

# Uttar Pradesh State Disaster Management Plan 2016-17



**PART-1: GENERAL**

**PART-2 : DISASTER SPECIFIC  
PLANS**

**PART – 1**  
**GENERAL**

**PART – 2**  
**DISASTER SPECIFIC PLAN**

# **UTTAR PRADESH STATE DISASTER MANAGEMENT PLAN 2016-17**



**GOVERNMENT OF UTTAR PRADESH**

अखिलेश यादव



मुख्य मंत्री  
उत्तर प्रदेश

लाल बहादुर शास्त्री भवन  
लखनऊ

## संदेश

आपदा के दृष्टिकोण से उत्तर प्रदेश एक संवेदनशील राज्य है। आपदाओं से न केवल जन-धन की हानि होती है बल्कि यह विकास में भी बाधक है। प्राकृतिक आपदायें विकास कार्य को अवरुद्ध कर देती हैं। प्रदेश के आधे से अधिक जनपद तीव्र भूकम्प के क्षेत्र, श्रेणी-4 के अन्तर्गत आते हैं। उत्तराखण्ड एवं पड़ोसी राष्ट्र नेपाल में प्रायः भारी वर्षा एवं बादल फटने के कारण प्रति वर्ष प्रदेश का लगभग एक तिहाई क्षेत्र नियमित रूप से बाढ़ से प्रभावित होता है जिससे जन-धन की व्यापक हानि होती है। इसके अतिरिक्त समय-समय पर घटित होने वाली आपदायें जैसे-सूखा, बाढ़, ओलावृष्टि, अतिवृष्टि, शीतलहरी, लू-प्रकोप, अग्निकाण्ड आदि से जन-धन को भारी क्षति पहुँचती है। प्रदेश की बढ़ती जनसंख्या व शहरीकरण तथा सामाजिक आर्थिक परिस्थितियाँ राज्य को आपदाओं के प्रति अत्यधिक संवेदनशील बनाती हैं।

प्रदेश में आपदाओं के प्रबन्धन हेतु कुशल व्यवस्था किये जाने हेतु उ0प्र0 राज्य आपदा प्रबन्ध प्राधिकरण द्वारा तैयार की गयी "उ0प्र0 राज्य आपदा प्रबन्ध योजना" एक सराहनीय प्रयास है।

मुझे आशा है कि उ0प्र0 राज्य आपदा प्रबन्ध प्राधिकरण द्वारा आपदा जोखिम न्यूनीकरण एवं आपदा प्रबन्ध हेतु किये जा रहे प्रयास अपने उद्देश्यों की पूर्ति में निश्चय ही सफल सिद्ध होंगे।

शुभकामनाओं सहित।

(अखिलेश यादव)

राहुल भटनागर  
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### संदेश

उत्तर प्रदेश भौगोलिक विविधताओं से युक्त एक विशाल राज्य है जो प्रायः विभिन्न आपदाओं से प्रभावित होता रहता है। राज्य का कुछ हिस्सा अतिवृष्टि एवं बाढ़ से प्रभावित होता है तो कुछ भू-भाग अनावृष्टि या अल्प वर्षा के कारण सूखे से प्रभावित हो जाता है। इसी प्रकार ओलावृष्टि एवं अतिवृष्टि की घटनाओं से फसलों के क्षतिग्रस्त होने के कारण प्रदेश का किसान कभी गम्भीर आपदा से प्रभावित होता है तो कभी भूकम्प के झटकों से पूरा प्रदेश हिल जाता है। प्रदेश में सिर्फ प्राकृतिक आपदाओं का संकट ही नहीं रहता अपितु कई प्रकार की मानव-जनित आपदायें जैसे-रासायनिक दुर्घटना, सड़क दुर्घटनायें, अग्निकाण्ड, भगदड़ आदि भी व्यापक रूप से प्रदेश में जन-धन की हानि का कारण बनती हैं।

यद्यपि प्राकृतिक आपदायें दुर्निवार्य हैं तथापि बेहतर प्रबन्धन एवं समुचित पूर्व तैयारी से जन-धन की हानि को काफी हद तक कम अवश्य किया जा सकता है। इसे दृष्टिगत रखते हुये 3040 राज्य आपदा प्रबन्ध प्राधिकरण द्वारा आपदा पूर्व तैयारी एवं न्यूनीकरण के उपायों को अपनाने हेतु व्यापक स्तर पर प्रशिक्षण एवं जन-जागरूकता अभियान चलाया जा रहा है। इसी क्रम में "3040 आपदा प्रबन्ध योजना" तैयार की गयी है।

मुझे विश्वास है कि "राज्य आपदा प्रबन्ध योजना" को क्रियान्वित कर प्रदेश में आपदाओं से होने वाली जन-धन की हानि को कम किया जा सकेगा।

शुभ कामनाओं सहित,

(राहुल भटनागर)

मुख्य सचिव, उत्तर प्रदेश शासन/  
मुख्य कार्यपालक अधिकारी  
3040 राज्य आपदा प्रबन्ध प्राधिकरण

अरविन्द कुमार,  
प्रमुख सचिव राजस्व एवं राहत आयुक्त,  
उत्तर प्रदेश शासन



### संदेश

मानव को प्राकृतिक आपदाओं का सामना प्राचीन काल से ही करना पड़ रहा है। वैश्विक स्तर पर आँकड़े बताते हैं कि आपदाओं से होने वाले नुकसान में गत दशकों में तीव्रता से वृद्धि हुयी है।


प्राकृतिक आपदाओं को घटित होने से रोका जाना संभव नहीं है परन्तु कुशल प्रबन्धन से इसके दुष्प्रभावों को अवश्य रोका जा सकता है। इसी दृष्टिकोण के आधार पर आपदा के बाद किये जाने वाले राहत एवं बचाव कार्यों के अतिरिक्त अब आपदा न्यूनीकरण, पूर्व तैयारी जिससे कि आपदा आने पर जन-धन की हानि को कम किया या रोका जा सके, पर भी विशेष बल दिया जा रहा है। विश्व बैंक के अनुसार आपदा न्यूनीकरण व पूर्व तैयारी पर खर्च किया गया एक रूपया, आपदा के उपरान्त राहत कार्यों पर खर्च किये जाने वाले दस रूपयों के बराबर होता है। जबकि आपदाओं से होने वाली जनहानि का कोई मूल्य आंका जाना संभव नहीं है, जीवन अमूल्य है।

उक्त अवधारणा के तहत वर्ष 2005 में राष्ट्रीय आपदा प्रबन्ध अधिनियम पारित किया गया, जिसके अन्तर्गत आपदा न्यूनीकरण, पूर्व तैयारी व कुशल प्रबन्धन हेतु कई संवैधानिक, संस्थागत, वित्तीय तथा नीतिगत व्यवस्थायें स्थापित की गयी हैं। इसी क्रम में उ0प्र0 राज्य आपदा प्रबन्ध प्राधिकरण का गठन किया गया है। प्राधिकरण द्वारा आपदा प्रबन्ध योजनायें तैयार करना, आपदा सम्बन्धी नीतियाँ बनाना, जन-सामान्य को इस सम्बन्ध में जागरूक करना तथा उनकी क्षमता संवर्द्धन हेतु कार्यशाला/गोष्ठी और प्रशिक्षण कार्यक्रमों आदि का संचालन किया जा रहा है।

यहाँ यह तथ्य उल्लेखनीय है कि राज्य आपदा प्रबन्ध योजना को तैयार करने में राष्ट्रीय आपदा प्रबन्ध योजना, सैण्डाई फ्रेमवर्क एवं इस हेतु भारत सरकार के दिशा निर्देशों के क्रम में योजना को परिकल्पित एवं गठित किया गया है, जिसमें समस्त विषयों एवं विभिन्न आपदाओं से सम्बन्धित उपलब्ध अद्यतन आँकड़ों को भी समाविष्ट कर लिया गया है।

आशा है कि "उ0प्र0 राज्य आपदा प्रबन्ध योजना" प्रदेश में आपदा प्रबन्धन व राहत कार्यों को व्यवस्थित रूप से संचालित करने हेतु उपादेय सिद्ध होगी।

शुभकामनाओं सहित।

  
(अरविन्द कुमार)

## Preface

This State Disaster Management Plan has been prepared in pursuant to Section 23 of the National Disaster Management Act 2005 and as per the norms laid down in National Disaster Management Authority guideline 2007. Section 23 (1) of The Disaster Management Act, 2005 reads “There shall be a plan for disaster management for every State to be called State Disaster Management Plan”. Apart from these statutory requirements, the hazard profile and disaster history of the state demands for a comprehensive state disaster management plan to be in place for coordinated and streamlined management of disaster in the state. The State Plan shall be prepared by the State Executive Committee and shall be approved by the State Authority.

