of the disaster.
- Setting of District Control Room (DCR) in the Collector's office and due publicity to it.
- Setting of similar control rooms in the offices of the principal functionaries of concerned department for coordination and action at their level.
- Identification of shelters and other facilities near the hazard prone areas for accommodating affected population.
- Identification of sites near the hazard prone areas for setting temporary control rooms for rescue and relief operation.
- Establishing a coordination mechanism for incoming relief material and teams from outside at their possible places of disembarkation and deploying them in affected areas in a planned manner.
- Preparation of alternate communication arrangements in case of conventional communication channels fails.
- Inventory of transport – public and private - available for deployment in times of emergency including names and addresses of owners, drivers, mechanics and repair workshops and fuel depots.
- Preparation of the community especially in the disaster prone areas.
- Identification of manpower for manning the DECR and other control rooms and allocation of duties.
- Arrangement for training of all identified functionaries and periodic upgrading of their knowledge.
- Periodic simulation exercises as a test preparedness for all the functionaries and the community.

5.5 Role of State Government Departments/Agencies in Disaster Management

General Preparedness

Each Department and Govt. agency involved in Disaster Management and mitigation will:

- Designate a Nodal officer for emergency response and will act as the contact person for that department / agency.
- Ensure establishment of failsafe two-way communication with the State, District and other emergency control rooms and within the organisation
- Work under the overall supervision of the SRC / the district Collectors during emergencies.

5.5.1 Role and Responsibilities of Police/Fire Services in Flood Disaster Management

Prevention Activities

- Procurement of search and rescue equipments viz. Boats etc.
- Identification of pockets, etc. which are highly susceptible to flood.
- Educate people to adopt safety measures.
- Conduct training and drills for preventive systems in order to ensure higher level preparedness in the community.

Response Activities:

- Protection of property and the environment from flood damage.
- Support to other agencies in the response to emergencies.

5.5.2 Role and Responsibilities of Health Department in Flood Disaster Management

Prevention Activities

- Assess preparedness levels at State, Distict and Block and village level.
- Formation of adequate number of mobile units with trained personnel, testing facilities, communication systems and emergency treatment facilities
- Identification of locations in probable disaster sites for emergency operation camps
- Promoting and strengthening Primary Health Centres with network of para-professionals to improve the capacity of surveillance and control of epidemics
- Identification of areas endemic to epidemics and natural disasters
- Awareness generation about do's and don'ts regarding first aid to victims win the immediate aftermath of an d
- Training of members Village Disaster Management Committees and NGOs of the villages.
- Training of field personnel, Traditional Birth Attendants, community leaders, volunteers, NGOs and CBOs in first aid, measures to be taken to control outbreak of epidemics during and after a disaster, etc.
- Arrangement of standby generators for every hospitals
- Listing of vehicles, repair of departmental vehicles that will be requisitioned during emergencies for transport of injured.
- Listing and networking with private health facilities

Response activities:

- Ensure adequate availability of personnel in disaster sites
- Planning for making prior arrangement for early transfer of patients who need specialised care/treatment
- Disinfection of water sources
- Opening up of site operation camps in the affected areas
- Immunisation and Quarantine, if necessary

- Early transfer of patients who need specialised care/treatment
- Establishment of public information centres with appropriate and modern means of communication, to assist providing information to patients, their families, other people living in epidemic affected areas regarding vaccination, Do's and Don'ts treatment facilities, etc.
- Monitoring of water and food quality and disposal of waste in transit and relief camps, feeding centres and affected areas
- Stock piling of life-saving drugs, de-toxicants, anaesthesia, Halogen tablets in vulnerable areas
- Situational assessment and reviewing the status of response mechanisms in known vulnerable pockets
- *Regular reporting to the control rooms*
- Review and update precautionary measures and procedures, and apprise the personnel who will be implementing those.
- Disinfections of water bodies and drinking water sources.
- Immunization against infectious diseases
- Ensure continuous flow of information

Recovery Activities

- Identification of appropriate locations and setting up of site operation camps for combating epidemics.
- Continuation of disease surveillance and monitoring
- Continuation of treatment, monitoring and other epidemic control activities till the situation is brought under control and the epidemic eradicated
- Trauma counseling.
- Treatment and socio-medical rehabilitation of injured or disabled persons
- Immunization and nutritional surveillance
- Long term plans to progressively reduce various factors that contribute to high level of vulnerability to diseases of population affected by disasters
- Establishing procedures and methods of coordination with the Health Department, other local authorities/departments, NGOs to ensure that adequate prevention and preparedness measures have been taken to prevent and /or minimise the probable outbreak of epidemics.

5.5.3 Role and Responsibilities of Animal Husbandry Department in Flood Disaster Management

Prevention Activities

- Listing of animal population with category
- Stock piling of emergency medicines and medical equipments
- Listing and identification of vehicles to be requisitioned for transport of injured animals
- Vaccination of the animals and identification of campsites in the probable sites
- Promotion of animal insurance

- Tagging of animals
- Arrangement of standby generators for veterinary hospitals
- Provision in each hospital for receiving large number of livestock at a time
- Training of community members in carcasses disposal
- Stock piling of water, fodder and animal feed
- Stock-piling of surgical packets
- Construction of mounds for safe shelter of animals.
- Identification of various water sources to be used by animals in case of prolonged hot and dry spells

Response Activities

- Ensure adequate availability of personnel and mobile team
- Eradication and control of animal diseases, treatment of injured animals
- Protection of abandoned and lost cattle
- Supply of medicines and fodder to affected areas
- Disposal of carcasses ensuring proper sanitation to avoid outbreak of epidemics
- Establishment of public information centre with a means of communication, to assist in providing an organised source of information.
- Mobilising community participation for carcass disposal

Recovery Activities

- Assess losses of animals assets and needs of persons and communities
- Play a facilitating role for early approval of soft loans for buying animals and ensuring insurance coverage and disaster-proof housing or alternative shelters/mounds for animals for future emergencies
- Establishment of animal disease surveillance system

5.5.4 Role and Responsibilities of Jal Sansthan (Jal Sansthan, Nagar Nigam/ Municipality Gram Panchayat) in Flood Disaster Management

Prevention Activities

- Provision of safe drinking water to all habitats
- Prior arrangement of water tankers and other means of distribution and storage of water
- Prior arrangement of stand by generators
- Adequate prior arrangements to provide water and halogen tablets at identified sites to used as relief camps or in areas with high probability to be affected by natural calamities
- Raising of tube-well platforms, improvement in sanitation structures and other infrastructural measures to ensure least damages during future disasters
- Clearance of drains and sewerage systems, particularly in the urban areas

Response Activities:

- Disinfections and continuous monitoring of water bodies
- Ensuring provision of water to hospitals and other vital installations
- Provision to acquire tankers and establish other temporary means of distributing water on an emergency basis
- Arrangement and distribution of emergency tool kits for equipments required to dismantle and assemble tubewells, etc.
- Carrying out emergency repairs of damaged water supply systems

Recovery Activities:

- Strengthening of infrastructure
- Review and documentation
- Sharing of experiences and lessons learnt
- Training to staff
- Development of checklists and contingency plans

5.5.5 Police

Prevention and Preparedness Activities

- Keep the force in general and the PAC in particular fighting fit for search, rescue, evacuation and other emergency operations at all times through regular trainings and mock drills.
- Procurement and deployment of modern emergency equipments while modernising existing infrastructure and equipments for disaster response along with regular training and drills for effective handling of these equipments.
- Ensure that all communication equipments including wireless are regularly functioning and deployment of extra wireless units in vulnerable pockets.
- Keeping close contact with the District Administration & District Control Room.
- Organise training programmes on search, rescue and evacuation for the members of the Ward and Village Disaster Management Committees and NGOs of the areas falling in the Eathquake Damage Risk Zone IV & III.

Response Plan:

- To take up search, rescue and evacuation operations in coordination with the administration, locals, NGOs and volunteers.
- Security arrangements for relief materials in transit and in camps etc.
- Emergency traffic management particularly the arrangement for the safe passage to the ambulances carrying the injured persons.
- Maintenance of law and order in the affected areas.
- Assist administration in taking necessary action against hoarders black marketers etc.

5.5.6 Role and Responsibilities of Food & Civil Supplies in Flood Disaster Management

Preventive Activities

- Construction and maintenance of storage godowns/ warehouses at strategic locations.
- Stock piling of food reserves and essential commodities in anticipation of disaster.
- Details of each of the warehouse connected to the base ware house and its distance from the base warehouse, capacity in number of bags. Similarly detailed database of all the public distribution shops connected to each of the warehouse and distance of each of the public distribution shop from the warehouse and capacity in number of bags. As this information can be utilized for safely stockpiling the food gains received from various sources in the immediate aftermath of a disaster e. g. flood.
- Take appropriate preservative measures to ensure that food and other relief stocks are not damaged during storage, especially precautions against moisture, rodents and fungus infestation.

Response Activities

- Management of procurement
- Management of material movement in close coordination with Transport department and Railways for transportation of relief supplies.
- Inventory management

5.5.7 Roles and Responsibilities of Civil Defence in Flood Disaster Management

Prevention Activities

- Organise training programmes on first aid, search, rescue and evacuation for its personnel to to improve their skills.
- Preparation and implementation of first aid, search and rescue service plans for major disasters e.g. floods.
- Remain fit and prepared through regular drills and exercises at all times.
- Organise training programmes on search, rescue and evacuation for the members of the Ward and Village Disaster Management Committees and NGOs of the areas falling in the Eathquake Damage Risk Zone IV & III to improve.

Response Activities

- Act as support agency for provision of first aid, search and rescue services to other emergency service agencies and the public
- Act as support agency for movement of relief
- Triage of casualties and provision of first aid and treatment
- Work in coordination with medical assistance team
- Help the Police for traffic management and law and order

5.5.8 Role and Responsibilities of Irrigation Department in Flood Disaster Management

Prevention and Preparedness Activities

- Keep a list of earth moving and clearing vehicles/equipments (available with Govt. Departments including the near by project site of National Highway Authority, PSUs, and private contractors, etc.) and formulate a plan to mobilize those at the earliest.
- Identify flood prone rivers and segments of embankments along them which can witness cracks or seepage. Strengthening of such segments of embankments and formulation of emergency plans for such areas.
- Identification and maintenance of materials/tool kits required for emergency response cracking or breaching of embankments.
- Stock-piling of sand bags and other necessary items for breach closure.
- Development of checklists and contingency plans

Response Activities

- Inspection of bunds of dams, irrigation channels, bridges, culverts, control gates and overflow channels in the immediate aftermath of an flood.
- Monitoring and protection of irrigation infrastructures
- Monitoring flood situation and dissemination of flood warning
- Inspection and repair of pumps, generator, motor equipments, station buildings
- Community mobilization in breach closure

Recovery Activities

- Strengthening of infrastructure and human resources
- Review and documentation
- Sharing of experiences and lessons learnt

5.5.9 Role and Responsibilities of Public Works Department in Flood Disaster Management

Prevention Activities

- Keep a list of earth moving and clearing vehicles/equipments (available with Govt. Departments including the near by project site of National Highway Authority , PSUs, and private contractors, etc.) and formulate a plan to mobilize those at the earliest.
- Inspection and emergency repair of roads/ bridges, public utilities and buildings

Response Activities

- Clearing of roads and establish connectivity. Restore roads, bridges and where necessary make alternate arrangements to open the roads to traffic at the earliest.
- Mobilisation of community assistance for clearing blocked roads
- Facilitate movement of heavy vehicles carrying equipments and materials.

- Identification and notification of alternative routes to strategic locations.
- Filling of ditches, disposal of debris, and cutting of uprooted trees along the road.
- Arrangement of emergency tool kit for every section at the divisional levels for activities like clearance (power saws), debris clearance (fork lifter) and other tools for repair and maintenance of all disaster response equipments.
- Development of checklists and contingency plans.

Recovery Activities

- Strengthening and restoration of infrastructure with an objective to eliminate the factor(s) which caused the damage
- Review and documentation
- Sharing of experiences and lessons learnt

5.5.10 Role and Responsibilities of Energy/Non Conventional Energy Department in Flood Disaster Management

Prevention Activities

- Identification of materials/tool kits required for emergency response
- Ensure and educate the minimum safety standards to be adopted for electrical installation and equipments and organise training of electricians accordingly
- Develop and administer regulations to ensure safety of electrical accessories and electrical installations
- Train and have a contingency plan to ensure early electricity supply to essential services during emergencies and restoration of electric supply at an early date
- Develop and administer code of practice for power line clearance to avoid electrocution due to broken / fallen wires.
- Strengthen high-tension cable towers to withstand high wind speed, flooding and earthquake, modernise electric installation, strengthen electric distribution system to ensure minimum damages during natural calamities
- Conduct public/industry awareness campaigns to prevent electric accidents during normal times and during and after a natural disaster

Response Activities:

- Disconnect electricity after receipt of warning
- Attend sites of electrical accidents and assist in undertaking damage assessment
- Standby arrangements to ensure temporary electricity supply
- Inspection and repair of high tension lines /substations/transformers/poles etc
- Ensure the public and other agencies are safeguarded from any hazards, which may have occurred because of damage to electricity distribution systems
- Restore electricity to the affected area as quickly as possible
- Replace / restore of damaged poles/ salvaging of conductors and insulators

5.5.11 Role and Responsibilities of Transport Department in Flood Disaster Management

Prevention Activities

- Listing of vehicles which can be used for emergency operation especially for carrying the rescue teams and relief supplies.
- Safety accreditation, enforcement and compliance
- Ensuring vehicles follow accepted safety standards
- Build awareness on road safety and traffic rules through awareness campaign, use of different IEC strategies and training to school children.
- Ensure proper enforcement of safety regulations

Response Activities

- Requisition vehicles, trucks, and especially for carrying the rescue teams and relief supplies.
- Coordination with railway authorities for carrying the rescue teams and relief supplies.

5.5.12 Role and Responsibilities of Panchayati Raj in Flood Disaster Management

Preventive Activities

Develop prevention/mitigation strategies for risk reduction at community level by following measures:

- Training of elected representatives on various aspects of disaster management.
- Public awareness on various aspects of disaster management through training programs to be organized at the Gram Panchayat level on pre during and post flood do's and dont's.
- Organize mock drills to respond to the flood disaster.
- Facilitate the Village Disaster Management Committees of the areas.
- Support strengthening response mechanisms at the Gram Panchayat level (e.g., better communication, local storage, search & rescue equipments, etc.)
- Ensure alternative routes/means of communication for movement of relief materials and personnel to marooned areas or areas likely to be marooned.
- Time to time cleaning of blocked drains.
- Assist all the government departments to plan and prioritize prevention and preparedness activities while ensuring active community participation.

Response Activities

- Encourage Gram Panchayat Members and support for timely and appropriate delivery of warning to the community.
- Clearance of blocked drains and roads, including tree removal in the villages.
- Construct alternative temporary roads to restore communication to the villages.
- Identify the school building, community centres and operationalise them into emergency relief centres and emergency shelters.

- Make necessary for Sanitation, drinking water and medical aid.
- Participate in post impact assessment of emergency situation
- Support in search, rescue and first aid activities.

Recovery Activities

- Provision of personal support services e.g. Counselling
- Repair/ restoration of infrastructure e.g. roads, bridges, public amenities
- Supporting the Gram Panchayats in development of storage houses for food stocks.
- Coordination for distribution of relief and rehabilitation materials.
- The Panchayat Samity and Gram Panchayat members to be trained to act as an effective interface between the community, NGOs, and other developmental organizations
- Provide training so that the elected representatives can act as key functionaries for reconstruction and recovery activities.

5.5.13 Role and Responsibilities of Information & Public Relations Department in Flood Disaster Management

Prevention Activities

- Creation of public awareness regarding various types of disasters including flood through media propagation .
- Dissemination of information to public and others concerned regarding do's and don'ts of various disasters including flood.

Response Activities

- Setting up of a control room to provide authentic information to public regarding impending emergencies
- Keep the public informed about the latest of the emergency situation (area affected, lives lost, etc)
- Keep the public informed about various post disaster assistances and recovery programmes

5.5.14 Role and Responsibilities of Forest Department in Flood Disaster Management

Prevention activities

- Promotion of shelter belt plantation.
- Provision of seedling to the community and encourage plantation activities, promoting nurseries for providing seedlings in case of destruction of trees during natural disasters.
- IEC activities for greater awareness regarding the role of trees and forests for protection during emergencies and also to minimise environmental impact which result as a result of deforestation like climate change, soil erosion, etc.

- Increasing involvement of the community, NGOs and CBOs in plantation, protection and other forest protection, rejuvenation and restoration activities.

Response Activities

- Assist in road clearance
- Provide of tree cutting equipments
- Provide of building materials such as bamboos etc for construction of shelters

Recovery Activities

- Take up plantation to make good the damage caused to tree cover and provide employment to the members of affected families.

5.6 Community-Based Disaster Preparedness Plan

Preparedness in disaster management requires systematic and comprehensive planning. Plans, are generally formulated at the national, state, district and village levels. But the emphasis presently si to reach out to the community at the grass roots level and hence community-based disaster preparedness plans are being advocated. The objective of this effort is to strengthen the capacities of people and institutions at community level to face disasters. The plans are prepared with the involvement of community as they can better identify the existing resources, hazards they are exposed to prevailing infrastructure, resources, copying mechanisms etc. Hence preparedness plan needs to take cognisance of different types of activities needed at various stages of disaster management. The community-based disaster preparedness requires performance of several types of activities at three different stages i.e., pre-disaster, during-disaster and post-disaster. Those activities are to be identified which can be reflected in the preparedness plan.

5.6.1 Community-based Preparedness in Pre-disaster Phase

a) Orienting the community towards the nature and effects of the disasters to which they are vulnerable.

b) Taking stock of the resources of the community such as schools, primary health centres, cyclone shelter, communication facilities, roads and other infrastructure and skilled individuals.

c) Assessing the risks and vulnerabilities of the community. The various elements at risk that include the physical structures, as well as the vulnerable sections of the community such as women, children, physically challenged, old, etc., need to be examined so that the preparedness measures are appropriately planned.

d) Formulating preparedness plan at the community level, that takes into congnisance the community needs, measures to be taken by the community before, during and after the disaster strikes, resources available at various places, clear allocation of responsibilities amongst all concenred officials, departments, Panchayati Raj Institutions, NGOs, CDOs etc. A properly prepared plan facilitates the community to effectively execute the plan.

e) Specifying the role of community in handing the disaster.

5.6.2 Community-based Preparedness During –disaster

a) Organising Search, Rescue and Evacuation activities. This includes identifying the disaster victims, bringing them to safer places, provision of first aid, distribution of relief, adhering to evacuation plan etc.

b) Providing shelter for people as well as livestock. This includes arrangements for water supply, sanitation, kitchen, fodder for animals, medical services and first aid etc.

c) Clearing of debris from collapsed buildings, bridges, trees, other structures, reestablishing of transport and communications services.

d) Moving of injured to the nearby health centres and hospitals.

e) Disposing of dead humans in order to contain in spread of diseases is another important task. Identification of dead bodies, compliance with police formalities, mobilizing resources for disposal of bodies in accordance with religious and cultural practices, are activities which involve the community. Disposal of dead animals is important as it has effect on health and environment.

f) Assessing damages immediately on the occurrence of disaster facilitates quick emergency relief. This is to be done with reference to the number of households, population, livestock, area affected etc.

5.6.3 Community-based Disaster Preparedness in Post–disaster Phase

a) Undertaking a detailed damage assessment covering verified number of human lives, identification of live victims as well as the dead, livestock, infrastructure, damage to crops and the estimated value.

b) Drawing up a comprehensive economic rehabilitation plan that includes restoration of agricultural activity through necessary inputs, rehabilitation of artisans, marginal, small scale and business people, those pursuing other occupations, replacement of cattle, agricultural and other equipment, boats, fishing nets etc.

c) Ensuring social rehabilitation through strengthening of existing health centres, schools, anganwadis, community centres, vocational training centres, psychological counselling to the affected to enable them get back to their normal routine.

d) Building an appropriate monitoring and evaluation mechanism in community based disaster preparedness programme. This is needed to facilitate proper utilization and implementation of resources.

Community-based disaster preparedness is essential to assess the damages arising out of disaster, determine the extent and type of assistance. A community based disaster preparedness plan is a comprehensive action plan which specifies the demographic profile, resources available with the community, measures to be taken before, during and after the occurrence of disaster. It is said to contain an inventory of several types of resources available at the community level, roles and responsibilities of different administrative agencies, Panchayati Raj Institutions, NGOs, CBOs and community.