In accordance with the Disaster Management Act 2005 the plan has vulnerability of different parts of the State to different forms of disasters, The measures to be adopted for prevention and mitigation of disasters, The manner in which the mitigation measures shall be integrated with the development plan and projects, The capacity-building and preparedness measures to be taken, The roles and responsibility of each department of the State Government on relation to prevention/mitigation/ preparedness/ capacity building/ response and rehabilitation, the roles and responsibilities of different departments of the State Government in responding to any threatening disaster situation or disaster, The roles and responsibilities of community based organizations/ NGOs (non-governmental organizations) in activities of capacity building, response and relief.

The aim of State DM Plan is to ensure that all components of Disaster Management are addressed to facilitate planning, preparedness, operational, coordination and community participation. The purpose of UPSDMP is to set out Government of UP’s approach to disaster management in accordance with the operational and legislative responsibilities of the DM Act 2005.

UPSDMP will stand as a high level document outlining the approach to DM by UPSDMA, Department of Revenue and allied State Departments. All hazard events for which the state is vulnerable to, will be managed in accordance with this plan. This Plan will be further supported by hazard specific plans, which are available in the department’s website (<http://rahat.up.nic.in/>).

Vision of this plan is to make a resilient Uttar Pradesh where communities respond to disasters with sense of urgency and in a planned way to minimize human, property and environmental loss.

**(Arvind Kumar)**  
**Principal Secretary, Revenue & Relief**  
**Commissioner/**  
**Additional Chief Executive Officer, UP**  
**State Disaster Management Authority.**



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## Abbreviation

ADB	-	ASIAN DEVELOPMENT BANK
AERB	-	ATOMIC ENERGY REGULATORY BOARD
BARC	-	BHABHA ATOMIC RESEARCH CENTER
BDO	-	BLOCK DEVELOPMENT OFFICER
CBRNE	-	CHEMICAL BIOLOGICAL RADIOLOGICAL NUCLEAR AND HIGH-YIELD EXPLOSIVE
CEO	-	CHIEF EXECUTIVE OFFICER
CMG	-	CRISIS MANAGEMENT GROUP
COBS	-	COMMUNITY BASE ORGANISATION
CSO	-	CIVIL SOCIETY ORGANIZATIONS
CWC	-	CENTRAL WATER COMMISSION
DAE	-	DEPARTMENT OF ATOMIC ENERGY
DCG	-	DISTRICT COMMAND GROUP
DDMA	-	DISTRICT DISASTER MANAGEMENT
DDRIC	-	DISTRICT DISASTER RESPONSE & INFORMATION CENTRE
DM	-	DISASTER MANAGEMENT
DP&S	-	DIRECTORATE OF PURCHASE AND STORES
DPR	-	DETAILED PROJECT REPORT
DRIC	-	DISASTER RESPONSE & INFORMATION CENTRE
EOC	-	EMERGENCY OPERATING CENTER
ERC	-	EMERGENCY RESPONSE CENTER
ESF	-	EMERGENCY SUPPORT FUNCTIONS
EWS	-	EARLY WARNING SYSTEMS
FLEWS	-	FLOOD EARLY WARNING SYSTEMS
FRERM	-	FLOOD AND RIVERBANK EROSION RISK MANAGEMENT
GLOF	-	GLACIAL LAKE OUTBURST FLOODS
GO	-	GOVERNMENT ORDER
GOI	-	GOVERNMENT OF INDIA
GSHAP	-	GLOBAL SEISMIC HAZARD ASSESSMENT PROGRAMME
GSI	-	GEOLOGICAL SURVEY OF INDIA
HPC	-	HIGH POWERED COMMITTEE
HRD	-	HUMAN RESOURCE DEVELOPMENT
HWB	-	HEAVY WATER BOARD
IMD	-	INDIAN METROLOGICAL DEPARTMENT
IPCC	-	INTERNATIONAL PANEL ON CLIMATE CHANGE
ISR	-	INSTITUTE OF SEISMOLOGICAL RESEARCH
ISRO	-	INDIAN SPACE RESEARCH ORGANIZATION
LCG	-	LOCAL COMMAND GROUP
LDOF	-	LANDSLIDE DAM OUTBURST FLOODS
MHA	-	MINISTRY OF HOME AFFAIRS
MLA	-	MEMBER OF LEGISLATIVE ASSEMBLY
MP	-	MEMBER OF PARLIAMENT
NCMC	-	NATIONAL CRISIS MANAGEMENT COMMITTEE
NDMA	-	NATIONAL DISASTER MANAGEMENT AUTHORITY
NDRF	-	NATIONAL DISASTER RESPONSE FUND/ NATIONAL DISASTER RESPONSE FORCE
NEC	-	NATIONAL EXECUTIVE COMMITTEE
NGO	-	NON GOVERNMENTAL ORGANISATION
NGRI	-	NATIONAL GEOPHYSICAL RESEARCH INSTITUTE
NPCIL	-	NUCLEAR POWER CORPORATION OF INDIA LIMITED
PDNA	-	POST DISASTER DAMAGE AND NEEDS ASSESSMENT
PGA	-	PEAK GROUND ACCELERATION
PHC	-	PRIMARY HEALTH CENTRE
PRIS	-	PANCHAYATIRAJ INSTITUTIONS
RC	-	RELIEF COMMISSIONER

RDD	-	RADIOLOGICAL DISPERSAL DEVICE
SAARC	-	SOUTH ASIAN ASSOCIATION FOR REGIONAL COOPERATION
SCG	-	STATE COMMAND GROUP
SDM	-	SUB DIVISIONAL MAGISTRATE
SDMP	-	STATE DISASTER MANAGEMENT PLAN
SDRF	-	STATE DISASTER RESPONSE FORCE/ STATE DISASTER RESPONSE FUND
SEC	-	STATE EXECUTIVE COMMITTEE
SEOC	-	STATE EMERGENCY OPERATING CENTER
SOP	-	STANDARD OPERATING PROCEDURES
SWAN	-	STATE WIDE AREA NETWORK
UNDP	-	UNITED NATIONS DEVELOPMENT PROGRAMME
UNISDR	-	UNITED NATIONS INTERNATIONAL STRATEGY FOR DISASTER REDUCTION
UPSDMA	-	UTTAR PRADESH STATE DISASTER MANAGEMENT AUTHORITY
VDMC	-	VILLAGE DISASTER MANAGEMENT COMMITTEEde4

# Chapter 1

## Introduction

### 1. State Disaster Management Plan

#### 1.16 Coverage:

This Plan will be known as “Uttar Pradesh State Disaster Management Plan (SDMP)” and will be applicable to the entire State of Uttar Pradesh

#### 1.17 Policy:

Saving of human lives will be at the highest priority; however plan will also address minimization of loss of property and environment. SDMP provides planning for prevention and mitigation, mainstreaming disaster in development, Capacity building and preparedness measures, role and responsibilities of each government departments and other stakeholders. It also provides provisions for reviewing and updating SDMP annually.

#### 1.18 Objectives of the plan

The key objectives of the SDMP are to:

- To prevent / minimize human, property and environmental loss due to disasters.
- To promote a culture of prevention and preparedness by ensuring that DM receives the highest priority at all levels.
- Encourage and promote mitigation measures based on state-of-the-art technology and environmental sustainability.
- Mainstreaming DM concerns into the developmental planning process.
- To ensure efficient response and relief with a caring approach towards the needs of the vulnerable sections of the society.
- To develop efficient disaster preparedness & response/relief mechanism in the State.
- To provide clarity on roles and responsibilities for all stakeholders concerned with disaster management.
- To ensure co-ordination and promoting productive partnership with all other agencies related to disaster management.

#### 1.19 Level of Disasters

L concept defines different levels of disasters in order to facilitate the responses and assistances to Districts.

**L0 level** denotes normal times when there is no disaster. This phase will be utilized for prevention, mitigation, preparatory activities, close monitoring & documentation activities. Training on search and rescue, rehearsals, evaluation and inventory updation for response activities will be carried out during this time.

**L1 level** denotes the disaster which can be managed at the District level, however, the State will remain in readiness to provide assistance if needed.

**L2 level** disaster situations are those, which require assistance and active participation of the State, mobilization of its resources for management of disasters.

**L3 level** disaster situation is in case of large scale disasters where the State and District authorities have been overwhelmed and require assistance from the Central Government for reinstating the State and District machinery as well as for rescue, relief, other response and recovery measures.

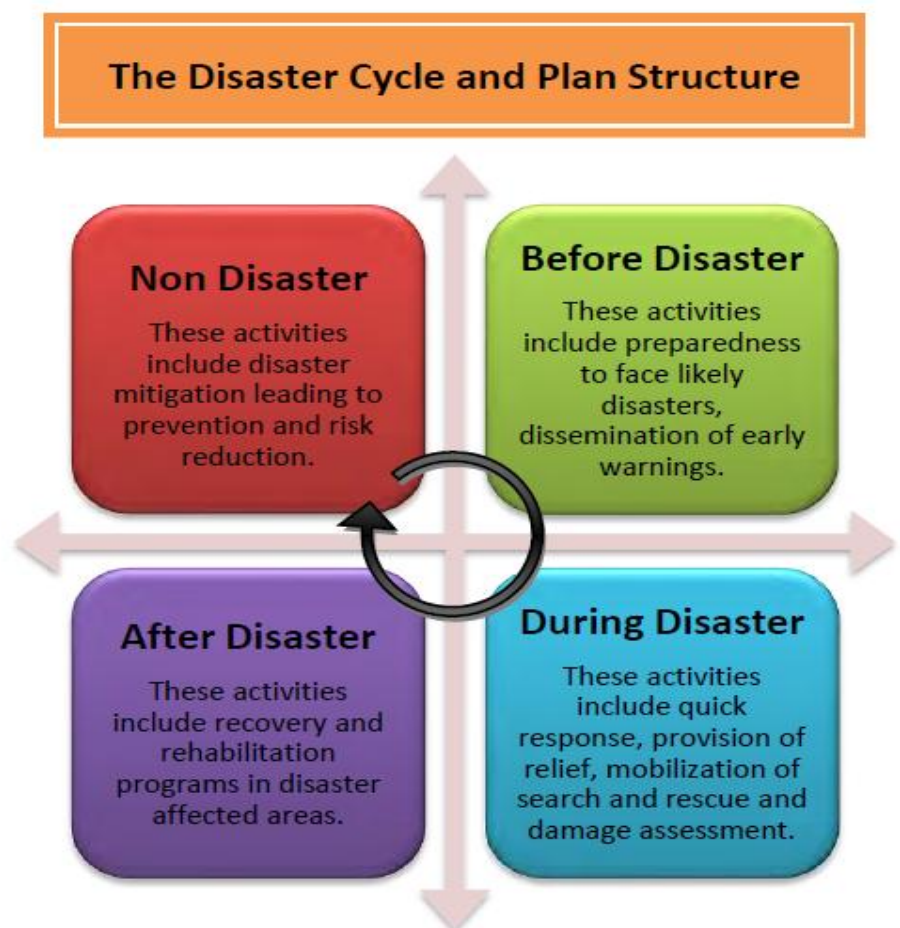
### 1.20 Plan Approach

The DM Act promulgated by Parliament in 2005 ushered in a strategic shift in Disaster Management by mandating a holistic, integrated approach to the Disaster Management function of the state and creating a distinct structure for delivering it. It is in this context of changed structural and functional

arrangements the roles, tasks and activities of different functionaries involved in DM has changed significantly. A paradigm shift has now taken place from the relief centric approach to holistic and integrated approach with emphasis on prevention, mitigation and preparedness. These efforts are aimed to conserve developmental gains as also minimize losses to

lives, livelihood and property. A typical Disaster Management continuum comprising six elements i.e., Prevention, Mitigation, Preparedness in pre-disaster phase, and Response, Rehabilitation and Reconstruction in post-disaster phase, defines the complete approach to Disaster Management.

For efficient execution of the SDMP, the Plan has been organized as per these four stages of the Disaster Cycle.



## 1.21 Plan Activation

This SDMP will be in action throughout the year but the disaster response plan will be activated on the receipt of disaster warning/on the occurrence or likelihood of disaster. The occurrence of disaster may be reported by the concern monitoring authority to the Relief Commissioner (RC) /UP SDMA by the fastest means. The RC will activate all departments for emergency response including the State Emergency Operation Center (EOC) and District EOC. RC will issue instructions to various departments which may include the following details:

- Exact quantum of resources (in term of manpower, equipments and essential items from key departments/stake holders) that is required
- The type of assistance to be provided
- The time limit within which assistances is needed
- Details of nodal officers through which coordination should take place

The State EOC and other control rooms at the State level as well as district control rooms should be activated with full strength.

In case of major disasters, once the situation is totally controlled and normalcy is restored, the District Magistrate (DM) at the district level & RC at the state level declares End of Emergency Response and issues instructions to withdraw the staff deployed in emergency duties.

## 1.22 Multi-Hazard Approach:

SDMP will not only address natural hazards but will also take care of manmade/ human induced disasters.

## 1.23 State Profile

### 1.8.1 Physical Location of the state & other Statistical details:

Uttar Pradesh abbreviated as UP, is the most populous state in the Republic of India as well as the most populous country subdivision in the world. It was created on 1 April 1937 as the United Provinces during British rule, and was renamed Uttar Pradesh in 1950. Lucknow is the capital city of Uttar Pradesh. Ghaziabad, Bulandshahr, Kanpur, Gorakhpur, Allahabad, Raebareli, Moradabad, Bareilly, Aligarh, Sonbhadra, and Varanasi are known for their industrial importance in the state. On 9 November 2000, a new state, Uttarakhand, was carved out from the Himalayan hill region of Uttar Pradesh. The state in the northern region of the Indian subcontinent has over 200 million inhabitants.

The state is bordered by Rajasthan to the west, Haryana, Himachal Pradesh and Delhi to the northwest, Uttarakhand and Nepal to the north, Bihar to the east, Madhya Pradesh to the south and touches the states of Jharkhand and Chhattisgarh to the south east. It covers 243,290 square kilometres (93,933 sq mi), equal to 6.88% of the total area of India, and is the fourth largest Indian state by area. Hindi is the official and most



widely spoken language in its 75 districts. Uttar Pradesh is the third largest Indian state by economy. Agriculture is the largest parts of the state's economy.

<b>Area</b>	<b>196,024 km<sup>2</sup></b>
<b>Latitude</b>	23°52'N and 31°28'N latitudes
<b>Longitude</b>	77°3' and 84°39'E longitudes
<b>Major Rivers</b>	Ganga, Ram Ganga, Yamuna, Ken, Gomti, Sharada, Ghaghara, Rapti, Gandak, Saryu, etc
<b>Forests</b>	

Source: Govt of U.P. Website (<http://up.gov.in/upstateglance.aspx> )

<b>Area</b>	<b>2,40,928 Square km.</b>
<b>Population (As per census 2011 Provisional data)</b>	19,95,81,477
<b>(a)Males (As per census 2011 )</b>	10,45,96, 415
<b>b)Females (As per census 2011 )</b>	94, 985,062
<b>Decennial Growth rate (2001-2011) (As per census 2011 )</b>	20.09 percent
<b>Sex Ratio (As per census 2011 )</b>	908 per thousand
<b>Density (persons per sq. km.) (As per census 2011 )</b>	828 per thousand
<b>Child Population (0-6 years) (As per census 2011 )</b>	29,728,235
<b>Child sex ratio (0-6 years) (As per census 2011 )</b>	899 per thousand
<b>Total Literacy rate-</b>	
<b>Persons</b>	69.72 percent
<b>a)Male Literacy</b>	79.24 percent
<b>b)Female Literacy</b>	59.26 percent

Source: Govt of U.P. Website (<http://up.gov.in/upstateglance.aspx> )

### 1.8.2 Administrative Setup:

<b>Divisions</b>	<b>18</b>
<b>Districts</b>	75
<b>Cities &amp; Towns</b>	689
<b>Development blocks</b>	820
<b>Nagar Nigams</b>	12

Source: Govt of U.P. Website (<http://up.gov.in/upstateglance.aspx> )

### 1.8.3 Climate:

The climate of Uttar Pradesh is generally defined to be tropical monsoon type. However based on the Köppen climate classification, it can be classified mostly as Humid Subtropical with dry winter type with parts of Eastern U.P. as Semi-Arid (BS) type.

Based on IMD classification, The primary temperature, rainfall and wind features of the three Distinct Seasons of U.P. can be summarized as below:

Summer (March–June): Hot & dry (temperatures rise to 45 °C, sometimes 47-48 °C); low relative humidity (20%); dust laden winds.