5. 6.4 Community-based Disaster Preparedness Plan

A Community-based Disaster Preparedness Plan, broadly is to indicate the following aspects:

- Village profile
- Profile/information about the community
- Disaster profile
- Inventory of resources of the community
- Emergency communication procedures
- Specific roles and responsibilities (of different agencies and functionaries)

5.6.5 Components of Community-based Disaster Preparedness Plan Pre-disaster Phase

- Risk assessment and vulnerability analysis
- Resource analysis and mobilisation
- Warming system and its dissemination
- Organising community response mechanisms
- Construction and maintenance of cyclone/flood shelters
- Mock exercises and drills
- Strengthening of community self-help capacities
- Specification of roles and responsibilities of various functionaries and agencies. (Panchayati Raj Institutions (PRIs), Government functionaries, NGOs, Police, Primary and District Health Centre, Disaster Task Force and Community)

During-disaster Phase

- Search, Rescue and Evacuation
- Shelter for disaster affected (community as well as livestock)
- First aid and other medical support
- Clearance of debris
- Restoration of communication system or use of alternative communication system
- Disposal of Dead
- Relief distribution
- Property security ad public safety
- Immediate damage assessment
- Information, Education and Communication (IEC) and training
- Role of various functionaries and agencies. (PRIs, Government functionaries, NGOs, Police, Primary and District Health Centres, Disaster Task Force and Community)

Post-disaster Phase

- Damage and needs assessment
- Psychological support to the victims
- Restoration of lifeline support
- Agricultural, economic and social rehabilitation
- Information, Education and Communication and training
- Role of various functionaries and agencies.
- (PRIs, Government functionaries, NGOs, Police, Primary and District Health Centres, Disaster Task Force and Community)

The community-based disaster preparedness plan is to reflect the needs, resources and strategies mutually agreed upon by the local people. The activities are to be clearly defined, specified, target-oriented, in consonance with the capacities and capabilities of the community. The plan with its components as discussed above, is comprehensive that provides counter-disaster measures including preparedness and mitigation, provisions for emergency action, ways of creating awareness amongst the community and also indicate the developmental requirements to establish a link between disasters and development.

The plan is an important tool for bringing about coordination between the efforts of various agencies that includes government, private sector, international agencies, NGOs, CBOs, and community. This is of importance as the personnel, resources and organizing capabilities NGOs and government are to be mobilised and coordinated. A plan evolved locally with the involvement of key stakeholders would be useful in reducing the extent of damage and controlling loss of lives. It proves advantageous in undertaking activities such as resource mapping, vulnerability mapping, hazard mapping etc. The High Powered Committee (2001) also recommended the formulation of plans at community, family and individual level and developing individual kits for survival. We have mentioned about this in Unit 10 of this Course.

There are many institutions in our country, which are initiating efforts in this area of community-based disaster preparedness. The government along with NGOs and international agencies are undertaking this activity. The Panchayati Raj Institutions are supplementing the ongoing efforts in this area. For instance in Orissa, Pallisabha or village assembly is an effective mechanism in making CBDP more sustainable. In Indira Gandhi National Open University, the Faculty of Public Administration, School of Social Sciences, has also made some efforts in this direction. During 1998-90 a Project on Community Awareness on Disaster Preparedness (CADO) was taken up in collaboration with the Yashwant Rao Chavan Academy of Development Administration (YASHADA), Pune. The major objectives of the programme have been to create awareness on disasters, upgrade information and strengthen the resilience and self-confidence of local communities in select village in the State of Maharashtra. Similar activity sponsored by Ministry of Agriculture, Government of India was undertaken during 2000-2002 in 100 villages each in the Five States of Andhra Pradesh, Gujarat, Rajasthan, Orissa and Uttar Pradesh. New initiatives in the form of constitution of Disaster Task Force (DTF), formulating Community Action Plan on Disaster preparedness etc., were introduced. The most important aspect of this effort is to initiate strategies to operationalise community-based preparedness plans. We shall be discussing this in the next section.

Under the Government of India-UNDP Disaster Risk Management programme, in Lahotighat Block of Morigaon District in Assam, local residents expressed their concern for adopting preparedness and mitigation techniques during flood season. It was decided to construct a raised platform with a flat bank cum community fishery to be used during flood and non-flood season. The site for this was donated by the village members. Gram Sabha was entrusted the task of approving the purchase of machine boats and their maintenance. Being aware of the community's vulnerability to disasters during frequent occurrence of floods, the disaster management committee's representatives involved the community in the mitigation activities. Through community sensitisation meetings, committees have been able to prepare the CBDP plan an integral part of a development plan for the community (Government of India, Ministry of Home Affairs, 2004).

5.6.6 Operationalisation Community-Based Disaster Preparedness Plan

Key Strategies

The operationalising of community-based disaster preparedness plan requires the active participation of local communities. it involves:

- Generating awareness amongst the members of community regarding the vulnerabilities and risks involved in several types of disasters. This also needs the utilisation of traditional wisdom that is already available with the people.
- Propagating community participation vigorously at grass roots levels, as most of the actions are needed at the individual or community levels. The governments have limited resources. Hence participation enables people to strive towards self-reliance instead of excessive dependence. Community participation helps in identification and prioritising problem areas and generates solutions.
- Organising local people in disaster task forces, disaster management committees, and groups for dissemination of warnings, search, rescue and evacuation teams etc.
- Sensitising the Panchayati Raj Institutions towards formulating community-based disaster preparedness plans and integrating them with the district and State plans.
- Involving development workers in eliciting community participation. The community can identify their formal and non formal leaders with their help and guidance.
- Constituting Disaster Response Organization at the community level. Zubair (2003) suggests formation of such an organization, which can be entrusted the designing and sharing of Counter Disaster Plan with all community members. A Counter Disaster Plan or a Community Level Contingency Plan helps to consolidate the community's efforts to prepare for hazards. The plan provides guidelines for operation and clarifies the roles and responsibilities of all concerned before, during and after the occurrence of disasters.
- Mobilising local assets, resources etc., of the community. This can include traditional wisdom, folklore, traditional capability of comprehending disaster/hazard warming signals etc. Constitution of Community Disaster.
- Preparedness Team can make a difference in implementation of Disaster Preparedness Plan. For instance, in the recent tsunami, training members of

local disaster relief committee of Samiyarpettai of Chidambaram Taluk of Cuddalore district, In Tamil Nadu enabled them carrying out rescues operations, giving first aid to victims, organizing distribution of relief materials etc. (The Hindu, 2005).

The operationalising of community based disaster preparedness plan can be entrusted to PRIs, disaster task force members, trained volunteers etc. The community based strategies are yielding significant results. For instance, the Bangladesh Red Crescent has trained village volunteers working in coastal district who are equipped with preparedness skills. In Orissa, a long established NGO, Gram Vikas has been working with tribal people. Its Rural health and Environment Programme (RHEP) premised on community ownership of processes and outputs, focuses on shelter, sanitation and drinking water. Its approach in the wake of Orissa super cyclone created a community able to revive its day to day life within days of the cyclone impact) www.odihpn.org/report).

Community based disaster preparedness goes much further than traditional disaster management in focusing on locally specific vulnerabilities, coping strategies and resilience. However, in practice, CBDP approaches have tended to address the symptoms of vulnerability rather than its root causes. Ensuring that disaster mitigation and preparedness measures are both appropriate and sustainable will require rooting vulnerability reduction within a wider developmental approach. Some recommendations, in this regard, according to International Federation of Red Cross (IFRC), which is based on its field research in the Philippines include:

- Analysing the root causes of vulnerability to disaster
- Understanding the strengths of local livelihoods and capacities
- Listening to community perspectives and priorities
- Including others actors from the start so that the burden of risk reduction can be shared
- Advocating issues that the community itself cannot tackle; and
- Promoting the integration of risk reduction into development planning. (World Disasters Report, 2004).

Joseph Keve and Jonathan Rout (2003) outline the key ingredients of disaster management with a community perspective. These include:

- Clearly defined and agreed criteria for the identification, selection and verification of the most deserving beneficiaries.
- Emphasis on greater involvement and decision-making by women within the organisation, among volunteers and beneficiaries and in the community.
- Priority for the weakest and most vulnerable people.
- Strong local contribution.
- Conscious focus on livelihood-based programme input provides long-term and sustainable benefits to the community and at the same time increases the commitment and feeling of solidarity between the community and the workers.

- Right inputs to be given at the right time.
- Planned cooperation with all government and non-government agencies whenever such collaboration adds value and increases the effectiveness of the NGO.
- Strategic planning and coordination to bring together forces and resources to achieve optimum results.
- Using small inputs to achieve big and lasting impact, eg., using food for work programme to rebuild livelihood assets or providing paddy seeds at sowing time so that poor farmers do not fall into the clutches of money lenders.

5.7 Police, Paramilitary Forces, Armed Forces, NGOs & Youth Organisations

An important aspect of capacity building is updating, training, rehearsals, and mock drills simulation various line manpower of departments , paramilitary, armed forces youth organizations, NGOs and CBOs altogether form valuable human resources.

5. 7.1 Police

The responsibility for maintaining law and order, and almost all routine policing is carried out by state-level police forces. The central government participates in police operations and organization by authorizing the maintenance of the Indian Police Service. The Police Act of 1861 established the fundamental principles of organization for police forces in India, and, continues in effect with minor modifications. The state level police forces are separate but their patterns of organization and operation are similar. Director General of police, answerable to the home secretary of the state, heads the police in each state.

In most states and territories, police forces are functionally divided into civil (unarmed) police and armed contingents. The former staffs are attached to police stations, conduct investigations, answer routine complaints, perform traffic duties, and patrol the streets. Those states that maintain district armed contingents employ them as a reserve strike force for emergencies. Such units are organized either as a reserve strike force for emergencies. Such units are organized either as a mobile armed force under direct state control or in the case of district armed police as a force directed by district superintendents and generally used for riot-control duty. The provincial Armed constabulary is an armed reserve maintained at key locations in some states and active only on orders from the higher-level authorities. Armed constabulary are assigned to VIP duty or assigned to maintain order during fairs, festivals, athletic events, elections and natural disaster. They may also be sent to quell outbreaks of student or labour unrest, organized crime, and command riots; to maintain key guard posts; and to participate in antiterrorist operations. Women have entered in larger number even into the higher echelons of police.

Role of Police in Disaster Response

The police play a critical role in disaster situations as all incidents are covered by them. Police is mobilized to reach the site of disaster immediately with a view to carry out relief and rescue operations and is the initial coordination agencies. It is also the responsibility of the police to maintain security along with law and order at disaster locations where there might be chaos and miscreants may take advantage of

the situation. Police personnel deployed for such relief operations prevent commission of cognisable offences including all offences against property; human body and public tranquillity. The police communication system is made available for transmission and receipt of messages in connection with disasters. They also regulate movement of victims, rescue and relief, medical assistance and supplies.

5.7.2 Fire services

Managing fires is more technical than perceived. It needs comprehensive study in risk mapping plans for each zone, study of preparedness level in terms of special equipment and training of personnel, fool proof communication system and periodic **State Government** drills. The role for the fire services is not just limited to fire fighting only but it also plays the role of a disaster management agency especially in urban areas. It can provide basic search and rescue service and can also coordinate in event of a disaster situation with other agencies like the police and health services.

5.7.3 Central Police Forces/ Para Military Forces

The role of para military forces (PMF) is similarly important as they may be called upon for additional assistance in situations requiring greater assistances from outside. Indian Paramilitary Forces are those agencies which act as armed forces auxiliaries. The PMP is made up of the following twelve organizations:

- Central Industrial Security Force
- Central Reserve Police Force
- Rapid Action Force
- Indo Tibetan Border Police
- Rashtriya Rifles
- Defense Security Corps
- Railway Protection Force
- Indian Home Guard
- Civil Defense
- Assam Rifles
- Border Security Force
- State Armed Police
- Special Security Bureau

PMF are subordinate to the Ministry of Home Affairs, Govt. of India whereas the coast Guard organisation and the Defence Security force are subordinate to the Ministry of Defence, Govt. of India. The National Security Guards, a joint anti terrorist contingency force, is charged with protection of high level persons VVIPs and are subordinate to the Office of the Prime Minister. Their personnel are drawn from armed forces the central reserve police force and the border security force. The Special Frontier Force also is subordinate to the office of the Prime Minister. The Railway Protection Force is subordinate to the Ministry of Railways. At the local

level there is the Provincial Armed Constabulary, Which is controlled by the governments of the states and territories.

5.7.2 Civil Defence

The Civil Defence is primarily a voluntary organization, whose resources are mobilized at the time of need through an activation procedure. CD organization requirements are based on the vulnerability analysis by the states themselves and accordingly are equipped. Their primary work areas include; communication rescue and casualty depot transportation and supply service, salvage and corpse disposal along with basic welfare services. The organization has conceptually a strong structure with the capabilities to act in cooperation with the people, police and defence services. It however needs to further build its capacity and its ability and its ability to reach in disaster situations by having substantial support and augmentation.

The CD legislation was enacted by Parliament in 1968. CD includes any measures, not amounting to actual combat, for affording protection to any person, property, place or thing in India or any part of the territory thereof against any hostile attack, whether from air, land, sea or other places, or for depriving any such attack of the whole or part of its effects whether such measures are taken before, during at or after the time of such attack. Hostile attack means any attack by any person or a body of persons, whether during any war, external aggression, internal disturbance or otherwise which is dangerous to the security of any life property place or thing in India or any part of the territory thereof. The objectives of CD are as follows:-

i) To minimize loss of life and damage to property.

ii) To keep up the morale of the people in adverse conditions.

iii) To restore normalcy as early as possible and maintain continuity of production.

CD activities include preventive, control and restorative measures as stated below:-

i) **Preventive**

a) Establishment of a warning system and its testing.
b) Enrolment and training of volunteers and awareness of general public regarding CD.
c) Provision of arrangements for blackout and obscuration of light.
d) Earmarking of trenches and other shelters.
e) Camouflage of vital installations and industries.
f) Arrangement for planned evacuation of population from threat areas.

ii) **Control**

a) Arrangements for accurate damage assessment and risk assessment.
b) Provision for search and rescue of affected people.
c) Provision for an efficient first aid mechanism and transportation of the injured.
d) Effective control and coordination of all services at place of damage.
e) Arranging for clearance of debris and road blocks.
f) Provision for an Auxiliary fire fighting setup to augment the resources of fire brigade.

g) Reporting of unexploded bombs and safety precautions along with protective measures.

iii) **Restorative**

a) Arrangement for facilities like food shelter, clothing etc. for the affected and homeless.

b) Arrangement for salvage, care and disposal of property from houses destroyed or damaged.

c) Provision to deal with disposal of dead both humans and animals.

d) Provision for a network for dissemination of information on all aspects.

e) Coordination with Municipal health authorities for control of infection and contamination.

f) Restoration of all utility services as early as possible.

5.7.3 Planning and Preparation:

Planning is carried out at various echelons i.e. at the national, state and local levels requiring close collaboration. The Ministry of Defence and the service headquarters of the services interact through periodic civil military conferences. It is at the local level that the sub-area/station headquarters and units coordinate with the local administration, police and others. Disasters management planning incorporating all the participants ensures a common agreement for all agencies to pool the resources and to take necessary actions. Full familiarity with the task is only possible by timely preparation. This involves joint planning, reconnaissance and rehearsals leading to constant updating. The State Government having the primary responsibility for disaster management, should involve the Armed Forces in the planning process and to periodically update so as to enable the incorporation of changing operational responsibilities of the Armed Forces. to ensure the success of a plan concerning disaster management, the cooperation between the concerned civil and military authorised is essential and the plan should be issued with the signatures of both these authorities.

5.7.4 Humanitarian Ethos:

The needs of the affected population should always be the foremost priority in any disaster-related action. Enforcing humanitarian principles require strict discipline and sacrifice, which the Indian Armed Forces have displayed time and again. While being fully committed at the borders and internal security duties, they have always responded to any disaster where human life is at stake. Special efforts have been made to inculcate humanitarian values amongst the Armed Forces due to their frequent involvement in sensitive and provocative issues. Seeking employment of the army for political or other superfluous expediency would set a dangerous trend and needs to be curbed.

5.7.5 Economy:

Armed forces should only be employed as a last resort when a disaster is beyond the coping capability of the civil administration as they are not only diverted from their paramount operational tasks but also these resources are more expensive than similar ones available in the country due to cost on multi-operational ruggedness and the

military readiness. The cost for employing the military is borne by the concerned state government. Minimum essential military resources should be utilised in disaster response and their participation terminated at the earliest practicable time. Also, they must only be used as a last resort when other agencies are unavailable or unable to meet the contingency. For menial and labour intensive tasks, local labour must be utilised as it is cheaper and provide them with income generating opportunities. For minor incidents where local police or volunteers could suffice, calling of the military should be avoided.

5.7.6 Principles of Utilising

Involvement of the Armed forces for disaster assistance is guided by agreed principles that are also consistent with general military doctrine and could include the following:

- Armed Forces assistance will be requisitioned only when the situation cannot be handled by civil administration for judicious use;
- When needed, the Armed Forces will provide immediate response.
- Operational requirement of the armed forces will always take priority;
- While responsive to the needs of civil authorities, the military chain of command will remain in place and in force;
- Aid will be requisitioned by civil authorities on task (mission) basis and not on the number of troops;
- Liaison and coordination will be effected throughout the period of the disaster response mission;
- Advance planning and training will be conducted;
- Military (and civilian) resources will be integrated as needed to effectively accomplish tasks;
- The Armed Forces will be derequisitioned earliest i.e. released from the support mission as soon as the civil administration can take control of the situation.

5.7.7 Procedures

Armed Forces are always prepared to come to the aid of the disaster stricken population, however, it would be useful in overcoming avoidable difficulties if the civil administration follows the laid down rules and regulations for seeking their involvement. Assistance is provided by the Armed Forces with the approval of the Central Government, as the use of Armed Forces is a function of the Central Government. Whenever troops are called out for such tasks, the State Government or the civil authority through the state Government, should report the fact to the Central Government (Ministry of Defence and Ministry of Home Affairs) without delay. For grave situations warranting immediate requisitions like maintenance of law and order, magistrate of the highest rank may requisition direct to the nearest military authority located in his jurisdiction. Sufficient information should be given while requisitioning troops so that the military commander can work out the resources required.

In a strike situation, State Goverments may seek for military assistance for the maintenance of essential services. They must furnish information while requesting military assistance whether the strike has been declared illegal, furnishing the number and date of notification in this regard; and whether all civil resources have been explored before any military assistance is sought to run essential services.

Assistance by the Armed Forces during natural calamities would generally be provided on the sanction of the Central Government. In case of immediate necessity when reference to central Government is not practicable, local military authority may, at their discretion, comply with a request from the civil authority and report to the higher military authorities. The requisition should be in writing to avoid subsequent complications. Any assistance given by Armed Forces in these circumstances would be of an unseen or unexpected nature and consequently no previous plans can be made in such cases.

The military units remain under the command of its own commanders and works on the basis of task. The requisitioning of the Armed Forces should not be in terms of quantum but based on identified tasks. If the district and state incorporate the role expected from the Armed Forces and there is continuous flow of information, the procedure for deploying them would be quick and smooth. This would also enable the appropriate local military authorities to take necessary advance sanction of using certain critical resources. Apart from incorporating them in the planning stage itself, there should be a clear understanding of the specific administrative authority that should contact the appropriate military commander. The civil authorities have to ensure that when an Army column is requisitioned, their role is clear and the relief stores for distribution or special stores for a given task are provided to them.

When further aid is not required the troops send a report to their service headquarters include details of number and type of troops employed, equipment used, duration of employment, brief report of work done, result achieved and all additional expenses incurred. All expenditure on the employment of Armed Forces for maintenance of law and order will be borne by the Central Government. For other aid in maintenance of essential services, assistance during natural calamities or execution of development projects, except for normal pay and allowances, rations clothing, equipment and supervision charges, cost will be met by the State Government/ Union Territory Administration in respect of following:

a) Consumable stores.

b) Non-consumable Stores and Equipment including depreciation cost.

c) Incidental expenditure e.g. cost of move.

d) Hospitalization and treatment of the service personnel injured whilst employed in these duties.

e) Any damage to crops or compensation payable to the local people.

5.7.8 Deployment of Armed Forces for disaster management

Each service within the Armed Forces would be employed for specific tasks as per its capabilities with the Army being predominantly engaged for assistance. Every service will be independently responsible to render, aid for the maintenance of essential services, during natural and other calamities (e.g. earthquakes) and other type of assistance (e.g. for development projects) when asked by the civil authorities.

Coordination will be done in joint meetings of the representatives of the Services and the civil authorities concerned, where resources of more than service are required.

For maintenance of essential services, the assistance provided by the Armed Forces will pertain to the provisioning of technical personnel and specialized equipment. The Corps of Engineers, Corps of Signals, Army Medical Corps and Corps of Electrical and Mechanical Engineers are likely to be called upon to provide such assistance. The Air Force would mainly be used for transportation of stores and personnel by fixed and rotary wing aircraft, while the Navy would best be employed for all activities at sea and provision of divers. Generally, the tasks undertaken would be provisioning of machinery and equipment which is not readily available with civil authorities, provisioning of technical personnel, and provision of supervisory staff who should coordinate and guide the work of civil agencies.

Army assistance should not be called for work mainly involving unskilled or manual labour, which should be provided from other sources like voluntary organisations, paid labour. Home Guards, police or the civilian government staff. In case troops have to be detailed to save life or on humanitarian grounds at short notice, they should be withdrawn as soon as possible.

Army Formation

A formation is a Headquarter with other subordinate formations and / or units its command. The Area and the Sub Area are the static formation, which are geographically distributed and would also be involved in disaster management planning on a continuous basis. For operational purposes, a Command has a number of Corps, which further has two or three infantry, mountain or armoured Divisions under it. A division is the basis formation employed in war that combines a force of all arms and services for undertaking sustained operations over protracted periods generally having three infantry or armoured brigades and an artillery brigade. It has the combat elements of infantry, armour, artillery, engineers and signals; and also logistics elements of Army Services Corps, Army Medical Corps, Divisional Ordnance Unit, Electrical and Mechanical Engineers Corps of Military Police and Army Postal Service. The Army Aviation Corps and Air Defence Artillery are other combat units under a command.

Each formation has a headquarters with the broadly organised as General Staff Branch (operations, intelligence and training), Adjutant General's Branch (personal administration, discipline, medical service pay, welfare, etc.) and Quarter Master General's Brach (supply of all material need, accommodation and move of troops). The General Staff Brach would coordinate all aspects of disaster management where as the others would provide support as required.

Unit

A unit would be generally a battalion or a regiment of an arm or service under the independent command generally of a Colonel. These further have sub-units called company, squadron or battery which form a column for aid to civil authorities. The number of columns that a typical unit could provide is generally three to four. There are some minor units that may be able to provide only one column. The units are integrated into the disaster management plan and respond as per the need and situation.

Typical Army Column

Generally the Army is employed in self contains, self sufficient and mobile columns when taking action whether it is during a natural calamity or in restoring law and order. A column may be built around an administratively self contained company of about a hundred men with additional resources attached of signal detachment, medical team, repair and recovery element and other functional requirements like boats during floods. These columns may functions independently for limited role or a number of them may function under a designated headquarters. The role assigned could be one or a combination of evacuation, medical, distribution, security, search, rescue, clearance, shelter, or any other, but the material required to be expended for the affected population should be provided by the local administration authority.

Ex-serviceman

A large number of disciplined and trained men are available in all parts of the country after having retired from the Armed Forces. Amongst these men are people trained and experienced in different aspects who could be the key persons at local for disaster management. They have qualities of leadership, skills, expertise and dedication for community work. The Director General Resettlement formulates and implements scheme for their resettlement with the Soldiers, and Airmen Board functioning under it and having its branches in all states and districts of the country. The ex-servicemen must be involved at the local in the planning and implementation of disaster management activities within a district.

Type of Assistance

From the above it is clear that the armed forces could be generally considered for the following type of assistance:

a) Command & Control infrastructure including of relief.

b) Medical Aid.

c) Logistics backup for transport of relief.

d) Relief camp establishing

e) Construction/repair of roads & bridges

f) Maintenance of essential services.

g) Evacuation

h) Diving effort.

i) Handling of international relief.

j) Aerial reconnaissance.

The catastrophic impact of disasters can be reduced only if there is coordination and cooperation from all sections of the society belonging to varies sectors. The Indian armed forces are one of the most dedicated and professional organization with a rich tradition of being involved in the social-development roles of nation building. Their services should be utilised as a last resort and be called upon to intervene and take on specific tasks only when the situation is beyond the coping capability of civil administration as it involves high costs.

5.7.9 Recommendations by High Powered Committee (of Disaster Management) for Armed Forces

The High Powered Committee of Disaster Management had included the following recommendations for Armed Forces related to disaster management:

1) The Armed Forces should have a dedicated component of personnel and equipment at the battalion level for disaster management.

2) All five army commands may have fully equipped centres in each of the command regions at appropriate locations that may have heavy equipment necessary to carry out relief and rescue activities in the region at short notice.

3) Use of Technical Army to be incorporated in disaster management plans. In highly disaster prone states, it could be considered raising specialised Disaster Management Battalions similar to Ecological Battalions.

4) Border Road Organisation, where available be suitably incorporated in disaster management plans.

5) A Military Coordinating Officer should be part of the disaster management team at the national and state level.

6) The potential of ex-servicemen available throughout the country be tapped for disaster management. They should be employed for creating disaster task force at the local level.

Their role in providing the Emergency Support Functions such as communications, search and rescue operations, health and medical facilities to the victims, transportation, power, food and civil supplie4s public works and engineering and information and planning at the time of disaster is extremely beneficial. Since various agencies operating in the field of disaster management rely on the armed forces for timely assistance it is to be ensured that disaster specific training be provided to the personnel and incorporated into their training programmes. Each disaster management plan may incorporate the available assistance that could be provided by the armed forces (IGNOU, 2006).

5.7.10 Youth Organizations

Youth movement is critical component of the education system that can play an important role in the area of disaster management. The following institutions have capability potential, and are very suitable for disaster management.

i) The National Cadet Corps (NCC)

ii) Bharat Scouts & Guides

iii) National Service Scheme (NSS)

iv) Nehru Yuvak Kendra (NYK)

NCC, boy scouts and the Girls Guides, NS and such organized youth should include Disaster Management as one of their main activities. They could be incorporated into the local level relief and awareness programme. NYK, Youth Clubs and Mahila Mandals as the grass root level to be organized for creating a mass movement for disaster preparedness.

5.7.11 National Cadet Corps

The NCC came into existence on the 16th July, 1948 under the NCC Act XXI of 1948 under the Ministry of Defence with the following objectives:

i) To develop character, comradeship, ideals of service and capacity for leadership in the youth of the country.

ii) To stimulate interest in the defence of the country by providing service training to youth; and

iii) To build up a reserve to enable the Armed Forces to expand rapidly in a national emergency.

The NCC curriculum was extended to include community development as part of the NCC syllabus. Its broad activities are institutional training, community development youth exchange programme, sports and adventure training. All the activities of NCC tend to develop a trained and disciplined manpower to held the country in the eventuality of disaster emergency. NCC can play an important rle in Disaster Management due to the followings:

i) The physical fitness, including their participation in adventure, sports and games to make them eminently and suitably for assisting the country in such situation.

ii) Activities to shape defence force aims and objectives. As armed forces are sometimes required to work in disaster management area, the NCC also tries to give some similar inputs to NCC Cadets, and

iii) Some training inputs are there in there activities which enable them to provide first aid services.

5.7.12 Bharat Scouts & Guides

The Boy scouting and the girls guiding as movement started in India in 1909 and 1910 respectively. Now they are known as the Bharat Scouts & Guides with the objectives to:

i) Make boy scouts and girl guides resourceful, self reliant and ever helpful towards others.

ii) Enable them discover their latent faculties and talents.

iii) Enable them to express them creatively.

iv) Promote character building spirit of adventure and spirit of service amongst the youth.

These activities are not only recreational to students but also develop endurance, build competencies to survive in difficult situations and provide opportunities to serve the society. Thus, it is seen that major emphasis in their training is on resourcefulness, self reliance, character building and service to the community. Since the age of the scouts and guides is usually below 16, they have the idealism in themselves and a very good material to develop right type of attitudes and also some skills such as first aid, providing relief, especially when it comes to distribution of food and other relief material to the victims of disaster. However there is a need to focus on those activities that enable them to become effective disaster management volunteers specially in strengthening communication network and in certain cases even in the rescue work.

5.7.13 National Service Scheme

National Service scheme was introduced in India in a formal way in 1969 with the central theme the students should always keep before them their

responsibility. The Nationality policy on education 1986 has recognized the role of NSS in serving the community. The main objectives of NSS are:

i) Understand the community in which they work

ii) Understand themselves in relation to their community

iii) Identify the needs and problems of the community and involve themselves in problem solving process.

iv) Develop among them a sense of social and civic responsibility.

v) Utilize their knowledge in finding practical solution to individual and community problems

vi) Develop competence require for group living and sharing of responsibility.

vii) Gain skills in mobilizing community participation

viii) Acquire leadership qualities and democratic thoughts

ix) Develop capacity to meet emergencies and natural disasters, and

x) Practical national integration and social harmony.

The NSS programme may be classified into regular NSS activities and special programmes. Broad aread of activities are:

i) Environment enrichment and conservation

ii) Health family welfare and nutrition programme

iii) Programmes aimed at creating an awareness for improvement of the status of womon

iv) Social service programmes

v) Production oriented programmes

vi) Relief and rehabilitation work during natural calamities

vii) Education and recreation

5.7.14 Nehru Yuvak Kendra

Now one of the largest grass root level organization of its kind in the world, NYKS was established to harness and channelise the power of youth on the principles of voluntarism, self help and participation. On the present reckoning youth in India forms nearly 35% of the total population which has already crossed 1 billion mark. India youth also account for 35.8 per cent of the world's total youth population. This is a vital vibrant and dynamic human resources having bearing on the future state of not only India but the also the entire world.

The Nehru Yuva Kendra Sangathan has 500 district offices, 46 regional offices 18 zones 1000 youth development centers and over 181 thousand village based youth clubs enrolled under it. The purpose behind these clubs at the grass root level is to form village level voluntary action groups of youth that may come together with concern for the poorest of the poor.

NYKS' strength lies in 5000 national service volunteers and nearly 8 million youth volunteers through a vast network of Youth clubs and Mahila Mandals at the grass root level. Through NYKS these village based organizations have become local pressure groups as well as catalytic agents for socia-economic, cultural, political and

environmental transformation. These groups have in fact become functional action groups with rural sustainability and self reliance as their hallmark. When viewed in these terms, the role of NYKS could be defined as that of not merely an ogranization but a mass movement that can play an important role in disaster management (IGNOU, 2006).

5.7.15 Media

Reducing the losses in life and property caused by disasters, is a compelling objective now receiving worldwide attention. Scientists and engineers now believe that, the knowledge and technology base potentially applicable to the mitigation of hazards, has grown so dramatically in recent years that, it would be possible, through a concerted co-operative international effort, to save many lives and reduce human suffering, dislocation and economic losses. Communications are central to this effort for public education, early warning, evacuation, and post-disaster relief.

The media acts as the link between the common man and technical information about the risk and the hazards. They absorb and transform technical information provided by either experts or mediators and relay the information to the public in a simple manner.

The strengths of the mass media lie partly in their independence from governments or other agencies, and partly in their ability to attract large audiences who regard them as reasonably credible information sources.

The capabilities of communications, data-gathering, and data-management technology have leaped forward with our increasing knowledge about the origins and behaviour of disasters, and the mitigation of their effects. Indeed, advances in telecommunications and computer sciences are among the major contributors to the recognition that technology can do much to blunt the effects of hazards.

Mass communication is inextricably entwined with disasters and hazard mitigation. The electronic and print media, reflecting great public interest and concern, provide extensive coverage of disasters, particularly those with strong visual impact. And increasingly-as forecasters have gained the ability to predict, the media have covered the near-term prediction and relief planning phases of the event. The media have significantly improved the level and sophistication of their pre and post-disaster coverage in recent years by using new technology and consulting technical experts better able to describe the causes and mitigation of disaster.

The print media, too, have benefited from advanced technology. Facsimile transmission and closer linkages between reporters and specialists in government and academia have deepened understanding of the causes and impacts of these disastrous events, and, no doubt, have had some effect in reducing long-term exposure and risk.

Clearly, mass communications technology already has had a significant impact on how the public learns of and perceives the impact of disasters. And as the costs are further reduced and the capabilities of these technologies improve, the level and sophistication of information presented to the public will also be enhanced.

In addition to the vastly improved opportunities that telecommunications technologies have provided, to report on prospective, ongoing and recent disasters and relief efforts, their capabilities have slowly shifted our thoughts from post-disaster relief to more effective means of coping with sudden disasters.

Better linkages between the public media and the community of disaster mitigation researchers and practitioners, whether scientific, technological, or service-oriented can make disaster management efforts more effective and more important, can accelerate the shift in both the public's and the administrations' thoughts towards effective pre-disaster initiatives.

To this end, the electronic and print media could embark on a two-step process to enhance the quality of its hazard-related services.

5.7.16 NGOs

NGOs are loosely termed as various organisation from other then the government sector. There are many more NGOs working with deep commitment, dedication and transparency by involving the people and people's resources but they should be well directed. The NGOs are in a position where they can play a very important role not only in identifying and prioritising challenges of the local areas but could also examine and disseminate effectively lessons for action. NGOs working in the following areas can be involved disaster management activities.

i) Economic and semi-economic development

ii) Health and mass media

iii) Educational development

iv) Training research

v) Rural/block development

vi) Entrepreneurial-women empowerment

NGOs, due to their proximity to the people, society, environment etc. are in a better position to take effective steps for proper monitoring of various parameters of success. Voluntary agencies are essentially non-profit and non-partisan organization. The criteria for identifying voluntary agencies for enlisting help in relation to the disaster management programme should be as follows:

i) The organization should be a legal entity

ii) It should be based in a rural area or area of intervention and be working there for a minimum of 3 years.

iii) It should have broad-based objectives serving the social and economic needs of the community as a whole and mainly the weaker sections. It must not work for profit but on 'no profit and no loss basis.

iv) Its activities should be open to all citizens of India irrespective of religion, caste, creed, sex or race.

v) It should have the necessary flexibility, professional competence and organizational skills to implement programmes.

vi) Its office-bearers should not be elected members of any political party.

vii) It declares that it will adopt constitutional and non-violent means for development purposes.

viii) It is committed to secular and democratic concepts and methods of functioning.

5.8 Peoples participation & Protection of the weaker section, women & children

The old, the children, the infirm, the physically handicapped & the person suffering from diseases should be included in the weaker section in the society. The following action should be taken to ensure more active & meaningful people's participation & for the protection of the weaker section of the society.

A. In natural disaster situation adequate preparedness & relief is not possible only with the help of govt. servants. All the natural calamities specially the flood which is catastrophic & destructive requiring rescue of trapped people in debris of the damaged & collapsed houses, removal of dead bodies & injured from the collapsed & damaged houses, providing first aid to injured,, disposing dead bodies "through funeral/burial, providing food, safe drinking water & shelter to the victims etc. are such huge tasks which cannot be handled properly only by govt. machinery & proper rescue, evacuation & relief work will need more meaningful & active participation of the local community as well as NGOs & Panchayat Raj Institutions. The list of selfless workers and NGOs who have already worked in the calamity situation & earned appreciation must be prepared and they should be assigned major role in public awareness, education, relief distribution & even in long term rehabilitation. A definite, & précised order be issued by Revenue & Relief Deptt., Govt. of U.P. after careful consideration. The community members, NGOs & Panchayati Raj Institutions shall also be invited for sharing their views & experiences through media such as TV, Radio & also in seminar & workshop etc.

B. Village will be the focal point of the whole disaster management activities for ensuring continuous awareness & attention towards the need of better management of the catastrophic disaster & for continuous flow of information.

C. The public awareness programme shall also include cultural programmes & Cultural Affair Deptt., Govt. of U.P. shall formulate some structured programmes regarding preparedness for disaster reduction.

D. The inclusion of natural calamities & disaster in school & collage curriculum / textbooks is necessary but only this will not achieve the purpose. Hence on the lines of NSS training camps one-week camp should be organized to give practical exposure to the students as well as community members. The concerned deptts. of the Govt. will immediately take action for the implementation.

E. Adult education is a very affective measure to create awareness among the rural masses & the Adult Education deptt. shouadll immediately include the important points of flood disaster preparedness & community participation in disaster management.

F. Yuwak Mangal Dal, Mahila Mangal Dal & Anganbaris shall share their responsibility towards the awareness programme & in a disaster situation they shall be actively involved in rescue work. The Youth Deptt. & Women Welfare deptt. will evolve a suitable mechanism and implement it as early as possible.

G. The govt. officials visiting & touring villages regarding their departmental task must arrange people contact programmes & disseminate information concerning natural calamities & disaster & must pursue the awareness programmes along

with their departmental programmes. The officials of Revenue, Rural Development, Health Irrigation, Social Welfare, Police, Agriculture, Civil Supply, Animal Husbandry, Electricity, Jal Nigam, Jal Sansthan, Nagar Vikas will be very helpful in spreading the message. All the deptts. will issue G.Os & instructions in this regard.

5.9 General Education and Awareness Regarding Vulnerability and Mitigation Measures, Flood risk zoantion map and Related Problems

Realizing that a large part of the State of Uttar Pradesh falls in the vulnerable seismological active zones of India, there is an urgent and strong need for creating greater awareness and education regarding seismic vulnerability and mitigation measures, seismological research, seismic flood risk zone and other related problems for effective flood mitigation. It is hence strongly recommended that :

- Special capsules on the subject of disaster mitigation with special reference to flood be introduced at the U.P. Academy of Administration for the administrative officers of the State.

- A permanent mechanism be evolved at the district Level on a continuing basis for disaster mitigation & management. Furthermore, NGOs working in the area be included in this mechanism and all the districts Should have a contingency plan for disaster mitigation & management, with special reference to flood.
- Reliable communication network capable of working on stand-alone basis may be established for speedy communication. A feasibility study for providing Ham Radio network in the citizens band linking remote villages with block headquarters and subsequently with the district Headquarters by carried out.
- At the State level the setup of the Relief Commissioner be so strengthened that it acts as a nodal point and agency for collection and exchange of information and keeping abreast with the knowledge and constant interaction with the professionals be maintained for making and updating mitigation plans. A suitable mechanism be involved for continuous flow of information from the state to district level for effective implementation of disaster mitigation plan.
- The state govt. should ensure that whenever a new D.M. takes charge of the district he/she should immediately familiarize with the disaster management plan and organize a district level exercise involving all concerned, including NGOs, to update prepared-ness. The Relief Commissioner's office should follow this up on a regular basis.
- Traditional technologies and their role in disaster mitigation be studied and as far as possible be adopted for disaster mitigation.
- Village level plan for disaster mitigation with total village population participation be evolved and encouraged. The emphasis should be on villages themselves preparing and equipping to meet any eventually in the broad area of disaster.

CHAPTER – VI

RESPONSE PLANS

The design of plans developed for immediate response which could be initiated on a trigger mechanism basis upon the occurrence of a calamity of extreme nature.

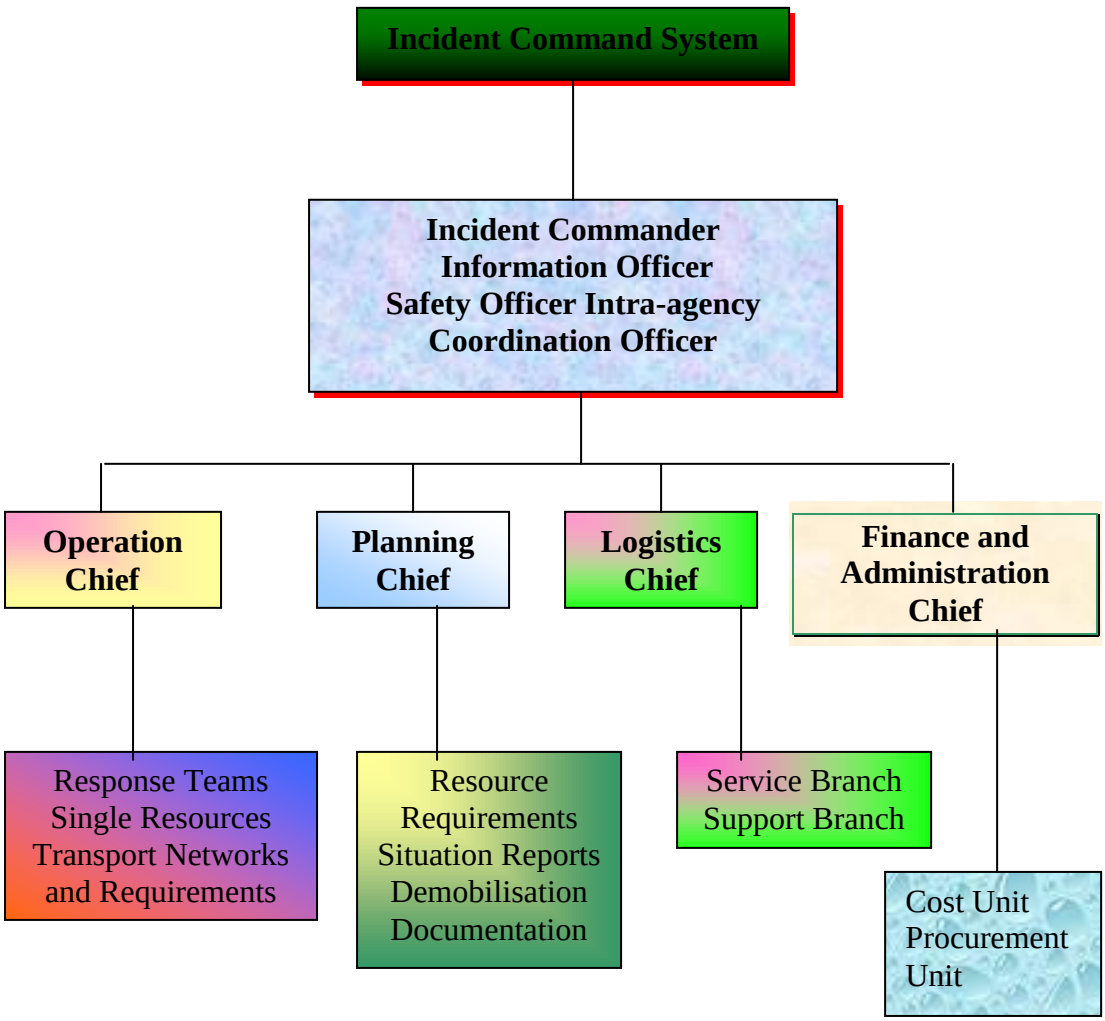
6.1 Incident Command System (suitably modified/indigenized)

ICS is an effective model for centralized management. It can clearly define staff roles and responsibilities and lines of communications. In the ICS model the base of operations for response to a disaster (incident) is the Command centre.