Monsoon (June–September): 85% of average annual rainfall of 990 mm. Fall in temperature 40-45° on rainy days.

Winter (October–February): Cold (temperatures drop to 3-4 °C, sometimes below -1 °C); clear skies; foggy conditions in some tracts.

Given significant climatic differences, U.P. has been divided into two meteorological sub-divisions - U.P. East and U.P. West.

IMD office situated at Airport, Lucknow is nodal for providing all the weather related forecasts & details.

#### 1.8.4 Land Use:

Land Use	Area (in thousands) (ha)	Percentage
Total geographic area	24093	NA
Reporting area for land utilization	24170	100.00
Forests	1658	6.86
Not available for land cultivation	3268	13.52
Permanent pastures and other grazing lands	65	0.27
Land under misc. tree crops and groves	374	1.55
Culturable Wasteland	440	1.82
Fallow lands other than current fallows	540	2.23
Current fallows	1408	5.83
Net area sown	16417	67.92

Source- ([http://fsi.nic.in/details.php?pgID=sb\\_16](http://fsi.nic.in/details.php?pgID=sb_16) )

#### 1.8.5 Forest & Tree Cover:

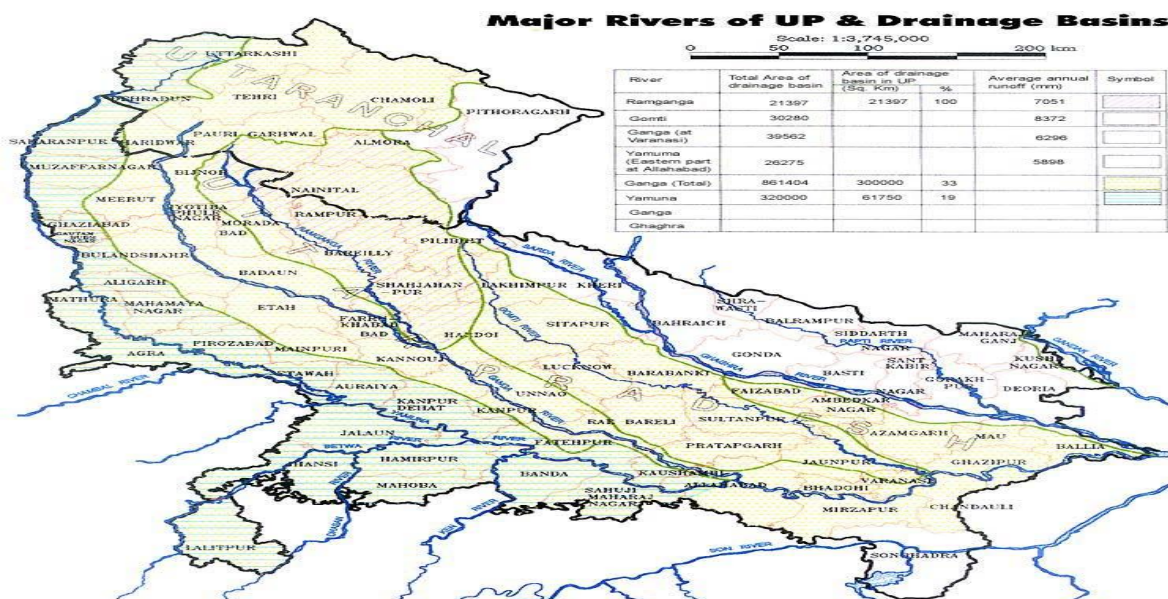
2015 Assessment							
Area in Sq.Km.							
State	Geographical area	Very Dense forest	Moderate dense forest	Open forest	Total forest	Percent of geographical areas	Change in forest cover wrt ISFR 2013
Uttar Pradesh	240928	2195	4060	8206	14461	6.00	112

Source: State forest report 2015, published by forest survey of India ([http://fsi.nic.in/details.php?pgID=sb\\_16](http://fsi.nic.in/details.php?pgID=sb_16) )

### 1.8.6 Agriculture land:

As per the planning department's records, Uttar Pradesh is predominately an agricultural state. Out of total geographical area of the state, 168.12 lakh ha is cultivable land.

### 1.8.7 Rivers and Catchments:



Source: Department of Irrigation website (<http://irrigation.up.nic.in/>)

## 1.9 Stakeholders of the State DM Plan

The Uttar Pradesh State Disaster Management Authority and the Relief Commissioner Organisation, Revenue Department, are the major institutions in the State that deal with disaster management. All the major line departments of the State Government, the District Magistrates, other technical institutions, community at large, local self governments, NGOs etc. are the stakeholders of the SDMP.

The role of the stake holders have been prepared with the avowed objective of making the concerned organizations understand their duties and responsibilities regarding disaster management at all levels, and accomplishing them.

## 1.10 Roles & Responsibility of Various stakeholders:

### 1.10.1 The State Government

- Ensure that all the principal authorities and role players (As per the DM Act 2005) shall take necessary steps to mitigate and manage disasters.
- Facilitating procurement related to disaster management of materials, equipment and services in connection with the disaster management and ensuring their quality.
- Suspend operation of any executive order if such executive order prevents, hinders or delays any necessary action in coping with disaster.

### **1.10.2 Department of State Government**

- Make sure that the State departments and local authorities shall take into consideration the GO of Chief Secretary regarding DRR mainstreaming while planning its activities.
- Provide assistance to the UPSDMA, Relief Commissioner, District Magistrate and Local Authorities in disaster management activities.
- Carry out relief, reconstruction and rehabilitation activities
- Co-ordinate preparation and the implementation activities of plan with other departments, local authorities and stakeholders.
- Each department of the Government in a district shall prepare a disaster management plan for the district. Carry out relief, and rehabilitation and reconstruction activities in the affected area within its jurisdiction.

### **1.10.3 The Uttar Pradesh State Disaster Management Authority (UPSDMA)**

- Promoting an integrated and coordinated system of disaster management including prevention or mitigation of disaster by the State, local authorities, stakeholders and communities.
- Collect/cause to be collected data on all aspects of disaster management and analyze it and further cause and conduct research and study relating to the potential effects of events that may result in disasters.
- Act as a repository of information concerning disaster management in the State.
- Lay down the policies and plans for disaster management in the State.
- Promote or cause to be promoted awareness and preparedness and advice and train the community, and stakeholders with a view to increasing capacity of the community and stakeholders to deal with potential disasters.
- On the expiry of a disaster declaration, the Authority shall, where necessary, act as an agency for facilitating and coordinating rehabilitation and reconstruction activities by departments of the Government

### **1.10.4 The Chief Executive Officer – UPSDMA**

- CEO of UPSDMA shall perform a nodal role across different phases of disaster management like;
- Coordination and monitor activities relating to prevention and mitigation of disasters including capacity-building.
- Coordinate and monitor rehabilitation and reconstruction activities.
- Monitor the progress of the preparation and updating of disaster management plans and coordinate the implementation of such plans.
- Prepare and submit periodically a report to the Authority on the activities undertaken by the Authority.
- Delegate his powers and functions to officers and employees of the Authority.

#### **1.10.5 The Relief Commissioner (RC)**

- On the recommendation of RC, State Government may declare disaster.
- RC has a primary responsibility of Co-ordinating an effective emergency response and relief on occurrence of a disaster.
- Prepare, review and update State level emergency plans and guide lines and ensure that the Authority, taking into account the unique circumstances of each district and deficiency in institutional capacity and resource of the State.
- Providing directions to the Collector and the local authority having jurisdiction over the affected area to provide emergency relief in accordance with disaster management plans to minimize the effects of disaster.

#### **1.10.6 The District Magistrate**

- District is the cutting edge unit in whole disaster management process so District Magistrate would be responsible for overall management of disaster mitigation, preparedness & response.
- Facilitate and coordinate with, local Government bodies to ensure that pre and post-disaster management activities in the district are carried out.
- Organise training, awareness programmes and the installation of emergency facilities with the support of local administration, non-governmental organizations, and the private sector.
- Take appropriate actions to smoothen the response and relief activities to minimize the effect of disaster.
- Recommend RC and State Government for declaration of disaster in case it is L2 or L3 level disaster.