6.1.1 Incident Command

Upon activation of the Plan, the Incident Commander will establish the Command Centre and initiate ICS.

The layout of the Incident Command System with concerned staff is given in the chart below:



A. Incident Command Post

1. Background

The Incident Command Post (ICP) is the location at which the primary command functions are performed. The Incident Commander will be located at the ICP. All incidents must have a designated location for the Incident Command Post (ICP). There will only be one ICP for each incident. This also applies on multi-agency or multi jurisdictional incidents operating under a single or a unified command.

The ICP can be located with other incident facilities.

Initial location for the ICP should consider the nature of the incident, whether it is growing or moving, and whether the ICP location will be suitable in size and safe for the expected duration of the incident.

The ICP may be located in a vehicle, trailer, tent, or within a building, to name just a few examples. On long-term incidents, it is desirable to provide an ICP facility which will provide adequate lighting and/or protection from the weather.

Larger and more complex incidents will often require larger ICP facilities. Examples of incidents that usually require an expanded ICP facility include:

Multi-agency incidents run under a Unified Command

- Long-term incidents
- Incidents requiring an on-scene communications center
- Incidents requiring a separate planning function
- Incidents requiring the use of Command Staff and Agency Representative positions

ICPs will be designated by the name of the incident, e.g., Woodstock ICP.

Some incidents may be large enough to have an on-site communications center to dispatch assigned resources. The communications center is often associated with or adjacent to the ICP. Also, some incidents will require space at the ICP to allow for various Command Staff and Planning Section functions.

2. Characteristics of the ICP

The following are some general characteristics of the ICP that should be known and understood:

- There is only one ICP per incident, even if the incident is multi-jurisdictional.
- The incident communications center, if established at an incident, is often located with or adjacent to the ICP.
- The Incident Command function is carried out at the ICP.
- The ICP may be located with other incident facilities such as the Incident Base.
- The planning function is normally done at the ICP.
- The ICP should be large enough to provide adequate working room for assigned personnel.

- The ICP should contain situation and resource status displays necessary for the incident, and other information necessary for planning purposes.
- Agency Representatives are normally located at the ICP.
- Once established, the ICP will normally not be relocated.

NOTE: that on expanding incidents it would be appropriate to move the ICP if an improved location is required or would facilitate command operations.

3. Establishing the ICP

The following are general guidelines to be used in establishing the ICP:

Position away from the general noise and confusion associated with the incident.

- Position outside of the present and potential hazard zone.
- Position within view of the incident (when appropriate).
- Have the ability to expand as the incident grows.
- Have the ability to provide security, and to control access to the ICP as necessary.
- Identify location with distinctive banner or sign.
- Announce ICP activation and location via radio or other communication so all appropriate personnel are notified.

B. Staging Areas (Tehsil)

A Staging Area is a temporary location at an incident where personnel and equipment are kept while awaiting tactical assignments.

Staging Areas should be located within five minutes travel time to the area of expected need.

An incident may have more than one Staging Area. It may be Tehsil or Block Level Head Quarter.

1. General Characteristics of Staging Areas

Staging Areas should:

- Be close to the location of tactical assignments (within five minutes).
- Be located out of any possible line of direct hazard effects to minimize risk.
- Be relocated if necessary.
- Have different access routes for incoming and outgoing resources.
- Be large enough to accommodate available resources and have room for growth.
- Be clearly marked.
- Be located to minimize environmental damage.
- Have necessary security controls.

2. Benefits of Using Staging Areas

Listed below are several benefits from the use of Staging Areas at an incident. Students may be able to add additional benefits.

Staging Areas:

Provide locations for immediately available resources to await active assignments.

- Provide locations to allow resources to be formed into operational units such as task forces and strike teams.
- Provide for greater accountability by having available personnel and resources together in one location.
- Provide safe locations for personnel and equipment to await assignments.
- Prevent resources from freelancing or "doing their own thing."
- Minimize excessive communications of resources calling for assignments.
- Control and assist the check-in of personnel who arrive at the incident via privately owned vehicles or other private means.
- Allow the Operations Section Chief or IC to properly plan for resource use, and to provide for contingencies.

C. Camps

An Incident Base will be established on some incidents.

All primary services and support activity for the incident are usually located and performed at the Base and it should as near to the inundated block.

The Logistics Section will be located at the Base.

Normally, the Incident Base is the location where all uncommitted (out-of-service) equipment and personnel support operations are located.

Tactical resources assigned to the Incident Base will normally be out-of-service.

There should be only one Base established for each incident, and normally the Base will not be relocated.

The Base will be designated by incident name, e.g., Midway Base.

In locations where major incidents are known to occur frequently, it is advisable to pre-designate possible Base locations, and to plan their layouts in advance.

The management of the Base comes under the Logistics Section. If an Incident Base is established, a Base Manager will be designated. The Base Manager in a fully activated ICS organization will be in the Facilities Unit of the Logistics Section.

Camps are temporary locations within the general incident area which are equipped and staffed to provide sleeping, food, water, and sanitary services to incident personnel.

Camps are separate facilities, and are not located at the Incident Base.

Camps may be in place for several days, and they may be moved depending upon incident needs.

Very large incidents may have one or more Camps located in strategic areas. For example, in a civil disturbance incident there may be several camps designated where National Guard personnel and equipment are temporarily located.

All ICS functional unit activities performed at the Base may also be performed at Camps.

Each Camp will have a Camp Manager assigned.

Camp Managers are responsible for managing the camp, and for providing non-technical coordination of all organizational units operating within the Camp.

Camp Managers will report to the Facilities Unit Leader in the Logistics Section. If that position has not been activated, the Camp Manager would report to the Logistics Section Chief.

Initially, personnel requirements for Logistics Section units located at Camps will be determined by the Incident General Staff, based on the kind and size of the incident and expected duration of Camp operations.

After a camp is established, additional personnel and support needs would normally be determined and ordered by the Camp Manager.

If logistics units are established at Camps, they would be managed by assistants.

Camps are designated by a geographic name or by a number. An example might be the 44th St. Camp, Presidio Camp, or Camp #3.

D. Helibase

Helibases and Helispots serve somewhat different purposes at an incident.

A Helibase is the main location within the general incident area for parking, fueling, maintenance, and loading of helicopters. In the State of Uttar Pradesh Varanasi, Gorakhpur and Lucknow etc. air bases may be used for this.

E. Helispots

Helispots are temporary locations in the incident area where helicopters can safely land and take off. There are many Helispots in different district of the State. These should be maintained before monsoon.

Helispots can be used to load or off-load personnel, equipment, supplies, water, etc.

Helispots will be managed by Helispot Managers who will function on the ground at the Helispot.

The Helispot Manager will report to the Helibase Manager.

If an incident has no established air operations organization but does have one or more Helispots designated, the Helispot Managers will report to the Operations Section Chief.

Several ICS facilities may be collocated at an incident.

Options for Using Resources on an Incident

There are three ways of using resources at an incident:

- As Single Resources
- As Task Forces
- As Strike Teams

Each of these has certain features:

A. Single Resources

Single Resources are individual pieces of equipment, or a crew of individuals, with an identified work supervisor that can be used in a tactical application on an incident.

A Single Resource is often the most common way of initially using resources on an incident.

Single Resources can be typed to reflect capability. Unless a Single Resource is typed, its specific resource capabilities may not be clear to everyone.

Examples of Single Resources:

KIND	TYPE
Police Motorcycle Unit	*
Fire Engine Company	1
Medical team	*
Helicopter	2
Search and Rescue Unit	2

* Typing of resources other than fire has not been done on a broad scale.

B. Task Forces

Task Forces are any combination and number of single resources (within span of control limits) assembled for a particular tactical need. Task forces may be a mix of all different kinds of resources, be of the same kind but different types, or be several resources of one kind mixed with other resources. We will look at some examples in a moment.

Requirements of a Task Force:

- **Must have a leader.**
- **Must have communication between resources and the leader, and from the leader to the next level supervisor.**
- **Must have transportation as required.**
- **Must be within span of control limits.**

Task Forces are very flexible in their makeup with no limitations other than span of control. Listed below, are some examples of how agencies use Task Forces.

Examples of Task Forces:

- **Public Works Task Force:**

  Two Bulldozers

  Two Dump Trucks

- **Search and Rescue Task Force:**

  One Helicopter

  One Alpine S&R Team

  One Medical Technician

- **Oil Spill Task Force**

  Five Berthing/food ships

  Ten Work Boats

  One Tank Barge

  Four Skimmer Vessels

- **Law Enforcement Task Force**

  One Swat Team

  One K-9 Team

  One Fire Engine

  One Ambulance

- **Multi-agency Task Force**

  Five Officers

  Five Engines

  Three Medical Units

C. Strike Teams

Requirements of an ICS Strike Team:

- **All resources must be of the same kind and type.**
- **Must have a leader.**
- **Must have communications between resources and the leader.**
- **Must have transportation (as required).**
- **Must operate within span of control limits.**

Example of standardized ICS Strike Teams:

- **Five Type 1 Fire Engines or**
- **Two Type 2 Bulldozers**
- **Two Type 1 Handcrews**

Strike Teams have proven to be very valuable for use in large wildland fire incidents. In those kinds of incidents Strike Teams are regularly used for managing engines, hand crews, and bulldozers. Strike Teams could be defined for other resource types, for example dump trucks or rescue boats, if they are commonly dispatched in groups meeting the above requirements.

D. Management of Task Forces and Strike Teams

A requirement for all Task Forces and Strike Teams is that they must have a leader and common communications.

Depending upon the level of organization established for the incident, Task Force and Strike Team Leaders will report to the Incident Commander, the Operations Section Chief, or to a Division or Group Supervisor.

E. Advantages of Task Forces and Strike Teams

There are at least five advantages of using Task Forces and Strike Teams:

1. Enables more effective resource use planning.
2. Provides an effective way of quickly ordering just what is necessary.
3. Reduces radio traffic by communications going to a task force or strike team leader, rather than to each single resource.
4. Increases the ability to expand the organization for large incident operations while maintaining good span of control.
5. Provides close resource control and accountability.

Demobilizing Resources

At all times during an incident, the Incident Commander and General and

Command Staff members must determine when assigned resources are no longer required to meet incident objectives. Excess resources must be released in a timely manner to reduce incident-related costs, and to "free up" resources for other assignments. On larger incidents, the planning for demobilization should begin almost immediately, and certainly well in advance of when demobilization actually takes place. The process of demobilizing resources generally begins at the Operations Section level, where the need for continued tactical resources will be determined. When tactical resources are no longer needed, other parts of the organization can also be reduced.

A. The Process of Demobilization

On single agency and/or smaller incidents, the planning and the process of demobilization may be quite simple and will not require a formal written demobilization plan or a Demobilization Unit to prepare it.

On large incidents, especially those which may have personnel and tactical resources from several jurisdictions or agencies, and where there has been a good integration of multi jurisdiction or agency personnel into the incident organization, a Demobilization Unit within the Planning Section should be established early in the life of the incident. A written demobilization plan is an essential on larger incidents.

In order to determine excess resources and begin the demobilization process, it will be necessary for each part of the ICS organization to evaluate the continuing need for both personnel and tactical resources.

Resources no longer needed within each section should be reported to the Section Chief as soon as it is determined that the need for them no longer exists.

The Demobilization Unit, if established, may recommend release priorities for the Incident Commander's approval based upon continuing needs both on and off the incident.

Agencies will differ in how they establish release priorities for resources assigned to an incident. Also, the process for demobilization of resources from an incident will vary by application area. Participants at an incident should expect to see and accept differences as reflected by agency policy.

B. The Demobilization Plan

An incident Demobilization Plan should contain five essential parts:

- **General Information (guidelines)**
- **Responsibilities**
- **Release Priorities**
- **Release Procedures**
- **A Directory (maps, phone listings, etc.)**

Key Resource Management Considerations

Safety, personnel accountability, managerial control, adequate reserves, and

cost are all key considerations that must be taken into account when managing incident resources.

A. Safety

A basic principle of resource management is that resource actions at all levels of the organization must be conducted in a safe manner.

This includes ensuring the safety of:

1. **Responders to the incident.**
2. **Persons injured or threatened by the incident.**
3. **Volunteers assisting at the incident.**
4. **News media and the general public who are on scene observing the incident.**

Current laws, liability issues, and future trends will continue to place additional emphasis on personnel safety.

B. Personnel Accountability

The ICS provides a unity of command structure which allows supervisors at every level to know exactly who is assigned and where they are assigned. If the management process is followed, and the principles of ICS maintained, all resources will be fully accounted for at all times.

C. Managerial Control

ICS has a built-in process which allows resource managers at all levels to constantly assess performance and the adequacy of current action plans. Strategies and actions to achieve objectives can and must be modified at any time if necessary. Information exchange is encouraged across the organization. Direction is always through the chain of command.

D. Adequate Reserves

Assignment of resources to the Incident Base, camps, and staging areas provides the means to maintain adequate reserves. Reserves can always be increased or decreased in Staging Areas to meet anticipated demands.

E. Cost

Incident-related costs must always be a major consideration. The Incident Commander must ensure that objectives are being achieved through cost-effective strategy selection, and selection of the right kind and right number of resources.

The Finance/Administration Section's Cost Unit has the responsibility to:

- **Obtain and record all cost information**
- **Prepare incident cost summaries**
- **Prepare resource use cost estimates for planning**
- **Make recommendations for cost savings**

The Cost Unit can assist the Incident Commander in ensuring a cost-effective approach to incident resource management, and should be activated on any large or prolonged incident.

Resource managers must be constantly aware that the decisions they make regarding the use of personnel and equipment resources will not only affect the timely and satisfactory conclusion of the incident, but also may have significant cost implications.

6.2 Establishment of Emergency Operation Centre (EOC):

To ensure coordination within State, district and local authorities, EOC plays a very important role. Directing the operations at the affected site, the need for coordination at the district headquarter and the need for interaction with the state government to meet the conflicting demand at the time of disaster are the responsibilities of the Divisional/Deputy Commissioner and his team members. State/ District EOC helps Incident Management Team to meet these conflicting demands. Keeping this in view, Uttar Pradesh has identified **3 State level Emergency Operations Centres one each for Yamuna, Ganga and Ghaghra river basins** and **18 Emergency Operations Centres** (one each in every commissionary) for all the districts of the state. At present, these Operations Centres are temporarily running in all the Districts and State but there is a plan for further strengthening of the EOC building with equipments, manpower and other facilities.

(a) Normal Time Activities of Emergency Operations Centre

- Ensure warning and communication systems are in working conditions
- Collect and compilation of district-wise information in up-to-date form, related to hazards, resources, trained manpower etc.
- Preparation of appropriate GIS database and Digital Maps through state of the art Remote Sensing Technology.
- Drawing of blue print of action at the Gram.Panchayat., Block, Municipality, District and State levels showing identified agencies, resources and funds for carrying out the necessary exercise;
- Use of the existing maps in 1: 50,000 and 1:25,000 scale and preparation of detailed large scale maps of 1: 10,000 scale, where necessary;
- Identification of hazard prone areas.
- Synthesis of spatial and non-spatial information within the framework of a coherent and user-specific data model and linkages between different data sets with diverse information from a variety of sources;
- Generation of spatial outputs with supportive tables/charts to help in development planning and decision making;
- Integration of conventional forecasting with the state of art technologies, namely, remote sensing, Data Collection Platforms and GIS;
- All proposed developmental activities using maximum possible information from remote sensing and incorporating hazard risk assessment for monitoring,

evaluation and setting up of minimum standards for all infrastructural works, especially in hazard prone areas;

- Operational use of satellite/aerospace data for real time data acquisition for monitoring and predicting and tracking potential hazards and predicting disaster damage scenarios;

- Creation and updating a sound information base at village/ward, block/municipality and district levels giving land use, demographic, socio-economic, infrastructure, resource inventories of government agencies, NGOs, Public and Private Sector Undertakings to be made and networked, to compile the information from various sources and bring it under one platform to support disaster management activities;

- Link District, Block and GP Disaster Management Plans with the plans at the upper and lower levels;

- Conduct district, sub-division and community level regular mock drills

- Generate coordination within Community, District and State level departments

- Monitor and evaluate community (Residential colonies, schools, hospitals, institutions, business establishments) level disaster management plans

- Develop a status report of preparedness and mitigation activities under the plan

- Allocate tasks to the different resource organizations and decisions making related to resource management

- Review and update response strategy

- Regular Supply of information to the state government

- Training in disaster management and modernization of equipments of Police and Para Military Forces, Fire Services, Civil Defense and Home Guards. Incorporation of Disaster Management as one of the main activities of youth organizations such as NCC, Boys Scouts, Girls Guides, National Service Schemes and local active, interested clubs and their involvement;

- Improvement of communication links, forecasting, and control rooms by modernizing the existing facilities. A network of automatic weather stations shall be established & regular monitoring of the water level of the different rivers at different locations must be done.

- Up-gradation and adequate network of rain gauge network, especially in known hazardous districts and locations;

- Review of forecasting on floods & drought and its impact on agriculture. Rigorous monitoring of drought conditions to be carried out at village level using network of automatic weather stations and satellite data;

- Construction of emergency shelters, identification of buildings that could act as shelters and strengthening existing one, strengthening of public infrastructures, which are useful during emergencies;

- Development of standard operational procedures, formats, checklists and field manuals;

- Deployment of senior and experienced officials in limited geographic areas for overall control during disasters of rare severity;

- Strengthening of all State and District level control rooms using the state of the art technology;

- Deployment of interdisciplinary team comprising 200-300 persons under Special Relief Commissioner in the event of a major calamity, with similar measures at the District, Municipality and Block levels to be placed under the concerned official in charge of response coordination at various levels. Setting up and regular training of Search and Rescue Teams, Disaster Medical Assistance Teams, Disaster Mortuary Assistance Teams, Specialised Operational Teams and Medical Assistance Teams at State and district levels. Further strengthening and reorientation of the Fire Services and Civil Defence Structures;

- Development of minimum quality standards for relief and recovery operations;

- Establishment of Help Lines during emergencies with modern communication facilities and tracing mechanism;

- Protection of Human Rights especially during distribution of relief to victims;

- Establishment of a Disaster Knowledge Network within the State and a Global Information Network;

- Creating awareness among the Community through disaster education, training and information dissemination to empower them to effectively cope with hazards;

- Incorporation of disaster management aspects in educational curricula from primary school level upwards and a focus on incorporating the same at engineering, technical institutes, architecture, development planning, medical colleges and promotion of special courses on disaster management;

- Taking necessary measures to increase public participation and awareness and enrolment of trained volunteers for different response and recovery tasks;

- Ensuring increasing involvement of NGOs, CBOs, Panchayat Raj Institutions, Municipal Councils, and Corporate Sector;

- Promoting consciousness and adoption of Insurance and a culture of safety, to follow building codes, norms guidelines, quality materials in construction etc., and

- Encourage research and studies on disaster management issues, techniques and equipments.

(b) Facilities with EOC

Presently, the Emergency Operations Centres in districts and state are equipped with computer related facilities. In future, EOC would include a well-designed control room with workstation, wire-less communication, hotlines and intercoms etc. Following other facilities will be made available within the EOC:

- A databank of resources, action plans, state and district disaster management plans, community preparedness plans would be maintained at EOC
- Maps indicating vulnerable areas, identified shelters, communication link system with state government and inter and intra district departments would strengthened
- Inventory of manpower resources with address, telephone numbers of key contact persons has been maintained
- EOC will have provision of desk arrangements in advance
- Frequently required important phone numbers would be displayed on the walls so that they can be referred. Other phones and addresses would be kept under a easy retrieval and cross-referring system
- Reconstruction/ Retrofitting of building will be done so that it can remain operational during disaster also.
- EOC will be made operational for 24 hours with the help of Police, Fire and Home Guard Department.

(c) Communication Room (Main Message Room)

The police wireless system should be in contact with EOC. In addition to that following facilities would be available in the communication room:

- Telephones, fax and intercoms units for contact within the Commissioner
- Civil wireless network (up to *Tehsildar* level-suggested)
- One computer with internet and printer facility and photocopying machine
- Help lines numbers will be setup for emergency related queries

(d) Transport Facility

A jeep with wireless communication may be assigned to the EOC for normal times. Additional vehicles may be requisitioned during the emergency.