#### **1.10.7 Local Authority**

- Local authorities have a vital role in the integrated administrative machinery for management of disaster. Subject to such directions as the State or District Disaster Management Authority may give For the purpose of disaster management, local authority shall:-
- Assist the SDMA, the commissioner and the Collector;
- Ensure that the staff of the local authority is trained;
- Ensure that all the resources related to disaster management are so maintained as to be ready for use;
- Ensure that all buildings and other structures in the local area comply with the specifications laid down in this behalf by the departments of government and the Authority;
- For area covered under development plan, the guidelines for land use zoning in hazard prone areas are to be taken into consideration while formulating the development plan and area plan under the town planning and urban development planning ,for which the concerned Government department, the Housing department may issue necessary directions to the development authority in this regard;

- For areas not covered under development plan guidelines may be issued to the various local bodies, municipalities and Municipal Corporation etc, enabling them to act while undertaking various development projects and deciding on construction of buildings etc;
- Carry out relief operations in the affected area subject to directions of the Commissioner and Collector, as per the guidelines of SDMADDMA;
- Carry out reconstruction and rehabilitation activities in accordance with the guidelines frames by the State Disaster Management Authority;
- Preparing and emphasizing the local area specific disaster management strategies ,contingency strategies and emergency procedures in the event of a disaster, including measures to finance the strategies;
- Regular review and updation of the plan;
- Conduct disaster management drills periodically ;
- Incorporating climate change concern and associates vulnerability issues as per the guidelines and directions issued by the State Disaster Management Authority for sensitive areas/wards.
- As enumerated above local bodies will provide assistance to the SDMA/DDMA, the commissioner and the Collector and take such other steps as may be necessary for disaster management.

#### **1.10.8 Private Sector**

- The Private sector should ensure their active participation in the pre-disaster activities in alignment with the overall plan developed by the UPSDMA.
- They should also adhere to the relevant building codes and other specifications, as may be stipulated by State Govt or relevant local authorities.

#### **1.10.9 Community Groups and Voluntary agencies**

- Local Community groups and voluntary agencies including NGOs should actively assist in prevention, mitigation and response activities under the overall direction and supervision of the UPSDMA.

#### **1.10.10 Citizen**

- It is duty of every citizen to assist the RC, the Collector or such other person entrusted with or engaged in disaster management whenever his aid is demanded generally for the purpose of disaster management.

## 1.11 DM Structure in the State

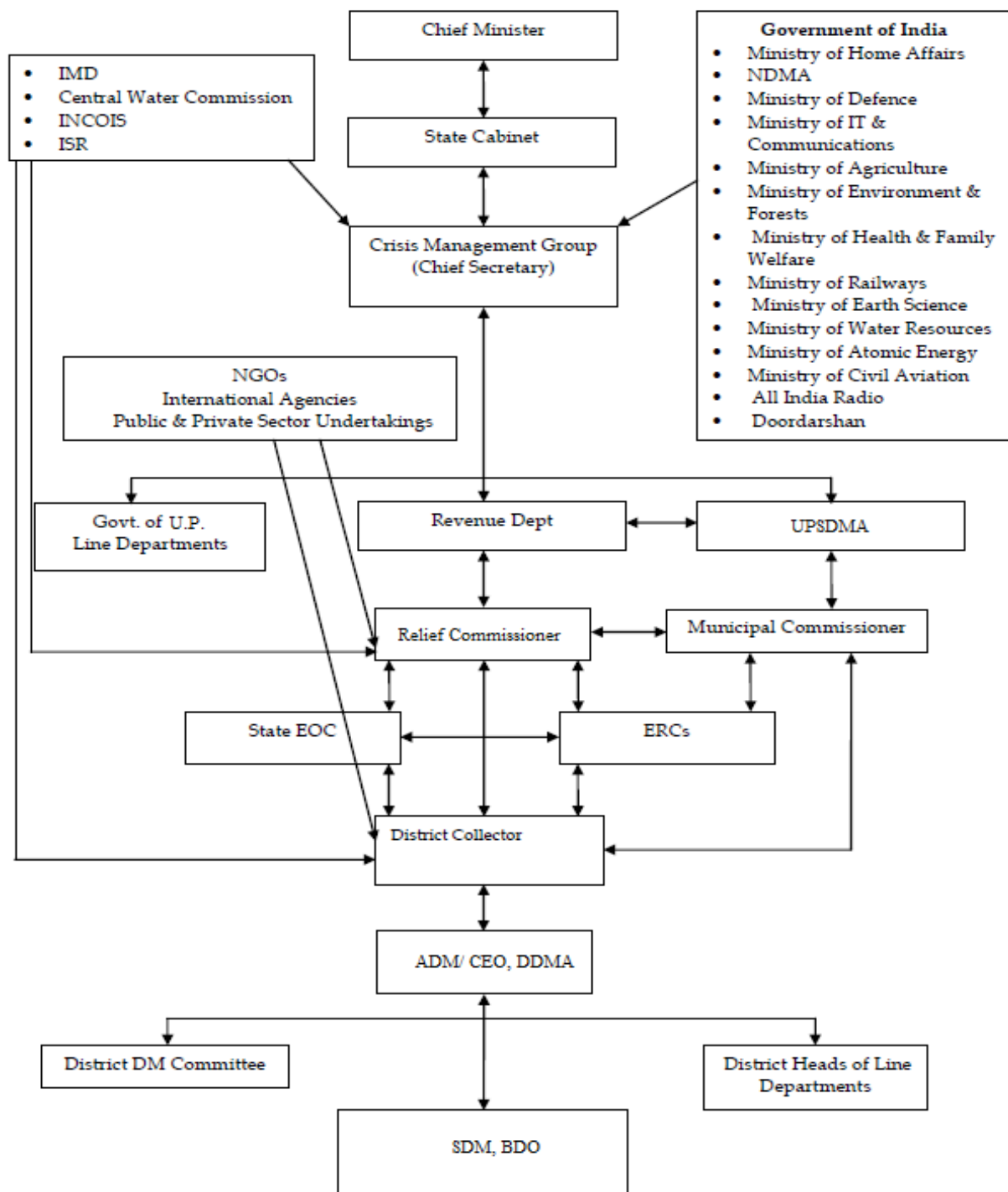


Figure: The DM structure in the State is as per the National Disaster Management Act-2005 (<http://www.ndma.gov.in/en/>)

### **1.12 Financial Arrangement for Disaster Management**

To ensure the long-term sustenance and permanency of the organization, funds would be generated and deployed on an ongoing basis. There are different ways to raise the funds in the State for disaster management as described below:-

#### **1.13 State Budget**

The State Disaster Management Authority, submit to the State Government for approval a budget in the prescribed form for the next financial year, showing the estimated receipts and expenditure, and the sums which would be required from the State Government during that financial year.

As per the provisions of The Uttar Pradesh State Disaster Management Act, 2005 the Authority may accept grants, subventions, donations and gifts from the Central or State Government or a local authority or body, INGOs whether incorporated or not.

#### **1.14 State Disaster Response fund**

To carry out Emergency Response & Relief activities after any disaster the State Disaster Response Fund is made available to Relief Commissioner in which the Central Government share is 75% and the Govt. of Uttar Pradesh share is 25% as per the recommendation of 14<sup>th</sup> Finance Commission. Norms of relief from State Disaster Response Fund are given in annexure-2&2A.

#### **1.15 Grant in aid**

Further State receives grant in aid from Central Govt., other agencies to carry out specific projects/ schemes related to disaster management/mitigation/capacity building. Currently under 13<sup>th</sup> Finance Commission, Central Govt. has allocated Rs. 25 Crore for Capacity Building for Disaster Management. Under this, 4.5 lakh people of community are being trained on Disaster Management & response practices. Basic lives saving equipments are also being provided to vulnerable Panchayats.



## Chapter 2

# Hazard, Risk and Vulnerability profile of Uttar Pradesh

- Uttar Pradesh, with 199.5 million people is the most populous state in India. The growth rate of the population of Uttar Pradesh is about 20% per decade which is alarmingly high growth rate in the country.
- The Per Capita Income of India is Rs. 60972 whereas in U.P. it is Rs. 29417 per year. With second lowest Per Capita Income in the country, Uttar Pradesh is one of the poorest & most multi hazard prone state.
- Natural disasters that are of significance in Uttar Pradesh are – Floods, Droughts, Fires and Earthquakes. Loss of life and property from these disasters, especially the former three, are in terms of hundreds of crores of rupees annually.
- UP is vulnerable from the aspect of man-made hazards too i.e. stampede, chemical, radiological and other hazards.