(e) EOC Staffing/Manning EOC

Manning of EOC is required for making EOC operational during and post disaster situation. district there would be a need of keeping adequate staff. There is a need of regular staff, staff-on requirement and staff-on disaster duty. Regular staff is

required to manning communication room on 24 hours. Staff on call can be acquired immediately on requirement. Two officers of the rank of DC/ADM can be appointed during emergency. Staff on disaster duty can be appointed by Deputy Commissioner. This staff can be drawn from the various government departments.

(f) Desk arrangement

In case of emergency Incident Commander/Deputy Commissioner and other team members would be present round the clock in the office in EOC. Senior officers should be appointed in the capacity of desk officers for maintaining coordination for Emergency support functions:

1 .	Communication	BSNL/Other Electronics & Print Media
2.	Evacuation	U.P. Police
3.	Search and Rescue	U.P. Fire Service
4.	Law & Order	U.P. Police
5.	Medical Response and Trauma Counseling	Directorate of Health CDMO
6.	Water Supply Delhi	Jal Nigam
7.	Relief (Food and Shelter)	Department of Food and Civil Supplies
8.	Equipment Support, debris and road	Municipal Corporations Clearance
9.	Help lines, warning dissemination	Department of Revenue
10.	Electricity	Electric board.
11.	Transport	Transport Department

6.2.1 Reliable Communication Systems

Uttar Pradesh has well-established communication system but yet disasters like earthquakes & floods has witnessed partial or total collapse of general communication

system which delays flow of information from the disaster site consequently resulting delays in relief operations. Therefore, establishment of reliable communication also plays a very crucial role. Till now, Police Communication System has been found most suitable to rely upon. The plan also seeks for installation of satellite phones and HAM equipments in the EOC for strengthened communication system in all district offices and state headquarter office. Training to volunteers of home guards would be provided in HAM operations.

6.2.2 Preparation of a Response Plan

One of the important tasks during preparedness phase is formulation of a response plan. It basically helps in quick mobilization of manpower, resources and in performing various duties. The response plan explains a hierarchal system of Emergency Response Functions in terms of tasks and assigned responsibilities to different agencies. It also lay down an Incident Command System under the directions of Deputy Commissioner of every district or divisional Commissioner (depending upon the extent of disaster). This whole exercise will help in reducing confusions and result in prompt and coordinated response. Activation of trigger mechanism by Incident Commander, Functioning of EOC and Response of

Emergency Support Functions can be tested every year for resolving perplexity occurring during actual scenario. Broad details of response plan has been included in the Chapter.

The response plan has been subdivided into the following sections-

a) Response Management Arrangements

b) State Disaster Response Plan

c) Emergency Support Functions

a) Response Management Arrangements(Incident command system…..suitably modified /indigenized)

The response management task is to optimise the outputs, given the resource constraints. Response management is based on the three key management tasks of command, control and coordination. These roles and responsibilities are defined as follows:

a.1) Command

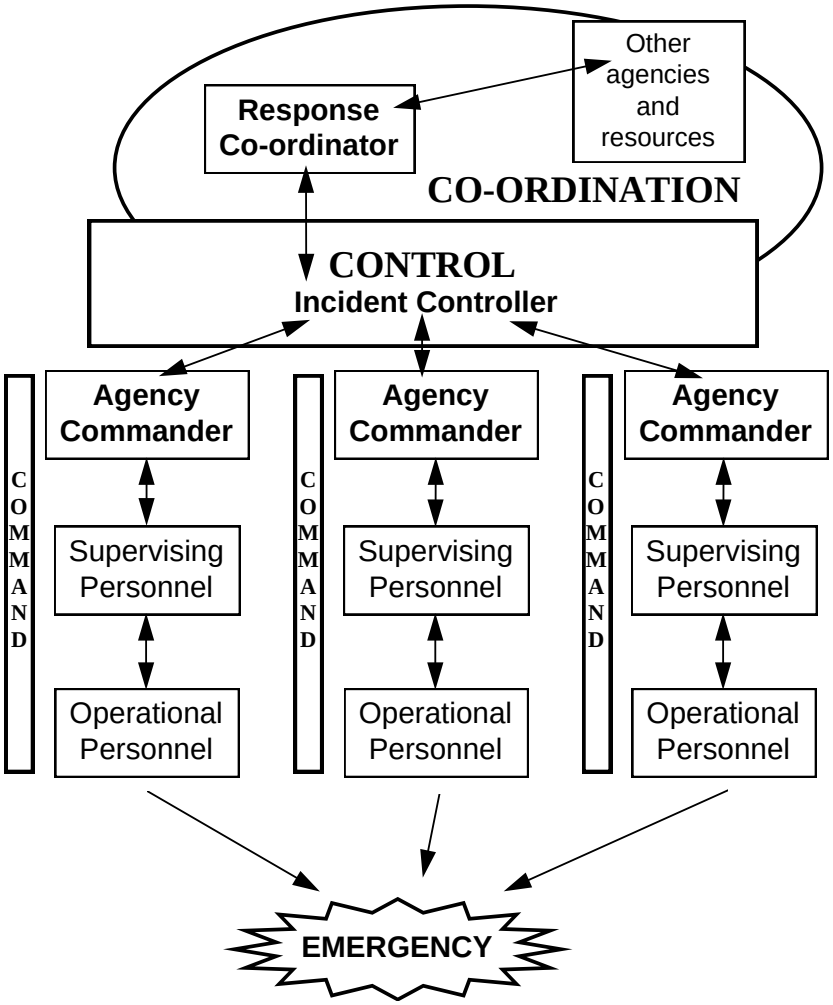
Command depicts the hierarchical managerial order. It elucidates the type and amount of resources that would be handled at different levels in the performance of that organisation's roles and tasks. Command structure will be decided as per the rules within an agency/department.

a.2) Control

Control provides the direction for best possible utilisation of resources and most advantageous deployment of manpower. Control system will be developed on the basis of laid down policy of the Govt.

a.3) Coordination

Coordination involves the bringing together of agencies and elements to ensure effective response to emergencies. It is primarily concerned with the systematic acquisition and application of resources (agencies, personnel and equipment) in accordance with the requirements imposed by emergencies. Co-ordination aims at bringing out synergy in operation. The command, control and co-ordination functions are demonstrated in the Figure given below.



a.4) Control and Support Agencies

An Emergency response agency will be designated, either as a control agency or a support agency, depending upon the circumstances and the magnitude of the disaster.

Control Agency

A control agency is defined as the response agency nominated to control the response activities for a specified type of emergency. During the course of response the control agency will be changed according to the needs at the time and situation. The co-ordinator will have the authority to nominate one of the response agencies to act as Control agency

Support Agency

A support agency is defined as a government or non-government agency, which provides essential services, personnel, or material to support or assist a control or another support agency or persons affected by an emergency.

Incident Controller

Incident Controller is the officer with overall responsibility for emergency response operations. The incident controller will normally be appointed by the control agency, but can also be appointed by the SRC or DRC (the District Collector) if the circumstances so require.

Emergency Management Team (EMT)

The emergency management team will consist of the incident controller, the support agency commanders (or their representatives) and the emergency response co-ordinator (or representative). The EMT exists when two or more agencies combine or work in co-operation to respond to an emergency.

Once the control strategy has been determined by the incident controller (in consultation with support agency commanders), the commanders implement the strategy through their respective command structures. The emergency response co-ordinator's role in the team is to ensure a co-ordinated multi-agency response, and to provide for the systematic acquisition and utilization of the required resources.

Incident Management System (IMS)

This is a system used by the EMT in fulfilling its role. An IMS lays down a set of flexible set of rules and a dynamic methodology, which can accommodate escalation or changes in the severity of any emergency. The system will be established by the control agency and will involve use of personnel for the various functions which may need to be individually managed in dealing with the event, such as operations, planning, logistics (in conjunction with the emergency response co-ordinator), finance and administration. Each response agency will draw up an operational management system to assist in carrying out its role. The important aspect is that they all provide an effective interface between co-operating agencies, when necessary.

Co-ordination Role of the State Relief Commissioner & District Collector

The responsibilities of the SRC and the District Collectors for emergency response co-ordination are spelt in ***Relief Code***. Emergency response co-coordinators will be responsible for ensuring the co-ordination of the activities of agencies having roles or responsibilities in response to emergencies, with the exception of emergencies involving defense force vessels or aircraft.

Principal Role of Emergency Response Co-ordinators (SRC & DRC)

The principal role of emergency response co-ordinators is to:

- Ensure that the appropriate control and support agencies have been identified and will be responding for the emergency management;
- Ensure that effective control has been established in responding to an emergency;
- Ensure effective co-ordination of resources and services;
- In the event of uncertainty, determine which agency is to perform its statutory response role within a district or other specified area, where more than one agency is empowered to perform that role;
- Arrange for the provision of resources requested by control and support agencies;
- Review and dispatch situation reports;

- Ensure that consideration has been given to:
    - Alerting the public to existing and potential dangers arising from a serious emergency direct or through the media;
    - Any need for evacuation.
    - Advise recovery agencies of the emergency.

Consider the additional objectives shown below *Field Emergency Response Co-ordinator*

The field emergency response co-ordinator will be an experienced person designated by SRC, DRC, BDO, etc. at the scene of an emergency. The response roles, responsibilities and duties of the field emergency response co-ordinator are to:

- Ensure that the necessary control and support agencies are in position or have been notified of the emergency and are responding.
- Liaise with all agencies at scene.
- Ensure an incident controller has been identified, and liaise directly with that person, in order to be satisfied that the emergency is being responded to efficiently and effectively.
- Arrange for meeting the requests for provision of resources to the control/support agencies by:
- Ensure provision of available resources from within the Gram Panchayat, Block, Municipality District; *or* mobilise additional resources through the Gram Panchayat, Block, Municipality, District emergency response co-ordinators.
- Provide situation reports to the Block, Municipality and District emergency response co-ordinators.
- Ensure that consideration has been given to:
- Alerting the public to existing and potential dangers arising from a serious emergency;
- The need for evacuation;
- Public information;
- Traffic management, including access/egress for emergency response vehicles.
- Make necessary arrangements at the scene for media in accordance with direction from the incident controller.
- Advise recovery agencies of the emergency situation.

Response plans at different levels

(a) **State**

The State Emergency Response Plan sets out the roles and responsibilities of the agencies involved in emergency response, and establishes the response co-ordination arrangements. The response plan does not contain detailed plans of action, and these will be prepared by the respective departments/ agencies.

Most key departments/agencies, or sections of organisations, have roles in the response plan. In addition, many other organisations (including Panchayat Samitis/block/municipal councils) can be called upon to assist the control agencies in the response to specific events. Prior arrangements and selections will be made to nominate senior officials from the State level to coordinate the response arrangements in a restricted geographical in case of a calamity of high intensity. The list of addresses, phone numbers, fax, etc. of concerned official and agencies will be updated annually within May. Prior response and coordination arrangements will also be made to identify neighboring district(s) when one district is severely affected while the neighboring districts are not.

(b) **District**

Each district response plan sets out the roles and responsibilities of response organizations within the district, documents co-ordination arrangements, and lists contact details for all agencies and the resources they can provide. It also provides for the co-ordination of support from within and outside the district.

(c) **Gram Panchayat/Block/Municipal**

The response component of each Panchayat Samiti/Block or municipal disaster management plan will include similar details as in the district response plan, while taking local conditions and resources into account.

Operational Co-ordination

Emergency response is based on a set of arrangements, which are in position at all times. Accordingly, there is no need for activation of response. ***Agencies*** **or** ***strategies*** may be activated when a need is evident. However, to ensure effective, efficient, quick and coordinated response, the plan shall include dates of drills and practices for various emergencies and a review report on the efficiency and performance of such drills.

Emergency response arrangements operate in respect of any emergency, no matter how small, in which more than one organization are involved. Under response arrangements, primary responsibility rests at the Block, Gram Panchayat or municipal levels. Support is then provided, if necessary, from the district or State levels.

Under response arrangements, incident control is vested in control agencies, which are primarily responsible for responding to specific emergencies. Support agencies provide services, personnel or material to support or assist control agencies or affected persons. Response agencies can perform the role of either control or support agencies depending upon the particular emergency.

The co-ordination function, controlled by district collector , can include directing relevant agencies concerning the allocation of resources, appointing a single controller for a specific emergency like the flood, or determining the priority of responsibilities of agencies to an emergency other than a flood.

Response co-ordinators are also responsible for initiating or continuing ancillary operations, which are necessary in the public or community interest.

Emergency response plans also provide for the operation of state, district, block, Panchayat Samity or municipal emergency response co-ordination centres, where response co-ordinators and liaison officers from control and support agencies will be located to receive, collate and disseminate intelligence, and co-ordinate the provision of resources.

Recovery

Recovery is defined ***"as assisting of persons and communities affected by emergencies to achieve a proper and effective level of functioning."*** In the immediate aftermath of an emergency, and over the longer term, recovery is concerned with:

- The physical aspects of restoration and reconstruction of damaged community infrastructure and private housing;
- The economic aspect of restoration of productive activity and local employment;
- The social, financial and psychological aspects of personal, family and community functioning.

Recovery arrangements are designed to embody an enabling and supportive process that allows individuals, families and communities to move through the recovery process. This is achieved by the provision of information, specialist services and resources.

Planning

(a) **State**

The State Emergency Recovery Planning Committee will be chaired by the State Recovery Co-ordinator, and includes representatives from relevant organizations, including the Community Recovery Advisory Committee, which also brings together voluntary agencies and practitioners with involvement in recovery. The State Emergency Recovery Planning Committee will be responsible for:

- Giving advice on policy and planning issues in relation to recovery;
- Development of effective procedures for recovery co-ordination;
- Development and maintenance of the State Disaster Recovery Plan.

(b) **District**

The District Recovery Plan will be planned and managed within the district which will develop the district recovery plan, make arrangements for community

recovery committees, ensure district co-ordination of recovery planning and management; advise the Panchayat Samities, Blocks or municipal councils on the recovery component of their disaster management plans; and plays a part in auditing and updating those plans.

(c) **Gram Panchayat/Municipal**

Panchayat Samities/Blocks/ Gram Panchayats and Municipal disaster management planning committees shall incorporate recovery arrangements in their plans.

Community Awareness and Involvement

Disaster management is not something done ***to*** or ***for*** the community by specialist agencies, but something done ***in conjunction with*** **and** ***on behalf of*** **the community.**

All disaster management agencies are responsible for informing, assisting and supporting the community in taking action to develop a safer environment, and, when necessary, dealing with emergencies in the absence of emergency personnel.

The role of the State Disaster Management Community awareness committee is to:

- Contribute to raising community awareness about the State's disaster management arrangements and fostering realistic expectations about assistance available during emergencies;

- Encourage individual and community self-reliance before, during and after emergencies based on a realistic understanding of personal and community responsibilities and the capabilities of disaster management agencies;

- Support the development and implementation of information management strategies which meet community needs for information before, during and after emergencies;

- Provide a liaison forum for and support the activities of emergency management agencies in co-ordinating and disseminating information to the community before, during and after emergencies.

The Government will appoint the chairman of the committee and the members will be selected based on their experience and expertise in the field of disaster management and community mobilization.

Special Management Arrangements during Emergencies

The existing laws and present arrangements provide specific emergency powers, which can be applied when the circumstances require. Special declarations are not required for standard emergency operations.

Emergency Situations

In some emergency situations, police may need to restrain people from participating in day-to-day activities if their presence is dangerous or undesirable. A chemical spill or a gas leak, for example, may involve a hazard that can be extremely dangerous for an untrained and/or ill-equipped person.

6.3 Alert Mechanism

6.3.1 Warning

Most of the disasters could be predicted and the community likely to be affected forewarned about any impending disaster through a proper warning mechanism. Floods, droughts, cyclones, heat and cold waves, pest attacks, epidemics, industrial and chemical disasters are some of the disasters for which adequate warning could be given.

At the State level the following departments/ agencies are responsible to issue warning.

Type of Emergency	Agency
Floods	Irrigation Department
Adverse climatic conditions & Cyclones	IMD/ Revenue Deptt.
Droughts	IMD/ Revenue Deptt.
Epidemics	Health Department
Pest Attacks	Agricultural Department

The warning given will be clear and unambiguous. Apart from the warning, the message to be disseminated by the local agencies will clearly state the measure the local community should take on receipt of the warning. For example, in case of a cyclone warning the messages should clearly indicate:

(i) Whether they should stay indoors or

(ii) Whether they should get prepared, pack or store their belongings or get ready to evacuate or

(iii) Whether they should evacuate

On receipt of warning, the District/block level machinery and the concerned departments at the State level will be systematically activated for response measures at the earliest:

- Concerned officers in Revenue, Public Health, veterinary, Police, Electric, Telecom, RWSS, RD, R&B, Irrigation, PHD, PWD, Civil Supply, departments, important CBOs/ NGOs, Elected Representatives, etc. will be alerted.
- It will be ensured that all officers remain in headquarters until the situation gets back to normal.
- Warning to people through the Govt. field functionaries will be disseminated. This system of alert may range from alarms (fires), sirens (industrial disaster), to public announcement systems like radio, television,

loud speakers, hoisting of flags and traditional systems i.e., beating of drums and bells, blowing of conch shells etc. (Cyclones, floods).

- Once the warning is issued, it will be followed up with subsequent warnings in order to keep the people informed of the latest situation.
- Arrangements for generators, radios, batteries, extra vehicles, Satellite telephones to meet emergency situation will be made
- Adequate fuel for generators and vehicles will be arranged
- Godowns for storage of relief materials and parking places for trucks carrying relief materials will be inspected
- Logbook for recording chronological sequence of events will be prepared
- Availability of food and kerosene at block head quarters, storage agents and other inaccessible pockets will be checked
- Stock pilling of relief materials/ ORS packets at strategic points will be ensured.
- Private stockists/ wholesalers and godowns will be directed to remain open till the situation gets back to normal
- Availability of sand bags will be checked (for anticipated floods)
- A rapid assessment of the medicines, bleaching powders and halogen tables will be made and if necessary, more will be requisitioned immediately
- Start movement of medicines to hospitals, other points lacking adequate stock
- Assessment of relief materials required will be made
- Location of sites for operation camps will be identified
- Adequate number of small and big vehicles will be immediately requisitioned and kept in readiness
- Position of boats already deployed will be assessed and if necessary additional boats will be requisitioned
- If needed all the educational institutions will be closed
- Assessment of vaccines and fodder stock available with the veterinary department will be made
- Lat-long book will be kept handy for identifying the probable air dropping zones advance list of villages where air dropping may be needed will be made
- Civil society organisations will be alerted and a plan of action for working in coordination with Govt. functionaries will be drawn up.
- Concerned departments will be directed to get ready with emergency tool kits and necessary manpower
- Sufficient number of generators will be hired and fuel for running those will be stored
- Regular contact with all control rooms will be maintained

- Spare copies of block maps will be kept ready
- After quick review of the preparations taken, emergency meeting of important officials and non-Govt. agencies will be convened and clear instructions will be given about their expected role
- Necessary arrangements for evacuation will be made
- All search and rescue agencies and volunteers will be alerted
- An Incident Commander (nodal officer) will be designated
- Movement of trains, vehicles, etc., will be stopped depending on the expected intensity of the emergency.

Operating Procedures for evacuation

Sometimes in a disaster event, evacuation is necessary. It is important to understand the nature of threat and the procedures to be adopted for evacuation .

Planning assumptions

- Time required for evacuation will depend on the nature and intensity of the disaster.
- If the event can be monitored, such as a cyclone & flood, the authorities would have a day or two to gear up to the task.

Factors

- Shelter sites will be identified within close proximity (one hour walk and or within 5 km) of dwellings.
- Alternate routes will be planned well in advance in case of flood or cyclone.
- All evacuations will be ordered only by the Collector and will be reported to the Superintendent of Police prior to the evacuation. In special circumstances and in case of sudden emergency, the BDO, in consultation with the local police officer, can order the evacuation. This will become necessary in the event of breakdown of communication system.
- For appropriate security and law and order, evacuation will be carried out with assistance from police, fire brigade, local community leaders and NGOs/CBOs working in the community.
- Care will be taken to ensure that the evacuation routes are not blocked or submerged and
    - Always evacuate the entire family together as a unit.
    - In view of inadequate transport or limited time, encourage community emergency evacuation in the following order:
        1. Seriously injured and sick
        2. Children, women and physically challenged
        3. Old
        4. Others

Emergency evacuations

Families will be encouraged to take adequate supplies of water, food, clothing and other emergency items. People will be advised to

- Shut off electrical switches, gas appliances,
- Secure their homes. Close and lock their doors and windows
- Leave early enough to avoid being trapped
- Follow recommended evacuation routes
- Stay away from broken / fallen power lines
- Set the livestock free or move them to high grounds and/or earthen mounds

The families will be encouraged to assemble the following items in their disaster supplies kit, which they will carry when evacuating:

- Adequate supply of safe water in closed unbreakable containers
- Adequate supply of non-perishable, dry ration
- Extra clothes and rain gear
- Blankets, plates and glasses
- Toiletries
- A battery powered radio, torch, lantern, and matches
- Cash, jewellery, medicines, important documents
- Food and prescribed medicine, if any, for infant and people needing special care

Evacuation of marooned persons

Even with all the measures taken for early warning and evacuation, there may not be adequate time or opportunity for evacuating all persons. Some may be marooned and in such cases

- Evacuation must be carried out within the shortest possible time.
- The marooned persons will be transferred to the transit camps.
- Emergency transport for the seriously injured by appropriate means such, as speedboats etc will be ensured.
- A senior medical officer will accompany the rescue team.

- ♦ Marooned persons will be provided with water, medicines, first-aid and cooked food

One of the major response functions during emergencies is provision of health, drinking water and sanitation with the Department of Health and Family Welfare being the primary agency.

6.4 Warning System:

- Advanced technology like, remote sensing, GIS, etc, have made predictions about imminent disasters, especially for weather and climate related ones more precise and reliable. It will be ensured that the state of the art technology will be used for predictions.

- Increasing number of warning dissemination centres (for e.g., CWDS, Flood monitoring stations) will be located at critical points

- Regular and improved networking amongst all communication agencies and the response agencies will be ensured

- Warning dissemination will be taken up at the earliest in vulnerable pockets in local languages/ dialects with clear advice of what the people should do before the impending emergency- whether they should stay indoors, get ready to evacuate or evacuate.

- Tracking and information about the increasing intensity or its deactivation will be monitored.

6.4.1 Role of State Govt. in L2 disaster

Once the disaster is declared, as L2 the State Government will:

- ♦ Maintain close contact with the areas/districts likely to be affected

- ♦ Review the preparedness measures/ arrangements

- ♦ Identify key access routes, godowns for storage of relief

- ♦ Review existing stock position of relief materials, deployment of search and rescue, medical teams evacuation arrangements in areas/districts which are likely to be affected

- ♦ Liaison with the centre to provide special air and rail transport, if necessary

- ♦ Review the measures taken to protect vital installations

- ♦ Make advance arrangement to send relief materials to affected areas

- ♦ Make advance arrangement to deploy specialised team (Medical, Search & Rescue and army)

(These activities, however, will be in support of the District initiatives and their requirements of assistance.)

6.4.2 No Warning

In case of no warning, the activities and inventories maintained during the L0 stage will be operational.

Disasters for which warning is not possible include earthquakes, tornado, flash floods, hurricanes, dam bursts, thunder and lightning, fire chemical and industrial disasters, nuclear disasters, all accident related disasters and food poisoning.

6.4.3 De-Warning

In case the disaster does not occur as predicted, the Indian Meteorological Department issues a de-warning. The de-warning by IMD will initiate the following:

- Dissemination of De-warnings by respective districts and blocks
- EOC will start functioning for L0 activities again
- The specialised teams (defence/search and rescue/medical) shall also return to L0 activities
- Material resources will be returned/stored back

6.5 Disaster risk reduction frame work : Response planning

Planning of the operations will be done quickly and at regular intervals. To mobilise resources at the State level, the daily stocktaking will be taken in a meeting of the departmental secretaries under the chairmanship of the Chief Secretary. All planning aspects will be taken care of by this committee and execution of these will be undertaken by the SRC.

Once the alert stage has been activated, within the first **two hours** of the disaster event the Special Relief Commissioner's office or the Emergency Operation Centre will be responsible for holding a meeting of the Coordinating Officer of each ESF. They will meet as and when needed, under the leadership of the SRC, and be responsible for the following during the course of this meeting:

- Review of the situation and of submission of detailed reports to Government with recommendations
- Ensure that the officers of concerned departments immediately inspect the affected area and take appropriate protective and restorative action within the ambit of their budgetary provisions as considered necessary
- Review the actions taken for clearance of roads for movement of traffic, rescue of and relief to the marooned people, disposal of dead bodies and carcasses, restoration of communication, power and drinking water
- Damage assessment and submission of preliminary and final damage reports of the circumstance as well as loss sustained
- Arrange for reconnaissance flights and army assistance

- Review and document the resources (manpower and material) support that has already been dispatched to the affected area

- Address response issues and problems that require State level decisions or policy direction.

- Take decisions on more resources and relief material that may be required.

6.5.1 Location of the meeting

The meeting will be held in the SRC office. The first meeting will be held within two/three hours of the event parallel to the other activities that have been initiated at the declaration of L2. The following activities will be initiated parallel to the SRC meeting:

- Briefing of officers of the concerned Departments.

- Departure of first assessment team.

- Departure of first search and rescue team with army personnel, if required

- Aerial survey of damage.

6.5.2 ARRIVAL POINT

Material/Manpower Flow Chart of Information and Arrival Centres

The response activities require active and effective coordination of ground operations. The traffic junctions such as airports, railway stations and bus terminals will establish **'Information and Arrival Centres'** which will be the key points for arrival and dispatch of relief materials and rescue workers. The incoming assets from within and outside the State will be clearly allotted and assigned to disaster sites with the help of various information centres. This information centre will function at the State level and therefore will be accountable for all international aid and related formalities.

- ***Arrival point****:* The transport junctions where relief materials as well as manpower can be collected for response activities. It could be the airport or railway stations.

- ***Information and briefing desk****:* The people / agencies will be briefed of the status of disaster, the most affected areas and the key agencies and personnel in the affected District(s). It will also coordinate and handle the relief material received from National and International agencies as a priority task.

- ***Storage****:* Storage facility at the arrival point where material is categorised and if needed, packed for dispatch.

- ***Briefing cell****:* This cell will give specific briefing for different types of field workers.

- ***Donation management cell****:* The donations from other states and international agencies are packed and accounted for further distribution.

- ***Point of departure:*** Material and manpower are dispatched according to the requirements issued by the EOC at the centres.

This **Emergency Operations Centre (EOC)** will be activated at the discretion of the SRC based on the resource available and the magnitude of the particular disaster. A similar information centre is also required at the District level where all the relief and other facilities can be directed to the affected areas directly according to the needs of the incident commanders and the District EOC.

STATE DISASTER QUICK RESPONSE MECHANISM

Declaration of L2

The declaration of the L2 will be done after the event has occurred by the Special Relief Commissioner in consultation with the State Natural Calamity Committee.

Factors taken into considerations for the declaration of L2:

- Parameters set by designated technical authority
- Capacity of Districts to manage the disaster independently

The Chief Secretary will head the first assessment team and the SRC will be primarily responsible for coordination of response activities at the State level and will have the discretion to chose the members for the first assessment team

Before a delegation of the first assessment team leaves for the site the following will be done

- Official declaration of L2
- Meeting of the State Natural Calamity Committee
- Arranging for all required inventories from the concerned Departments
- Official appointment of all nodal officers for each ESF
- Activation of Emergency Operations Centre (EOC) at State
- Appraisal of situation to the State cabinet
- Identify the nodal transport points for the affected Districts

Quick Response Teams

The State, and especially the vulnerable districts, will set up well-trained teams for responding to disasters. The magnitude might be so large that medical and other response teams will be required even before any initial assessment. However, a quick assessment for further planning is also required. Therefore, the response teams can be divided into two sections:

- Assessment Teams
- Response Teams

Action Plan for First 24 hours

First assessment team will be constituted, which will mainly comprise of senior officers who will be required to make a first/preliminary assessment of damage.

Items required by the first assessment team are:

- Survival kit
- Formats for First Assessment
- Media Release
- Assessment Report, which will contain
  - Geographic estimate of damage area (administrative units and divisions)
  - Estimated total population affected
  - Worst affected areas
  - Areas currently inaccessible
  - Injury and fatality report,
  - Lists of damaged infrastructure, buildings, health facilities, water sanitation, crop agriculture,
  - Assessment of secondary threats
  - Resource needs for response operations
  - Priority needs (search and rescue, clothing, food items with quantity and specifications, cattle feeds and fodder, Sanitation, Health, Education, Crop/agriculture, Infrastructure)

***Task at hand*:**

- Assessment of the situation
- Preparation of report(s) of assessment as per a given format
- Media release

Base Report after First Assessment

After the first assessment team has prepared the preliminary report, the EOC and the State Natural Calamity Committee will re-assess the situation at the site for taking further action. The first assessment team report will include the following:

- Extent of damage in terms of:
  - Geographical area (administrative units and divisions)
  - Expected affected population and effect on population (primary affected persons, dead, injured missing, homeless, displace, orphans, destitute, traumatised population, children under five, pregnant women, lactating mothers,
  - Districts/Areas worst affected
  - Damage to infrastructure according to each ESF
    - Buildings (Major damaged/destruction and minor
    - Infrastructure (road damaged/destroyed, bridge, communication network, electricity network, telecom network

- Health Facilities (Infrastructure damage, condition of equipments, staffs affected, availability of medicines/drugs, vaccination/immunisation, major health problems
- Water Sanitation (Availability of safe drinking water and sanitation facilities, environmental sanitation, stock of disinfectants, condition of water supply system, repair status of water supply system, portable water system
- Crop/ Agriculture (crop damage, livestock loss, health services for livestock, cattle feed/fodder availability, damage to agricultural infrastructures)
- Food/nutrition (adequate availability of food for family, relief, PDS, Community Kitchen, requirement of baby food
- Secondary threats (potential hazardous sites, epidemics etc.)
- Logistic and Distributions System (Availability of storage facilities, means of transportation, availability of fuel, distribution of criteria)
- Priority needs (needs of search and rescue, need for team/ boats/special equipments and shelter)
- Clothing (children clothing, adult clothing, winter clothing)
- Food items (type of food, baby food, specialised food, cattle feed and fodder)
- Sanitation (portable water, chlorine powder and disinfectants, manpower for repair of drinking water points and disinfections of water bodies
- Health (medical staff, drugs, IV fluids, ORS, equipment, Mobile unit, Immunization vaccine, Cold chain system0
- Education (infrastructure both temporary and permanent, teacher kits, reading materials)
- Crop/agriculture (need of seeds, fertilisers, pesticides, implements)
- Equipments and manpower required for restoration of infrastructures

♦ Report by the Collectors of the affected Districts

♦ Operational access points

♦ Areas still under high risk (cut off, after shocks)

♦ Condition of the Government buildings and communication infrastructure in the affected areas/districts

Action to be taken within 24-48 hours

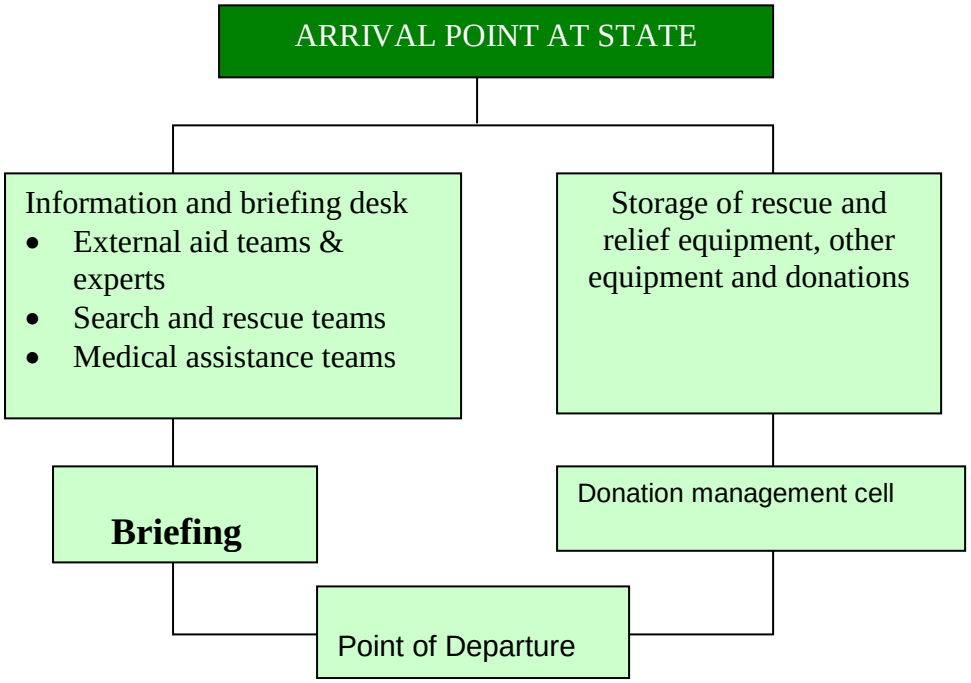
♦ Reinforce rescue operations through dispatch of relief material and trained human resource assistance

♦ Strengthen communication and coordination with the affected areas

♦ Accept relief and assistance from outside

♦ Arrange for easy distribution of the relief / assistance

- ♦ Convene situation-update meetings at regular intervals for close coordination and immediate relief response
- ♦ Send out additional search and Rescue and medical first Response teams



6.6 Probabilistic scenario building for different levels of various disasters to which different areas of state are vulnerable:

Since the state is vulnerable to flood, drought and earthquakes, hence the methodology adopted to mitigate these , would certainly minimize the after effects. The resultant scenario will produce a better picture for safer tomorrow.

6.7 The yearly schedule for the conduct of mock exercises for different disasters in different parts of the state at specified location.(pl. refer 6.4)

6.8 Procedure for the activation plans-There are two basic approaches, adopted for the same as discussed earlier.

(A) National Centre for Disaster Management (NCDM)

Government of India Agency, the National Centre for Disaster Management, is a Resource Agency, which assists national and state governments in formulation of disaster management plans and policies. The State Government can solicit advise from NCDM on disaster management arrangements and procedures, through:

- ❖ Development of joint policies;
- ❖ Advancement of nationwide capability for the management of emergencies/disasters;
- ❖ Identification of national/multi-state needs and formulation of strategies to meet those needs;

- ❖ Provision of strategic guidance on national disaster management training needs and implementation strategies;

- ❖ Provision of civil defense policy guidance;

- ❖ Provision of advice to the Ministry of Home on the effectiveness of, or need for changes to the existing support programs.

(B) UPSDMA

At the State level, the UPSDMA will have a number of advisory groups to focus on specific issues to strengthen the disaster management systems and capacities of all departments and agencies working at the State and district levels:

(a) Planning, evaluation and monitoring

(b) Communications and information

(c) Training, education curriculum and materials development

(d) Media

(e) Community awareness and planning activity

Supporting Arrangements

Disaster management planning, its monitoring and implementation at the State and district, block, municipality and gram panchayat levels will be strengthened and augmented, through:

(a) Preparation of appropriate GIS database and Digital Maps

(b) Drawing of blue print of action at the G.P., Block, Municipality, District and State levels showing identified agencies, resources and funds for carrying out the necessary exercise;

(c) Use of the existing maps in 1: 50,000 and 1:25,000 scale and preparation of detailed large scale maps of 1: 10,000 scale, where necessary;

(d) Preparation of topographic maps of hazardous areas on a priority basis;

(e) Flood hazard-zonation of all major cities, urban and industrial centres, other vital installations like dams, embamkments and other infrastructure along with district, municipality and block hazard zonation maps of all identified hazards;

(f) Synthesis of spatial and non-spatial information within the framework of a coherent and user-specific data model and linkages between different data sets with diverse information from a variety of sources;

(g) Generation of spatial outputs with supportive tables/charts to help in development planning and decision making;

(h) Integration of conventional forecasting with the state of art technologies, namely, remote sensing, Data Collection Platforms and GIS;

(i) All proposed developmental activities using maximum possible information from remote sensing and incorporating hazard risk assessment for monitoring, evaluation and setting up of minimum standards for all infrastructural works, especially in hazard prone areas;

(j) Operational use of satellite/aerospace data for real time data acquisition for monitoring and predicting and tracking potential hazards and predicting disaster damage scenarios;

(k) Creation and updating a sound information base at village/ward, block/municipality and district levels giving land use, demographic, socio-economic, infrastructure, resource inventories of government agencies, NGOs, Public and Private Sector Undertakings to be made and networked, to compile the information from various sources and bring it under one platform to support disaster management activities;

(l) Link District, Block and GP Disaster Management Plans with the plans at the upper and lower levels;

(m) Human Resource Development to increase the capacity of various role players in disaster management;

(n) Regular updating, rehearsals, mock drills and simulations;

(o) Training in disaster management and modernisation of equipments of Police and Para Military Forces, Fire Services, Civil Defence and Home Guards.

(p) Incorporation of Disaster Management as one of the main activities of youth organizations such as NCC, Boys Scouts, Girls Guides, National Service Schemes and local active, interested clubs and their involvement;

(q) Improvement of communication links, forecasting, and control rooms by modernising the existing facilities. Further, the need for the design of tidal gauge to capture storm surges and augmentation of their network along the State coastline shall be persuaded. A network of automatic weather stations shall be established.

(r) Up-gradation and adequate network of rain gauge network, especially in known hazardous districts and locations;

(s) Review of forecasting on drought and its impact on agriculture. Rigorous monitoring of drought conditions to be carried out at village level using network of automatic weather stations and satellite data;

(t) Construction of emergency shelters, identification of buildings that could act as shelters and strengthening existing one, strengthening of public infrastructures, which are useful during emergencies;

(u) Development of standard operational procedures, formats, checklists and field manuals;

(v) Deployment of senior and experienced officials in limited geographic areas for overall control during disasters of rare severity;

(w) Strengthening of all State and District level control rooms using the state of the art technology;

(x) Deployment of interdisciplinary team comprising 200-300 persons under Special Relief Commissioner in the event of a major calamity, with similar measures at the District, Municipality and Block levels to be placed under the concerned official in charge of response coordination at various levels. Setting up and regular training of Search and Rescue Teams, Disaster Medical Assistance Teams, Disaster Mortuary Assistance Teams, Specialised Operational Teams and Medical Assistance Teams at State and district levels. Further strengthening and reorientation of the Fire Services and Civil Defence Structures;

(y) Development of minimum quality standards for relief and recovery operations;

(z) Establishment of Help Lines during emergencies with modern communication facilities and tracing mechanism;

(aa) Protection of Human Rights especially during distribution of relief to victims;

(bb) Establishment of a Disaster Knowledge Network within the State and a Global Information Network;

(cc) Creating awareness among the Community through disaster education, training and information dissemination to empower them to effectively cope with hazards;

(dd) Incorporation of disaster management aspects in educational curricula from primary school level upwards and a focus on incorporating the same at engineering, technical institutes, architecture, development planning, medical colleges and promotion of special courses on disaster management;

(ee) Taking necessary measures to increase public participation and awareness and enrolment of trained volunteers for different response and recovery tasks;

(ff) Ensuring increasing involvement of NGOs, CBOs, Panchayat Raj Institutions, Municipal Councils, and Corporate Sector;

(gg) Promoting consciousness and adoption of Insurance and a culture of safety, to follow building codes, norms guidelines, quality materials in construction etc., and

(hh) Encourage research and studies on disaster management issues, techniques and equipments.

CHAPTER –VII

PARTNERSHIP WITH OTHER STAKEHOLDERS

Parternership with other stockholders is paramount importance in early warning and recovery.