Hazard Threats in Uttar Pradesh					
Geological Disasters	Water & Climate Related Disasters	Chemical, Industrial & Nuclear Related Disasters	Accident Related Disasters	Biological disasters	Other disasters
Earthquakes, Dam Bursts & Dam Failures	Floods, Droughts, Cloud burst, Flash Floods, Heat & Cold Waves, Hailstorms	Chemical & Industrial Disasters, Forest Fires, Nuclear Disasters (Narora Power Plant)	Road, Rail & Air Accidents, Boat Capsizing, Major Building Collapse, Bomb Blast, Stampedes, Rural & Urban Fires	Biological Disasters, Epidemics, Cattle Epidemics	Other threatening events

### 2.3 Lessons Learnt from Past disasters

From the multiple disasters the State has experienced over the years the lessons learnt could be enumerated as follows:

- 2.3.1** In case of any earthquake collapse of building kills people. Information regarding construction of earthquake resistant houses is not easily available to a common man.
- 2.3.2** It is not enough to train Engineers and Architects in the design of earthquake resistant houses, Masons and carpenters have also gradually lost the basic knowledge & skills which were traditionally incorporated even when undertaking constructions at the village level. It is therefore necessary that practical and hands

on training are organized for the Masons and Wire binders in the safe construction of houses.

- 2.3.3** At the time of disasters either the affected inhabitants or the villagers living in close vicinity of the disaster areas that came for the immediate rescue. Anyone else including the Govt. machinery was the next to reach. In road accidents when buses rolled down into the deep gorges retrieval of dead bodies turned out to be a challenge for police as well as for the Army. In such situations the local people particularly youth proved to be the most useful support.
- 2.3.4** Notwithstanding the fact that national and state level authorities have been constituted for effective coordination amongst various organizations involved in the disaster management yet lack of coordination becomes evident in each crisis situation.
- 2.3.5** Disaster Management Plans even though available as office documents yet are not practical & useful at the time of crisis. District administration is less equipped to deal with disaster situation. Absence of an organized mechanism is generally felt at the time of crisis.
- 2.3.6** There are many loopholes in assessing the quantum of damage in case of property of the victims. The power of assessment of the loss is vested with the junior officials of the various departments especially in the revenue department. Wide discretion is left at the hands of Lekhpal to assess the loss of dwellings, houses, cow sheds, crops and other properties. These personnels should be given specialize training for assessing such damages.
- 2.3.7** Existing norms for relief distribution proved to be inadequate for providing relief to the victims.
- 2.3.8** Forewarning of an event like impending flood or bursting of a water body in the higher catchment areas could save precious lives. This again was amply demonstrated during the 2014 floods when sudden water came from Nepal. Establishing advance automatic warning system in inaccessible parts of the catchments areas on a permanent basis is highly desirable.
- 2.3.9** The concern for disaster mitigation is generally very high when the calamity has struck and it gets back seat in no disaster phase. As a result at the time of each calamity the situation remains the same as prior to it.
- 2.3.10** Though we may not be able to avoid the occurrence of Natural Hazards yet with proper planning, we can mitigate its impact.

## **2.4 Brief Overview of Major Hazards**

Uttar Pradesh is vulnerable to 22 out of 33 types of hazards identified by the High Powered Committee (HPC) of Government of India and categorized into 5 sub-groups. Apart from identified hazards by HPC, the state is also confronting the emerging threats of climate change and other conflict situations.

### **Water and Climate Related Disasters:**

1. Floods
2. Cloud Burst

3. Heat Wave and Cold Wave
4. Droughts
5. Thunder and Lightning

**Geologically Related Disasters:**

1. Earthquakes
2. Dam Failures/ Dam Bursts

**Chemical, Industrial and Nuclear:**

1. Chemical and Industrial Disasters
2. Nuclear Disasters

**Accident Related Disasters:**

1. Forest Fires
2. Urban Fires
3. Major Building Collapse
4. Serial Bomb Blasts
5. Festival related disasters / Stampede
6. Electrical Disasters and Fires
7. Air, Road and Rail Accidents
8. Boat Capsizing
9. Village Fire

**Biologically Related Disasters:**

1. Biological Disasters and Epidemics
2. Pest Attacks
3. Cattle Epidemics
4. Food Poisoning

**2.4.1 Flood:**

Floods are main natural disaster the State experiences every year. South west Monsoon rainfall during the months of June to September is the main cause for triggering floods when rainfall happens to be in excess than the normal.

**District wise normal rainfall in the entire monsoon season (From June to September):**

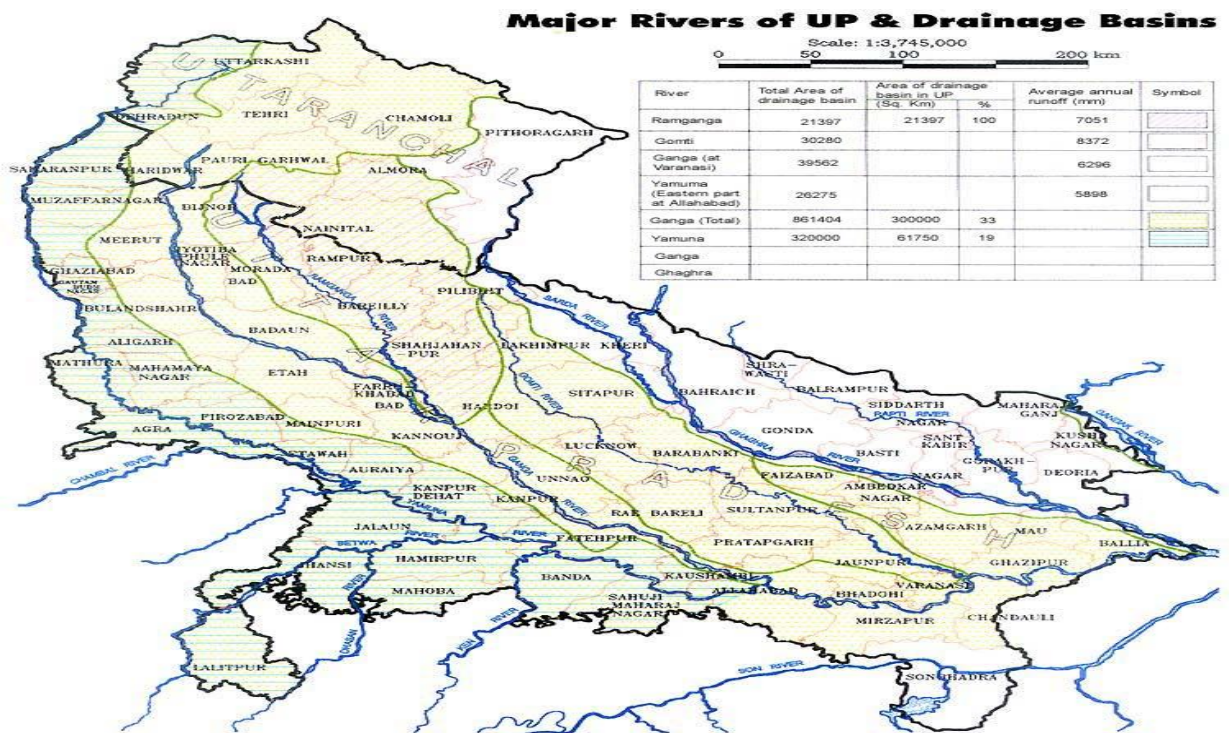
S.No.	District	Normal Cumulative Rainfall (from 15 <sup>th</sup> June till 30th September in every monsoon season)
1	ALLAHABAD	808.7
2	AMBEDKAR NAGAR	904.8
3	AZAMGARH	952.7
4	BAHRAICH	993.8
5	BALLIA	827.2
6	BALRAMPUR	1071.7
7	BANDA	840.4

8	BARABANKI	930.5
9	BASTI	943.6
10	CHANDAULI	846.1
11	DEORIA	950.9
12	FAIZABAD	989.7
13	FARRUKHABAD	743.4
14	FATEHPUR	812.5
15	GHAZIPUR	883
16	GONDA	1027.2
17	GORAKHPUR	1175.5
18	HARDOI	787.9
19	JAUNPUR	874.1
20	KANNAUJ	776.7
21	KANPUR CITY	696.8
22	KANPUR DEHAT	765
23	KAUSHAMBI	765.6
24	KHERI	926.1
25	KUSHI NAGAR	1158.4
26	LUCKNOW	772.5
27	MAHARAJGANJ	1214.1
28	MAU	1004.7
29	MIRZAPUR	901.1
30	PRATAPGARH	851.8
31	RAE BAREILLY	750.3
32	SAHUJI MAHARAJ NAGAR	885.9
33	SANT KABIR NAGAR	990.7
34	SANT RAVIDAS NAGAR	846.1
35	SHRAWASTI NAGAR	993.8
36	SIDDHARTH NAGAR	1009.9
37	SITAPUR	864.8
38	SONBHADRA	916.9
39	SULTANPUR	840.7
40	UNNAO	790.3
41	VARANASI	923.5
42	AGRA	687.2
43	ALIGARH	655.7
44	AURAIYA	700
45	BADAUN	758
46	BAGHPAT	545.3
47	BAREILLY	853.8
48	BIJNOR	914.2
49	BULANDSHAHR	670.7
50	ETAH	615.3
51	ETAWAH	728
52	FIROZABAD	676.3
53	GAUTAM BUDDHA NAGAR	572.8
54	GHAZIABAD	641.7