7.1 Following departments/ agencies are responsible to issue warning.

Agency	**ROLE**
Dept. of Space	Daily whether Report
IMD	Providing daily rainfall data
CWC	Daily discharge data on different rivers
RSAC-UP	Real time flood information
Irrigation department	In all the stages
District administration	A constant help throughout the event

Table-A

ESF No.	**Service Function**	**Primary Agency**	**Support Agencies**
1	Communication	Special Relief Commissioner	• IMD • Doordarshan • All India Radio • Department of Telecommunication • S.P. Signals • Department of Science & Technology • Department of Fisheries & Animal Husbandry • Department of Energy • Department of Agriculture • Ministry of Civil Aviation

2	Public Health and Sanitation/ Animal Health	Departments of Health and Family Welfare/ Animal Resource Development	• RWSS • PHD • Home Department • Department of Energy • Health NGOs • Department of Transport
3	Transport	Commerce & Transport Department	• Home Department • Works Department • Revenue Department • Ministry of Civil Aviation • Railways • Dept. Telecommunication • Army
4	Power	Department of Energy	• Subsidiary Companies • Army • Department of commerce & Transport
5	Search and Rescue	Home Department	• Fire brigade • Civil Defence • Army • Department of Transport • Department of Health and Family welfare • NGOs
6	Public Works and Engineering	Rural Development / Works Dept.	• Water Resource • Panchayat Raj Department
7	Relief Supplies	Revenue Department	• SRC • District Administration • Department of Transport • Food & Civil Supplies Department • NGOs
8	Information	UPSDMA	• Department of Science and

	and Planning		Technology • UPRSAC • NGOs
9	Food	Civil Supply	• District Administration • Ministry of Transport • Railways
10	Drinking Water	RWSS/PHD	• Health and Family Welfare Dept. • NGOs
11	Shelter	UPSDMA	• Revenue Department • Department of energy • RWSS/PHD • NGOs
12	Media	Dept. of Information and Public Relations	• Department of Agriculture • Department of Health and Family Welfare • UPSDMA
13	Help Line	UPSDMA	• Department of Health and Family Welfare • Police

Emergency support function and Requirement

Emergency support function		**Requirements**
1	***Communication*** ♦ **Assess damage and reinstall facilities** ♦ Establish two-way communication at the earliest ♦ Warn people against areas that are likely to get affected ♦ Special care on security matters	VSATs, battery charged communication equipment, HAM radios, Inventory of mobile communication facilities
2	**Health and sanitation** ♦ Assess extent and type of injuries ♦ Special care for epidemic outbreaks ♦ Distribute chlorine and halogen tablets and ORS ♦ Supply of contamination free drinking	Specialised medical team to handle orthopaedic and surgery related injuries including, epidemics, preventive

	water ♦ Provide medications for water borne diseases ♦ Special care for injured and traumatized people	medicine practitioners Mobile Teams/ Units
3	***Transport*** ♦ Provision transport for relief supplies ♦ Coordinate with other ESF for clearing of roads and other means of transport ♦ Provide appropriate transport for easy access	Inventory of transport / water way facilities in the area
4	***Power*** ♦ Assess damage to electric poles and stations etc. ♦ Back up power supply ♦ Prevent short circuiting and accidents ♦ Restore facilities at local and state level ♦ Salvaging	Inventory of power installations of the area, Emergency tool kit, Extra manpower and equipments i.e., Generators etc
5	**Search and Rescue** ♦ Aerial survey for victims ♦ Specialised sniffer dogs ♦ Collapsed structure search and rescue experts	Equipments cache
6	**Public Works and Engineering** ♦ Clear areas for relief camps ♦ Clear roads for easy movement of relief and transport vehicles ♦ Seal areas and buildings that are likely to cause further damage ♦ Provide temporary bridges and alternate roads	Specialised equipment for large debris Specialised equipment for bridges and other temporary structures Emergency tool kit
7	**Information and planning** ♦ Release flood related information to all ESF ♦ Provide access to resource inventories and document all situation-reports and procedures	Information networking Inventories
8	**Relief Supplies** ♦ Provide basic logistic materials required for local administration ♦ Provide other relief materials such as batteries, flash lights etc., to victims and rescue workers	Inventory of relief supplies Socio economic needs Culture needs.

	♦ Compile information on the specific needs of the people and relief requirements ♦ Distribute relief by means of air dropping and boats to marooned/trapped victims	
9	**Food** ♦ Provide food packs that contain dry and non-perishable food items an packaged water	Inventory of non-perishable food items and packaged water
10	**Drinking water** ♦ Provide clean drinking water ♦ Ration existing water supplies for even distribution ♦ Mark and warn people against contamination ♦ Isolate contaminated sources of water	Inventory of water sources of the area
11	**Shelter** ♦ Provide weather resistant shelter ♦ Place shelters in a safe area	Inventory of specific type of shelters for earthquakes/ cyclones and floods
12	**Media** ♦ Information on current status	
13	**Help lines** ♦ Provide information on marooned victims ♦ Hospitals ♦ Receive messages of victims and forward them to relatives outside the disaster area ♦ Provide emergency phone lines	Inventory of emergency phone numbers

7.1.1 Role of Irrigation and District administration in detail at warning and recovery stage as below :

ESF No	Activities on receipt of warning	Responsibility
1	• Designation of a nodal officer**(communication)** • Tracking and issuing of forewarning of impending disasters • Establishment of radio communication with the District, Block and affected areas • Review of existing precautionary measure to be taken to protect	• Tracking and issuing warning to public about impending disasters • Ensuring two way telecommunication link from State to District, blocks, and affected site

	equipments • Designing an emergency tool kit • Identification of functional telecommunication facilities in the area • Establishment of emergency operation centres at the affected areas • Provision of temporary communication facilities to vital installations	• Establishment of temporary communication in the affected area
2	Designation of a nodal officer**(Medical**) Assessment of injuries, illnesses, drugs an other medical items and medicines Ensuring supply of essential medicines and medical items Dissemination of information to all hospitals in the affected area to gear up to the task of receiving large number of patients	• Meet medical and sanitation requirements of affected people • Coordination in evacuation of injured/sick • Coordination of the movement of mobile health teams • Checking of drugs and equipments most needed to tackle emergencies
3	• Designation of a nodal officer**(Transport)** • Arrangement of emergency transport for the affected areas for assisting in evacuation, transportation of injured, provision of emergent relief etc. • Stock pilling of adequate fuel for emergency operations	• Provision transport support to departments/ agencies involved in emergency operation
4	• Designation of a nodal officer**(Power supply)** • Stock pilling of equipments likely to be needed after a disaster • Checking of emergency tool kits • Ensure continuous power supply to vital installation • Advance Deployment of emergency teams in the areas likely to be affected by disaster	• Restoration of power supplies
5	• Designation of a Nodal officer**(S&R)** • Assessment and arrangement of specialised equipments and manpower to conduct Search and Rescue Operation in the areas likely to be affected by disaster • Carry out search and rescue operations in coordination with local NGOs, trained volunteers, etc.	• Provision of Search & Rescue assistance including locating, extricating and providing on-site medical treatment to trapped victims

6	• Designation of a nodal officer**(Technical)** • Keeping alert all the technical staff • Reviewing and updating of precautionary measures necessary to protect equipments from the impact of impending disasters • Inspection and emergency repair of roads, bridges, building structures of vital installations • Assembling of emergency tool kits	• Provide technical advice and evaluation of roads, bridges and other installations to minimise the damage following disaster
7	• Designation of a nodal officer(Coordination) • Documentation of all response activities • Maintaining communication with all the agencies/departments to expedite response activities • Coordinate all planning procedures	• Collection and dissemination of information about potential disasters to facilitate and coordinate activities of various departments/ agencies
8	• Designation of a nodal office**(Stockpiling)** • Advance planning for stockpiling and movement of relief to the area likely to be affected by disaster • Identification of locations for establishing temporary shelters, free kitchens etc.	• Coordination of activities related to temporary shelters and emergent relief distribution
9	• Designation of a nodal officer**(Food & supply)** • Advance assessment of food needs of the area likely to be affected • Resourcing suppliers • Identification of locations for air dropping • Preparation, Stockpiling and ensuring quality control of the food aid	• Identify the needs of food in the areas, obtaining supplies and transportation of food to the areas affected by disaster
10	• Designation of a nodal officer**(Sanitation)** • Advance setting up of water points in the areas likely to be affected by disaster and advance planning for transportation of water • Stockpiling and movement of water purifiers and other emergency equipments to the area likely to be affected by a disaster	• Provision of safe drinking water and minimising spread epidemics in the area
11	• Designation of a nodal officer**(Relief)** • Preparation of earmarked shelters to	• Meet the shelter needs of the evacuees

	receive evacuees • Movement of temporary shelter materials to the areas likely to be affected by disaster • Identification and preparation of areas to be used for housing evacuees and relief camps	
12	• Designation of a nodal officer**(Communication)** • Immediate dissemination of the impending disaster through appropriate media • Cautioning the population likely to be affected abut the do's and don'ts about the impending disaster	• Collection and dissemination of reliable information
13	• Designation of a nodal officer**(information collection)** • Collection of information from each ESF response activities • Managing public queries	• Management of the flow of information to ensure accuracy as well a easy and appropriate access

The warning given will be clear-cut and unambiguous. Apart from the warning, the message to be disseminated by the local agencies will clearly state the measure the local community should take on receipt of the warning.

On receipt of warning, the District/block level machinery and the concerned departments at the State level will be systematically activated for response measures at the earliest:

- ♦ Concerned officers in Revenue, Public Health, veterinary, Police, Electric, Telecom, RWSS, Irrigation, PHD, PWD, Civil Supply, departments, important CBOs/ NGOs, Elected Representatives, etc. will be alerted.
- ♦ It will be ensured that all officers remain in headquarters until the situation gets back to normal.
- ♦ Warning to people through the Govt. field functionaries will be disseminated. This system of alert may range from alarms (fires), sirens (industrial disaster), to public announcement systems like radio, television, loud speakers, hoisting of flags and traditional systems i.e., beating of drums and bells, blowing of conch shells etc. (Cyclones, floods).
- ♦ Once the warning is issued, it will be followed up with subsequent warnings in order to keep the people informed of the latest situation.
- ♦ Arrangements for generators, radios, batteries, extra vehicles, Satellite telephones to meet emergency situation will be made
- ♦ Adequate fuel for generators and vehicles will be arranged
- ♦ Godowns for storage of relief materials and parking places for trucks carrying relief materials will be inspected
- ♦ Logbook for recording chronological sequence of events will be prepared

- Availability of food and kerosene at block head quarters, storage agents and other inaccessible pockets will be checked
- Stock pilling of relief materials/ ORS packets at strategic points will be ensured.
- Private stockists/ wholesalers and godowns will be directed to remain open till the situation gets back to normal
- Availability of sand bags will be checked (for anticipated floods)
- A rapid assessment of the medicines, bleaching powders and halogen tables will be made and if necessary, more will be requisitioned immediately
- Start movement of medicines to hospitals, other points lacking adequate stock
- Assessment of relief materials required will be made
- Location of sites for operation camps will be identified
- Adequate number of small and big vehicles will be immediately requisitioned and kept in readiness
- Position of boats already deployed will be assessed and if necessary additional boats will be requisitioned
- If needed all the educational institutions will be closed
- Assessment of vaccines and fodder stock available with the veterinary department will be made
- Lat-long book will be kept handy for identifying the probable air dropping zones advance list of villages where air dropping may be needed will be made
- Civil society organisations will be alerted and a plan of action for working in coordination with Govt. functionaries will be drawn up.
- Concerned departments will be directed to get ready with emergency tool kits and necessary manpower
- Sufficient number of generators will be hired and fuel for running those will be stored
- Regular contact with all control rooms will be maintained
- Spare copies of block maps will be kept ready
- After quick review of the preparations taken, emergency meeting of important officials and non-Govt. agencies will be convened and clear instructions will be given about their expected role
- Necessary arrangements for evacuation will be made
- All search and rescue agencies and volunteers will be alerted
- An Incident Commander (nodal officer) will be designated
- Movement of trains, vehicles, etc., will be stopped depending on the expected intensity of the emergency.

Annexure-1

PLANNING MEETING ACTIVITY CHECKLIST

No.	**Activity**	**Primary Responsibility**
1	Give a resource and situation briefing on current status	Planning Section Chief
2	Set incident objectives	Incident Commander
3	Designate geographic boundaries and identify functional groups	Operations Section Chief
4	Determine tactical assignments by division/group	Operations Section Chief, Safety Officer
5	Specify resources needed by division/group	Operations Section Chief, Planning Section Chief
6	Specify incident facilities and reporting locations and plot on map	Operations Section Chief, Planning Section Chief, Safety Officer
7	Consider incident management team needs for communications, safety, and transportation	Logistics Section Chief, Planning Section Chief, Safety Officer
8	Place resource order for additional needs	Logistics Section Chief
9	Finalize incident action plan (all forms)	All
10	Approve and implement the incident action plan.	Incident Commander, Operations Section Chief

CHAPTER –VIII

FINANCIAL ARRANGEMENTS

In the event of disaster striking, there are two types of needs of the victims. One is related to the immediate relief and the other is in the form of reconstruction and rehabilitation of the victims. Funding for the immediate relief is short term, while reconstruction and rehabilitation require long term funding. There are sources for both. For example, National Calamity Contingency Fund provides assistance for immediate relief only and Calamity Relief Funds of various states are a source for long term funding. Similarly, voluntary donations are usually short term, while international organisations like UN agencies provide support over a period of time, sometimes extending up to 15 years. Apparently, there are governmental sources as well as non-governmental sources for both types of funding. A brief account of funds available from Central Government sources is given below-

8.1 Central Government sources

8.1.1 National Calamity Contingency Fund (NCCF)

Set up on the recommendation of the Eleventh Finance Commission, the manner and extent of assistance required to be provided to the states from NCCF for immediate relief and rehabilitation is decided by a High level Committee constituted by the Ministry of Home Affairs. This Committee is serviced by the Disaster Management Division of the Ministry and consists of Deputy Prime Minister, Agriculture Minister, Finance Minister and Deputy Chairman, Planning Commission. The procedure is that the states submit the memorandum for central assistance. The committee takes into account the recommendation of the central teams to assess the requirements and thereafter as per the decision, the release to the state governments are made by the Ministry of Finance.

Currently, the period of operation of this Fund is from the financial year 2000-01 till the end of the financial year 2004-05. National calamities of cyclone, drought, earthquake, fire, flood and hailstorm, considered to be of severe nature requiring expenditure by the state governments in excess of the balances available in their respective CRFs qualify for relief assistance. The corpus of the Fund is Rs. 500 crore. The assistance is only for immediate relief and rehabilitation. Expenditure on reconstruction of assets or restoration of damage is not covered under the scheme, which is to be financial through reallocation of plan funds. Any assistance provided by the Centre from this Fund is to be accompanied by imposition of the special surcharge so that it is immediately recouped.
At the state level, the committee constituted by the state government to administer the CRF is responsible for incurring the expenditure as decided by High Level Committee. The responsible of monitoring the scheme is now vested in the Ministry of Home Affairs, Government of India.

8.1.2 Calamity Relief Fund (CRF)

This fund was created as per the recommendation of the Ninth Finance Commission. Constituted by each state, it is to be used for meeting the expenditure for providing immediate relief to the victims of cyclone, drought, earthquake, fire,

flood and hailstorm. **Of the total contribution, 75% is contributed by Central Government and the remaining amount comes from state governments' own resources.** This amount is contributed on annual basis. Share of Central Government is in the form of Grants-in-aid and is remitted to state government is in the form of Grants-in-aid and is remitted to state governments in two installments on 1st May and 1st November in each financial year.

There are certain conditions attached for the funds release-

i) Fund has been duly constituted by the state government as prescribed and creation is certified by the Accountant General of the State.

ii) Furnishing certificate to the Ministry of Finance indicating that the amount received earlier has been credited to the fund along with the state's share and a statement giving the up-to-date expenditure.

iii) Annual Report on Natural Calamities is submitted to the Ministry of Home Affairs, which communicates the same to the Ministry of Finance.

iv) The release of both the installments is made by the Ministry of Finance subjected to the above mentioned conditions being satisfied unless advised by Ministry of Home Affairs for withholding of release to any state.

8.2 State Government Sources

State Government may make suitable provision in its annual plan budget for various department developmental activities related to flood management.

The primary responsibility of relief and rescue in the event of a disaster is that of the concerned state government. In view of the resource constraints of the state governments they have been provided with the additional support of funds set up at national level. However, they also make provision for funding relief. As, mentioned above, they contribute to CRF. Besides that, at the state level we find two more resources-

8.2.1 Chief Minister's Relief Fund

Set up on the pattern of Prime Minister Relief fund, this fund becomes handy to provide immediate relief to the victims of disaster. For example, Gujarat government provided death relief to the next of kin of elders, minors, government employees and school children falling victim to the earthquake. Contributions to this fund are and can be made directly by the people.

8.2.2 State Government Fund

The concerned state government sanctions expenditure to meet relief expenditure from its resources, which include its share of various developmental and employment generation programmes. To take example again from Gujarat earthquake, cash doles for people who lost their houses, expenditure on providing household kits etc., were met from this Fund. Though this Fund is not exclusively for the benefit of disaster victims, it is an important and immediate source of finance for providing relief.

8.3 International Agencies

Government of India follows the policy of not issuing a formal appeal on its behalf, either directly or through any other agency, to attract relief. However, relief

donated on a voluntary basis is accepted and acknowledged as a sign of international solidarity. Some important international agencies are mentioned below:

The UN System

The United Nations, through the organization under its aegis, coordinates international cooperation in the field of disaster management and mitigation. A disaster Management Team (UN-DMT) is convened and chaired by the UN resident coordinator in each disaster prone country. Composition or the Team depends on the types of disasters to which a country is prone and the organization which are present in that country, working towards disaster relief.

The primary purpose of UN-DMT is to ensure a prompt, effective and concerted response by the UN system at country level in the event of a disaster. it also provides support in post-disaster rehabilitation and reconstruction process in addition to long-term disaster mitigation measures.

8.4 Need for the Creation of Department of Disaster Management under Govt. of U.P.

A separate Department of Disaster Management under Govt. of U.P. and separate allocation of budget for pre and post disaster activities for various disasters would be the best option for stream lining the disaster management initiative and activities.

CONSTANT and OPERATIONAL All Year Around

EOC STATE

Relief Commissioner
Commissioner

EOC DISTRICT

District Collector

District Relief

Composition of EOC-State

- State Relief Commissioner
- ESF Heads
- Logistics Officer
- Finance Officer
- Security Officer
- Liaison Officer (Volunteer/Inter Agency)
- Doctor
- Public Information Officer

Composition of EOC-District

- District Chief-incharge- Assigned By State
- Extension ESF Head (14)
- Logistics Officer
- Finance Officer
- Security Officer
- Doctor
- Public Information Officer

Variable according to Intensity and Need

Incident Command headed by experienced personnel (State Level) is placed at local site operation levels to facilitate quick and spot decisions. The number of incident commands depends on severity of disaster

Incident Command	Incident Command	Incident Command

Composition

- Incident Commander appointed by State/ District/Block
- Information Officer
- Safety Officer
- Intra-agency Coordinator Officer
- Operations Officer
- Planning Officer
- Logistics Officer
- Finance Officer
- **Operation Team**
  - Damage Assessment
  - Search & Rescue
  - Medical Assistance
  - Donation Mgmt.
  - Restoration-Each ESF
  - Relief Camps Team

CHAPTER-IX

STATE DISASTER MANAGEMENT PLAN FOR FLOOD

9.1 State Disaster Plan for Floods

On the basis of ICS, the disaster management plan for the floods of Uttar Pradesh has been suggested, which incorporates various steps, the sequence of steps for a briefing by the Incident Commander to the General Staff includes:

- **Incident Objective(s)**
- **Strategy (one or more)**
- **Tactics**
- **Assignments**

The ICS Form 201 provides the Incident Commander with a useful framework for preparing a briefing when no written action plan is prepared.

On larger incidents which meet the earlier criteria for having a written plan, the above material plus other supporting material will be compiled into a formal, written document called the Incident Action Plan.

The Planning Section has primary responsibility for documenting the Action Plan, and for assembly, printing, and distribution of the plan.

Written plans will vary in their contents and size. Listed below are the major elements of the written Incident Action Plan.

- **Incident Objectives (ICS Form 202)**
- **Organization (ICS Form 203)**
- **Assignments (ICS Form 204)**
- **Support Material, e.g., map, Communications, Medical, Traffic Plans, safety message, etc.**

1. Responsibilities for Incident Action Planning

On small incidents, the Incident Commander is responsible for developing the Incident Action Plan. The IC may have assistance to help collect or obtain information, but the IC has sole responsibility for determining the Incident Objectives, strategy, tactical operations, and resource assignments.

On larger incidents, and as part of the overall planning process, other ICS organizational positions are responsible for contributing information to the Incident Action Plan.

2. The Planning Process

The Planning Section Chief has the responsibility to conduct the planning meetings. The planning process outlined below will, if followed, provide a logical set of steps to follow. This process only works however, if everyone involved comes to the planning meeting well prepared, and understands the process.

The time required for development of a plan will vary depending on the kind of incident and agencies involved. The principal steps involved are as shown in the accompanying visual.

The actual time committed to the activity may only be a few minutes when there are just a few resources involved. On very large incidents, the planning cycle will be longer.

It is important that prior to the planning meeting, interagency negotiations on the use of resources, strategies, and cost issues have been discussed and resolved by the Incident Commander or the Unified Command.

A major criticism of planning meetings is that they tend to "drag on" and consume valuable time. The Planning Section Chief can help to ensure that planning meetings are only as long as necessary by close adherence to the following:

- All participants must come prepared.
- Strong leadership must be evident.
- Agency Representatives must be able to commit for their agencies.
- All participants adhere to the planning process.
- No radios, cellular phones at planning meetings.

A checklist of information to be supplied, and those responsible, is listed below. The steps are in the general sequence that should occur. Not all steps may apply, depending upon the specific application, and some variation may be necessary.

TEN STEP PLANNING MEETING CHECKLIST

No.	Activity	Primary Responsibility
1	Give a resource and situation briefing on current status	Planning Section Chief
2	Set incident objectives	Incident Commander
3	Designate geographic boundaries and identify functional groups	Operations Section Chief
4	Determine tactical assignments by division/group	Operations Section Chief, Safety Officer
5	Specify resources needed by division/group	Operations Section Chief, Planning Section Chief

6	Specify incident facilities and reporting locations and plot on map	Operations Section Chief, Planning Section Chief, Safety Officer
7	Consider incident management team needs for communications, safety, and transportation	Logistics Section Chief, Planning Section Chief, Safety Officer
8	Place resource order for additional needs	Logistics Section Chief
9	Finalize incident action plan (all forms)	All
10	Approve and implement the incident action plan.	Incident Commander, Operations Section Chief

Two ICS forms support the planning process:

ICS Form 215 - Operational Planning Worksheet

An Operational Planning Worksheet (ICS Form 215) is intended to be used in the incident planning meeting to develop tactical assignments and resources needed to achieve incident objectives and strategies.

This form is often enlarged and attached or drawn onto a white board or chalkboard. The form brings together information on resources required and resources available for specific work assignments. It also provides a written designation of reporting locations.

At the end of the planning meeting, the ICS Form 215 is used to prepare the off-incident tactical resource order.

ICS Form 220 - Air Operations Summary

For those incidents which have a significant amount of aviation resources assigned, the Air Operations Summary provides information related to numbers and types of aircraft and tactical assignments.

Other Forms Available for Use in Incident and Event Planning

As discussed earlier, the ICS has a number of forms which can be used to document the results of the planning process, and to assist in preparing the Incident Action Plan. The Incident Action Plan will normally consist of:

Form No.	Form Name	Responsibility to Prepare
202	Incident Objectives	Resources Unit
203 or 207	Organization List/Chart	Resources Unit
204	Assignment Lists	Resources Unit/Planning Recorder

205	Communications Plan	Communications Unit
206	Medical Plan	Medical Unit
220	Air Operations Summary	Air Operations Branch Director
none	Traffic Plan	Ground Support Unit
none	Safety Plan	Safety Officer
none	Map	Situation Unit
None	Demobilization Plan	Demobilization Unit

The contents of many of these forms will be developed by the General Staff in the planning meeting or by others after the meeting. The Documentation Unit in the Planning Section is responsible for producing the Plan after the contents have been developed.

E. Implement the Plan

On small incidents, the Incident Commander has the full responsibility for the implementation of the Plan. If there is no written Incident Action Plan, the IC will provide verbal instructions to subordinates. The ICS Form 201 Briefing Form can provide a useful framework for a briefing when a written Action Plan is not required.

Larger incidents will require a written action plan. Each of the General Staff will assume responsibility for implementing their respective portions of the Plan.

F. Evaluation of the Plan

The planning process must include a way to provide for ongoing evaluation of the Plan's effectiveness. It is not enough to simply complete the Plan and implement it. Three steps to accomplish evaluation are as follows:

1. Prior to the Incident Commander approving the Plan for release, the General Staff should review the Plan's contents to ensure that it accurately reflects the current situation. This is done in recognition of the fact that some time may have elapsed between plan development and release.

2. During the Operational Period, the Incident Commander, the Planning and Operations Section Chiefs should regularly assess work progress against the control operations called for in the Plan. If deficiencies are found, improved direction or additional staffing may be required, tactical operations may need to be modified, and/or changes may need to be reflected in the planning for the next Operational Period.

3. The Operations Section Chief may make expedient changes to tactical operations called for in the Incident Action Plan if necessary to better accomplish an objective.

IV. Planning for Incident Demobilization

A. Importance of Demobilization Planning

Planning for incident demobilization is often overlooked. As incidents begin to wind down, everyone will be anxious to leave the scene of the incident and return to their home agency as soon as possible. Demobilization planning helps to assure a controlled, safe, efficient, and cost- effective demobilization process.

For that reason, early ICS development included a Demobilization Unit in the Planning Section.

On smaller incidents, with only a few tactical resources assigned and with only a partial ICS organization in place, demobilization planning is relatively simple and may not require a written plan.

Larger incidents, particularly those with multi-agency involvement, must have adequate demobilization planning.

The Planning Section Chief must establish an adequate demobilization organization in plenty of time to provide for an orderly and efficient demobilization.

Resources must be released and returned to their home units as soon as possible to minimize cost, maintain high morale, and to be ready for other assignments.

B. Demobilization Planning

To be effective, demobilization planning must begin early in the incident. That is why a separate unit with no other incident responsibility has been established within ICS.

Many elements of information must be gathered to help in the demobilization planning effort. Each section of the ICS organization must be involved.

Release priorities must first be determined by all elements of the organization. This is essentially a decision on what resources must be retained, and what resources can be made available for release. This determination can only be made after a full understanding of the longer-term incident needs.

C. Information Elements Needed for Demobilization Planning

Important elements of information needed for demobilization planning are summarized as follows:

1. Planning Section - Has basic information on resources. (Check-in lists and Incident Form 201 Briefing Form are important to this effort.)

2. Liaison Officer - Knows terms of agreements involving use and release of other agency's resources.

3. Safety Officer - Considers physical condition of personnel, personal needs, and adequacy of transportation.

4. Logistics Section - Handles transportation availability, communications, maintenance, and continuing support.

5. Operations Section - Knows continuing needs for various kinds of tactical resources.

6. Finance/Administration Section- Processes any claims, time records, and costs of individual resources which are a factor in determining release.

7. Agency dispatch centers - Give high priority to timely return of resources.

D. Sections in the Demobilization Plan

The Demobilization Plan should contain the following sections:

1. General Information - (discussion of demo procedure)

2. Responsibilities

3. Release Priorities

Priorities will vary and must be determined at the time. Examples of release priorities related to tactical resources could be:

a. Priority 1 - Type 1 Resources

b. Priority 2 - Resources traveling the farthest

4. Release Procedures

5. Directory (maps, telephone listings, etc.)

Demobilization Planning can be quite complex, especially on a large multi-agency incident. Considerable guidance for demobilization planning has been prepared and is available for students interested in obtaining more detail.

V. Incident Action Plan Development

Using the earthquake scenario, conduct a planning meeting and develop the basic contents of an incident action plan. Use the ICS Form 201 and objectives which were developed earlier.

A. Exercise Plan

The best way to understand the planning process is to do it. This next section will be an exercise to work through the planning process, and to develop the basic contents of an Incident Action Plan.

The scenario for this exercise is the same scenario used earlier to develop Incident Objectives.

A resource list accompanies this scenario. Resources on scene are also shown. You may add or change resources to the attached listing if you desire.

B. Staffing:

Staffing will be tailored to class size. (Command and General Staff positions should be the first to be filled.) If there are additional personnel, fill with other positions. Depending on class size, all positions may or may not be filled.

Incident Commander

Operations Section Chief

Planning Section Chief

Logistics Section Chief

Finance/Administration Section Chief

Information Officer

Liaison Officer

CHAPTER- X

REVIEW AND UPDATION OF PLAN

10.1 Important Dates

Date on which the Plan was last revised :

Date on which the Plan was last rehearsed :

Due dates for revision and rehearsal :

The above schedule, as decided should be strictly adhered to by all the districts and send timely feed back to the SRC regularly.

In order to make the state DMAP effective it must be disseminated at three levels :

1. To the central government departments, multilateral agencies (aid agencies), defence services, state level officials; To the district authorities, government departments, NGOs, other agencies and institutions within the state; and To through mass media to the general public.

2. The responsibility for dissemination of the plan should be vested with the Relief Commissioner at Mantralaya, carried out by YASHADA, as well as through awareness programmes organised by each of the agencies participating in disaster management. The Relief Commissioner should also involve state-level NGOs in preparing suitable public awareness material to be distributed to the public.

3. In addition to dissemination of literature related to the state DMAP, the Relief Commissioner should ensure that disaster response drills are conducted by the district authorities and other agencies on a regular basis especially in the disaster prone areas.

10.2 Plan Evaluation

The purpose of evaluation of the state DMAP is to determine the adequacy of resources, coordination between various agencies, community participation and partnership with NGOs.

The plan be updated when shortcomings are observed in organisational structures or when technological changes render it obsolete. The plan can also be updated following reports on drills or exercises carried out.

A post-incident evaluation should be done after the completion of relief and rehabilitation activities, in order to assess the nature of state intervention and support, adequacy of, the organization structure, institutional arrangements, operating procedures, monitoring mechanisms, information tools, equipment and communication systems.

Impact studies on the above operations for long-term preventive and mitigation efforts are to be undertaken.

At the community level, evaluation exercises may be undertaken to assess the reactions of the community members at various stages in the disaster management cycle and to understand their perceptions about disaster response.

10.3 Plan Update

The state DMAP is a "living document" and should be updated the relief commissioner every year in consultation with the State Crisis Management Group and Technical Committee. An annual conference for SDMAP update shall be organised by relief commissioner. All concerned departments and agencies should participate and give recommendations on specific issues.

Annual Summary of Resource Inventory and Events

Government

Response Machinery

Emergency services-medical, fire, police

Armed forces, para military, home guards, NCC, S&G

State Technical Committee

Non Government

NSS, Civil Defence

Universities, colleges, schools

Contact Addresses, Phones

PSUs

Corporate Sector

b. Events

April End Updating

May Drills

Surveillance Reports

Seminars, Conferences

Training Programme

c. Material & Equipment (with specifications & rates)

Mobile Communication

Urban Search & Rescue
Road Clearing Equipment
Water Treatment
Power Generators
Medical Facilities
Basic Relief Material
Blankets, tents, utensils, food, water

CHAPTER – XI

COORDINATION AND IMPLEMENTATION

Many organizations play a very useful role in disaster management and can offer rapid response and a willingness to adjust to the situation prevailing on site. They offer immediately available communications within the disaster affected community, technical services, manpower, and financial support to categorize organization by their operating behaviour and fields of expertise in this way:

a) NGOs with large resources: they have international support and can respond quickly with large amounts of supplies and services.

b) Registered local organization run by social workers addressing local issues related to development, agriculture, education children, women etc.

c) Religious bodies: they band on their faith generally organized around this temples for aid of a community, offering capabilities for shelter and mass feeding.

d) Development technology related: these are usually in their own commercial research and development, but their equipment and expertise can be used in time of need in such areas as sanitation building technology etc.

e) Occupation groups: groups such as medical association provide specialized services and generate specialized resources.

f) Residents' association: these are important means of mobilizing the local community. They generate community participation in disaster relief as well as planning and disaster mitigation efforts.

g) Educational institutions: private and government educational institutions play a critical role in reaching large parts of the population with information about preparing for and recovering from disasters. 3.

h) Interest groups: groups such as the Rotary Club or the Lions Club make resource contribution during disaster events.

11.2 Religion Based Organizations

A large number of NGOs are religion based and have a very committed work force. The groups working at the community level usually get financial support from parent organizations. Religious beliefs and commitments make these groups very effective in rescue and relief operations. These religious groups generally own institutes / places of worship that are "Pucca" buildings, usually slightly away from the core habitation which can be used as shelters during flood and cyclone. These groups also often have necessary infrastructure and resources for mass feeding.

Some international and national religious institutions have a mandate on active social action and disaster management irrespective of caste, creed and language. These missions provide services like social counseling and promote

communal harmony. During disaster they, not only, come for relief operations, but also, because they have a large number of followers in the society and have an established identity, also undertake reconstruction and restoration activities. Some of these organisations have technical professionals associated with them and have good training and other infrastructure. The services, technical professional expertise and training infrastructure could be fruitfully used for all disaster management activities.

The religious Organisations can play crucial role in planning and preparedness through

- Creation of contingent funds for disaster management and generate resource from other agencies, patrons and individuals.
- Organising congregations and other cultural functions and in raising community consciousness on disaster preparedness.
- Organising awareness and skill development trainings on various aspects of disaster management

11.3 Bilateral Organisations

Bilateral agencies play a major roles role in disaster management and work through government as well as NGOs and other partner agencies. They provide resources for preparedness, research, networking and institution development, relief, reconstruction and rehabilitation. They can assist in making suggestions for possible changes in policies by sharing of disaster management applications in other parts of the world. In addition they can provide technical expertise and give support by mobilizing advanced rescue and evacuation teams from other countries during time of extreme emergencies. These organisations carry out responsibilities in coordination with the Government of the affected country, other donor Governments, international organisations, UN agencies and NGOs.

11.4 Corporate Bodies

So far the role of corporate sector has been limited to relief and reconstruction activities following emergencies. Some business centers and corporate houses have special cells to take up relief activities. After super cyclone of Orissa many PSUs and corporate houses like NALCO, ONGC, SAIL, and TATA constructed dwelling houses for the affected families and the various business houses which are having industrial units power plants abd or are engaged in other business activities with in the territory of Uttar Pradesh shall be encouraged to become an important stakeholder in the Disaster Management.

- The corporate sector can play an active role in preparedness and planning through raising community awareness in their projects areas on various aspects of disaster preparedness
- Providing specialised equipments (earthmoving equipments, boats, etc. for disaster response
- Mobilisation and creation of contingency fund for relief and recovery activities
- Provision of technical know-how to manage disasters (especially industrial accidents, fire etc.)

11.5 UN Agencies:

The UN resolution affirms that the humanitarian assistance must be provided in accordance with the principles of humanity, neutrality and impartiality. The UN has a central and unique role through the organizations under its aegis, coordinate, international co-operation in the field of disaster management and mitigation. Even though disaster management and mitigation rests on the National Government, the UN agencies are responsible for providing advice and assistance to the government and responsible to mobilize and provide technical and material assistance according to its mandate and resources.

- A mandate issued by the UN general assembly ensued in setting of United Nations Disaster Management Teams (UN-DMT) to be convened and chaired by UN resident coordinators in each disaster prone nation. Essentially the composition of UN-DMT is determined by taking into account the types of disasters to which a country is prone to and capability of the organizations present in the country working in the area of disaster mitigation and relief. The primary purpose of UN-DMT is to ensure a prompt effective and concerted response in the event of a disaster
- Coordinate UN assistance to the Government in post disaster rehabilitation and reconstruction process
- Undertake long-term disaster mitigation measures

11.5.1 UNICEF (United Nations International Children's Emergency Fund)

UNICEF, assists in child health, sanitation and nutrition especially in emergency situations and has done creditable work at the time of many disaster in India and elsewhere in the world.

- Provision of emergency relief to the affected communities
- Immunization
- Restoration of health infrastructures
- Supply of educational and other infrastructures to the affected schools
- Restoration and augmentation of sanitation and drinking water facilities
- Establishment of child labour prevention school
- Supporting OSDMA and NGOs in disaster mitigation and preparedness activities
- Supply of boats to the State Government

The key areas of UNICEF's involvement in disaster mitigation will be

- ♦ Post disaster situation and needs assessment with the help of NGOs or Govt. machinery.
- ♦ Promoting & guiding disease surveillance
- ♦ Training support for medical personnel for control of epidemice
- ♦ Provision of relief support to the affected community as per its mandate.
- ♦ Supply of emergent food aid relief, medicine and study materials for children of the affected communities.
- ♦ Allocate/generate financial assistance for restoration and rehabilitation activities in the affected areas.

- Restoration of drinking water and sanitation facilities in post disaster period.
- Incorporate disaster preparedness aspects in its ongoing programs.
- Special programmes for child and mother health

11.5.2 UNDP (United Nations Development Programme)

- UNDP is mandated to promote incorporation of disaster mitigation in development planning and provide financial support and technical assistance for different facets of disaster management. Assistance is also provided in the planning and implementation of post disaster rehabilitation and reconstruction and incorporation of risk reduction techniques in the affected areas.
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- Following the Super-cyclone in 1999, UNDP took a lead in coordinating and facilitating relief and rehabilitation efforts of various agencies.
- UNDP plays the role of convener of the UN's DMT which is an inter-agency working group and works on disaster management in collaboration with Govt. and NGOs.

- The activities of UNDP in the State are
- Supporting the State and district administration in distribution of relief
  - Co-ordination of NGO activities in the affected areas
  - Promotion of alternative housing techniques in the affected areas
  - Strengthening of disease surveillance
  - Supporting Disaster Preparedness initiatives in the State through organizing workshops, training programmes for various stake holders
  - Initiating community based disaster preparedness programme in the State
  - Initiation of sustainable livelihood programmes, agro service centers
  - Provision on agricultural inputs immediately after emergencies
  - Provision of tents, family relief kits

UNDP can play the following roles in a disaster management;

- Incorporation of disaster mitigation in development planning.
- Support and get involved in planning and implementation of relief and rehabilitation activities of the Govt.
- Propagate disaster preparedness in community level through NGOs, CBOs, PRIs and Govt. machinery.
- Play a vital role in preparing disaster management plans at state, district, block and community levels.
- Play a vital role in designing early warning systems.

11.5.3 WFP (World Food Programme)

World Food Program provides targeted food aid to vulnerable community for humanitarian relief and supports rehabilitation, reconstruction and risk reducing development programmes. WFP in collaboration with State Govt. provides food support under the ICDS scheme. Immediately after the Super Cyclone 1999, WFP supported food for work programmes in the state in collaboration with NGOs and Government as a part of its relief, reconstruction and rehabilitation activities. WFP has extended its support for

increasing the food security aspects of disaster victims, especially in the drought-affected Western districts of the State.

11.5.4 FAO (Food and Agriculture Organisation)

FAO provides technical advice in reducing vulnerability and helps in the rehabilitation of agriculture, livestock, fisheries and local food production. It also monitors food production and forecasts any requirements of exceptional food assistance.

11.5.5 WHO (World Health Programme)

WHO provides advice and assistance in various aspects of preventive and curative health care including preparedness of health services for rapid disaster response. WHO played a major role in initiating and strengthening the disease surveillance system in the cyclone affected Districts of Orissa shortly after the Super Cyclone.

Integration of the Media into Disaster Mitigation Activities and during disasters

A. The second step in building links with the news organizations is to more effectively link the media into an intensified effort in disaster mitigation, including such activities as

- Risk assessment
- Avoidance measures
- Early warning and evacuation
- Public awareness and education
- Organization for self-help and effective response to risk.

1. The media are seen as relayers of official information and measures, which the citizens are expected to undertake immediately and at the same time are conduits for relaying information through inter-governmental structures and channels, to bring the citizens, concerns to official attention.
2. In the event of a disaster, media has a responsibility of reporting the same on a day-to-day basis. Such reporting can contribute to.
    - Bringing true stories of disaster to public
    - Stimulating public response to needs and sufferings caused by disaster
    - Creating tremendous pressure on agencies and government to get involved
    - Injecting efficiency by reducing response time
    - Motivating public and generating disaster assistance and resources.
3. However, care should be taken to safeguard the authenticity of the information and the credibility of the media. This can be done by

- Avoiding reinforcing stereotypes that the people carry about disaster "victims"
- Promoting sensitivity as against sensationalism
- Highlighting both the positive and the negative aspects of disaster management
- Cross-checking information from the disaster site as well as the official sources.

4. During disasters, it is important to organize regular press meetings and issue press releases. The importance of the efforts of various non-governmental agencies engaged in relief operations, their specific problems should be and through such briefings. This will ensure highlighted transparency in all operations, concern, and commitments to those affected.
5. A rational approach to media involvement in disaster management would depend that the media is familiarized as a part of preparedness with the disaster management action plans, roles and responsibilities, strengths and limitations with respect to administrative capabilities. This will prepare the ground for utilising the technological and human resources available with mass media. Tapping the media's capabilities can, and will improve the preparedness and response to disasters. Conversely, the study and application of disaster mitigation techniques can enhance the quality of, and interest in the services the media can provide. The media have the definitive opportunity to play a leadership role in the transition in thinking and action away from post-disaster relief and towards, preparedness and disaster mitigation.

Feedback Form

1. **About you :**

2. **Your Experience on using this Plan :**

3. **Comments :**

4. **Suggestions for improvement :**

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5. **Send this form to :** **The Director,**
   Remote Sensing Applications Centre
   Sector-G, Jankipuram, Kursi Road
   Lucknow – 226 021

- While formulating land use plans, developmental plans and other large scale construction plans, earth scientists be actively involved to help disaster mitigation.
- Vulnerability study for special structures should be carried out in the high risk area, specially for structures like dams and irrigation projects, bridges, water storage systems, hospitals and schools & special re-enforcement or disaster mitigation plans be prepared. Microzonation and seismological studies be taken up in selected area to delineate high-risk zones. Adequate funds required for the purpose be made available.
- Reliable communication network capable of working on stand-alone basis may be established for speedy communication. A feasibility study for providing Ham Radio network in the citizens band linking remote villages with block headquarters and subsequently with the district Headquarters by carried out.
- At the State level the setup of the Relief Commissioner be so strengthened that it acts as a nodal point and agency for collection and exchange of information and keeping abreast with the knowledge and constant interaction with the professionals be maintained for making and updating mitigation plans. A suitable mechanism be involved for continuous flow of information from the state to district level for effective implementation of disaster mitigation plan.
- The state govt. should ensure that whenever a new D.M. takes charge of the district he/she should immediately familiarize with the disaster management plan and organize a district level exercise involving all concerned, including NGOs, to update prepared-ness. The Relief Commissioner's office should follow this up on a regular basis.
- Traditional technologies and their role in disaster mitigation be studied and as far as possible be adopted for disaster mitigation.
- Village level plan for disaster mitigation with total village population participation be evolved and encouraged. The emphasis should be on villages themselves preparing and equipping to meet any eventually in the broad area of disaster.