55	HAMIRPUR	796.9
56	JALAUN	774.9
57	JHANSI	837.9
58	JYOTIBA PHULE NAGAR	783
59	KANSHIRAM NAGAR	701.5
60	LALITPUR	939.3
61	MAHAMAYA NAGAR	625.4
62	MAHOBA	776.4
63	MAINPURI	655.3
64	MATHURA	579.9
65	MEERUT	778.5
66	MORADABAD	855.2
67	MUZAFFARNAGAR	736.8
68	PILIBHIT	988.6
69	RAMPUR	915.5
70	SAHARANPUR	804.6
71	SHAHJAHANPUR	859.2

Source: Email from Indian Metrological Department.

**Map No:**



Source: Department of Irrigation, Govt. of U.P.

(<http://www.imd.gov.in/Welcme%20To%20IMD/Welcme.php>)

## 2.4.2 Major Dams of Uttar Pradesh:

- Parichha Dam on Betwa River in Jhansi District
- Matatila Dam on Betwa River in Lalitpur District
- Govind Ballabh Pant Sagar on Rihand River in Sonbhadra
- Jamni Dam on Jamni River in Lalitpur District
- Kalagarh Dam on Ramganga River in Kalagarh
- Rohini Dam on Rohini River in Lalitpur District
- Shahzad Dam on Shahzad River in Lalitpur District
- Govind Sagar Dam on Shahzad River in Lalitpur District
- Sajnam Dam on Sajnam River in Lalitpur District
- Sukma-Dukma Dam a below water construction on Betwa River near Jhansi District
- Jirgo reservoir on Jirgo river in mirzapurUttar Pradesh
- Musa Kahand on Karmnasa river in chaundali, varanasi Uttar Pradesh

## 2.4.3 Various Rivers & Highest Flood Level

S.No.	River	Gauge Site	District	Highest Flood Level	Year	Danger Level
1	Ganga	BhimGaura	Haridwar	296.23	1978	294.00
2	Ganga	Narora	Bulandsahar	180.01	2010	178.42
3	Ganga	CHCM Ganga Barrage	Bijnour	220.20	1997	220.00
4	Ram Ganga	Katghar Railway Bridge	Moradabad	193.94	1924	190.60
5	Yamuna	Okhala Barrage	Ghaziabad	201.35	1995	200.60
6	Yamuna	ISBT	Delhi	207.49	1978	204.83
7	Ken	Biryapur Bandha	Madhya Pradesh	193.40	2005	189.74
8	Gomti	Hanuman Setu Gomti Barrage	Lucknow	110.85	1971	109.50
9	Sharada	Banbasa	Champawat	223.30	1934	221.70
10	Sharada	Sharada Nagar	Lakhimpurkhiri	136.55	1993	135.49
11	Sharada	Paliakala	Lakhimpurkhiri	155.17	2008	153.62
12	Ghaghara	Kartania Ghat(Girija Barrage)	Bharaich	137.12	1975	136.78
13	Ghaghara	Elgin Birdge	Barabanki	107.40	2008	106.07
14	Ghaghara	Ayodhya	Faizabad	93.84	2008	92.73
15	Ghaghara	Turtipar	Ballia	66.00	1998	64.01
16	Rapti	Rapti Barrage	Shrawasti	129.55	2006	127.70
17	Rapti	Bardghat	Gorakhpur	77.54	1998	74.98
18	Gandak	Balmikinagar	West Champaran	112.79	1974	109.67
19	Saryu	Saryu Barrage	Bharaich	134.50	1995	133.50

Source: Flood Bulletin, Department of Irrigation.  
(<http://irrigation.up.nic.in/>)

- three, are in terms of hundreds of crores of rupees annually.
- UP is vulnerable from the aspect of manmade hazards too i.e. stampede, chemical, radiological and other hazards.

#### 2.4.4 Past History of floods in U.P.

#### Flood Impacts in Uttar Pradesh

Sl. No.	Year	Affected Districts	Affected Population (in lac)	Affected Villages	Total Affected Area (in lac hec.)	Total Affected Agriculture Land (in lac hec.)	Damaged Houses (in lac)	Loss of Living being		Total Estimated Loss (in Crore)
								Human	Livestock	
1	2	3	4	5	6	7	8	9	10	11
1	1973	40	141.50	30004	35	22.23	2.98	163	375	296.84
2	1974	39	73.90	14948	19.86	12.24	2.03	72	160	173.16
3	1975	35	92.14	18629	23.65	14.21	2.01	181	892	192.44
4	1976	36	131.95	32962	33.49	18.49	2.05	240	1434	234.79
5	1977	31	37.00	7536	12.87	6.42	0.51	157	887	77.04
6	1978	55	225.87	48889	72.5	38.82	11.98	739	7430	688.44
7	1979	16	21.05	3913	7.03	5.18	0.23	77	220	57.57
8	1980	46	303.47	44629	58.57	30.94	19.23	1309	5244	790.67
9	1981	33	146.27	20706	29.91	16.35	4.91	427	1356	286.38
10	1982	44	232.91	32459	55.38	33.09	10.18	562	2517	585.65
11	1983	56	155.34	24731	38.6	24.99	5.19	519	2101	754.03
12	1984	39	65.75	11600	16.68	10.31	0.83	209	432	262.15
13	1985	55	195.59	27113	40.28	24.19	6.2	804	3808	1216.26
14	1986	45	59.19	8925	10.34	6.45	0.51	233	725	278.64
15	1987	9	38.24	5807	5.81	3.16	1.8	163	990	186.14
16	1988	46	182.04	24721	31.76	17.14	3.71	765	3102	834.6
17	1989	25	48.62	8281	10.03	6.52	0.78	168	516	---
18	1990	51	85.34	15524	22.03	10.64	1.32	471	2889	---
19	1991	29	24.19	3372	8.1	2.1	0.78	214	369	---
20	1992	20	29.24	4254	5.91	3.34	0.34	140	979	---
21	1993	34	75.05	11765	15.11	7.91	1.37	314	2088	---
22	1994	45	39.07	9627	9.86	5.98	0.66	317	4855	---
23	1995	51	36.91	8874	12.79	7.98	0.88	321	1257	---
24	1996	44	72.20	8827	11.24	6.78	0.09	313	1232	---
25	1997	29	10.21	2284	3.49	1.55	0.03	102	144	---
26	1998	55	121.91	156118	25.23	14.15	3.84	1356	3384	---
27	1999	11	1.83	299000	5.39	4.069	0.005	17	9	---
28	2000	40	63.86	5882	7.84	4.72	0.083	453	977	---
29	2001	21	27.15	3819	4.63	2.89	0.09	201	251	---
30	2002	14	3.86	770	1.1	0.62	0.006	33	36	---
31	2003	54	134.80	17011	23.6	15.03	0.35	964	3201	---
32	2004	2	14.36	865	2.44	---	---	88	217	---
33	2005	35	24.51	3652	3.59	3.835	0.77	203	259	---
34	2006	12	4.53	678	---	---	---	253	588	---
35	2007	20	26.03	2634	5.95	4.33	0.343	272	170	3981.27
36.	2008	25	41-761	6287		4.98	458626	1210	2059	838.73
37.	2010	33	35.06	5845	6.70	7.00	35689	413	324	2174.73
38.	2011	36	23.06	3587	5.26	3.96	22858	692	268	1470.77
39.	2013	40	35.44	5785	797.50	797.50	79602	380	550	3210.21
40.	2016	31	22.34	3078	5.96	4.21	46793	82	287	812.53

#### 2.4.5 Vulnerability to Floods:

- Vulnerability to Floods due to Topography & Geometry of water channels Floods: on account of high precipitation or cloud bursts cause inundation where carrying capacity of the streams is exceeded. Floods not only causes huge economic loss in the form of damage to houses, roads, bridges, power projects, public utilities but

also cause immense loss of human and live stock. The topography and geometry of channels in the state is such that inundation takes place in many places and become main reason for flooding. Many a times public infrastructure such as PHC, Schools, Pachayat Bhawan etc are constructed in low Gram Sabha land which is the main reason for the damage of these infrastructure.

- ii. Many deaths happen due to collapse of houses during flood season. After few days of downpour mud walls of houses get damped and become prone to collapse. Every year many people die due to this.
- iii. There are total 6.39 Crores livestock in the state (Out of this 190.25 Lakh are cow & progeny, 264.15 Lakh buffalo, 148.29 Lakh Goats & progeny, 22.84 Lakhs Pigs, 14.80 Lakh Sheep). Apart from this 1.04 Crore is the population of poultry (It includes ducks, fowl and quails).

#### **2.4.6 Flood in the year 2016**

Due to sudden downpour and huge water coming from adjoining states/country i.e. Uttrakhand, Madhya Pradesh and Nepal, 31 districts of Uttar Pradesh were affected. The affected districts are Hamirpur, Faizabad, Sitapur, Sidharth Nagar, Chandauli, Barabanki, Bahraich, Pilibhit, Allahabad, Budaun, Balrampur, Mahrajganj, Basti, Shravasti, Banda, Ghazipur, Ballia, Mahoba, Lakhimpur Khiri, Chitrakoot, Kaushambi, Jhansi, Rampur, Azamgarh, Santkabir Nagar, Ambedkar Nagar, Gonda, Gorakhpur, Lalitpur, Mirzapur & Varanasi.

As many as 5828 boats & 118 motor boats & 154 vehicles were deployed in immediate rescue and relief operations. Services of flood companies of PAC, Army and NDRF were also availed in certain districts. 459 relief camps were established instantaneously. About 128545 persons were evacuated and taken to shelters.

Flood has resulted in large-scale damages, not restricted only to the loss of crops and property but also to the loss of cattle and human life. The total number of affected villages is 3078, impacting about 23.80 lacs population. According to estimates about 23.105 lacs hectares of sown agricultural area is adversely affected. This calamity has claimed the life of 287 cattle. More than 37698 houses have also been damaged. It has also adversely affected the infrastructure facilities; such as roads, waterworks, irrigation channels, bunds, health facilities and buildings of educational institutions.

Due to floods 82 human lives lost in the state during south west monsoon 2016. Accordingly, an amount of Rs. 3.28 Crore (82X4.00 Lakh/deceased) is disbursed towards ex-gratia payment to families of deceased person.

As per the primary assessment of flood damage/loss, sum of Rs.812.53 crore (Eight hundred twelve crore and fifty three lakh only) is required for the effective relief and restoration work. Having regard to the paucity of fund available with the State Govt., the Govt. of India is requested to make available this sum from NDRF to the State government at the earliest in order to mitigate the impact of floods/water logging suffered by the State.



## 2.4.7 Details of loss from flood 2016-

Summary of the loss which occurred due to flash flood is given below:-

S. No	Item	Details
1	Number and names of districts affected	<b>31</b> ( Hamirpur, Faizabad, Sitapur, Sidharth Nagar, Chandauli, Barabanki, Bahraich, Pilibhit, Allahabad, Budaun, Balrampur, Mahrajganj, Basti, Shravasti, Banda, Ghazipur, Ballia, Mahoba, Lakhimpur Khiri, Chitrakoot, Kaushambi, Jhansi, Rampur, Azamgarh, Santkabir Nagar, Ambedkar Nagar, Gonda, Gorakhpur, Lalitpur, Mirzapur & Varanasi)
2	Number of villages affected	<b>3078</b>
3	Population affected in (in lakh)	<b>2233806</b>
4	Total land area affected (in lakh ha)	<b>5.96</b>
5	<b>Crop Damage</b>	
	(i) Total sown area in the district (in hec)	<b>2310578</b>
	(ii) Area where crop damage was more than 33% (in hec)	<b>421214</b>
	(iii) Calculation of relief for the loss to crops of SMF (in lakh Rs.)	<b>17964.70</b>
	(iv) Calculation of relief for the loss to crops of Non SMF (in lakh Rs.)	<b>6105.58</b>
6	<b>Houses damage :-</b>	
	(i) Fully damaged pucca houses	<b>604</b>
	(ii) Fully damaged Kutcha houses	<b>1683</b>
	(iii) Severely damaged Pucca houses	<b>69</b>
	(iv) Severely damaged kutcha houses	<b>318</b>
	(v) Partially damaged houses (pucca + kutcha)	<b>35024</b>
	(vi) No. of huts damaged	<b>7521</b>
	(vii) No. of Cattle shed attached with house damaged	<b>1574</b>
	<b>Estimated value of damage to houses (Rs. In lakh)</b>	<b>4032.536</b>
7	No. of human lives lost	<b>82</b>
	Expenditure incurred in ex-gratia payment to families of deceased persons (Rs. In lakh)	<b>328</b>
8	<b>Animals lost :-</b>	
	(a) No. of Milch Animal (Buffalo/ Cow/Camel & Sheep Goat)	<b>246</b>
	(b) No. of Draught Animal (Camel/ Horse/Bullock & Calf/ Donkey& Pony )	<b>41</b>
9	<b>(c) Estimated value of Animals Lost (Rs. In lakh)</b>	<b>37.46</b>
10	<b>Estimated value of the damage to public properties (Rs. In lakh):-</b>	<b>21303.67</b>
11	<b>Expenditure incurred in relief camps (Rs. In lakh):-</b>	<b>2429.65</b>
12	<b>Estimated total damage to Houses, Animal, Crops, Public Properties, Relief Camps &amp; Ex-Gratia Payment (Rs. In lakh)</b>	<b>52201.61</b>
13	<b>Demand of Irrigation Department</b>	<b>29051.47</b>
	<b>Grand Total</b>	<b>81253.08</b>

### 2.13 Hailstorm:-

Hailstorm affects the state as most of its economy is based on agriculture. In the year 2015-16, 73 districts of the state faced severe crop loss due to hailstorm. The details of which are as under:-

<b>Summary of Extent of damage due to Hailstorm &amp; Unseasonal Rather Heavy Rains</b>		
<b>S. No</b>	<b>Item</b>	<b>Details</b>
1	Total number of districts in the State	75
2	<b>Number and names of districts affected-</b> <b>73</b> (AGRA, ALIGARH, ALLAHABAD, AMBEDKARNAGAR, AURAIYYA, AZAMGARH, BADAUN, BAGHPAT, BAHRAICH, BALLIA, BANDA, BARABANKI, BAREILLY, SHAMBHAL, BULANDSHAHAR, CHANDOLI, AMETHI, CHITRAKOOT, DEORIA, ETAH, ETAWAH, FAIZABAD, FARRUKHABAD, FATEHPUR, FIROZABAD, GAUTAMBUDDHA NAGAR, GHAZIABAD, GHAZIPUR, GORAKHPUR, HAMIRPUR, HARDOI, HATHRAS, JALAUN, JAUNPUR, JHANSI, AMROHA, KANNAUJ, KANPUR NAGAR, KANSGANJ, KAUSHAMBI, KUSHI NAGAR, LAKHIMPUR KHERI, LALITPUR, LUCKNOW, MAHOBA, MAINPURI, MATHURA, MAU, MEERUT, MIRZAPUR, MORADABAD, MUZAFFUR NAGAR, HAPUD, PILIBHIT, SHAMLI, PRATAPGARH, RAEBAREILLY, KANPUR DEHAT, RAMPUR, SAHARANPUR, BHADOHI, SHAHJAHANPUR, SITAPUR, SONBHADRA, SULTANPUR, UNNAO, VARANASI, BASTI, MAHRAJGANJ, GONDA, SIDHARTHANAGAR, SHRAVASTI, SANTKABIR NAGAR )	
	Total Sown area in the district (in lakh ha)	126.30
3	Total Crop area affected (in lakh ha)	89.01
3.1	Out of total affected area, Area where crop loss has been more than 33% (in lakh ha)	58.92
3.1.1	<b>Loss to crops of the Farmers having upto 2 hect. Land (Rs. in Lakh)</b>	<b>626496.39</b>
3.1.2	<b>Loss to crops of the Farmers having more than 2 hect. Land (Rs. in Lakh)</b>	<b>127398.52</b>
4	<b>Estimated value of damage to houses as per updated GOI norms (Rs. In lakh)</b>	<b>21.49</b>
5	Human lives lost	93
6	<b>Ex-gratia payment to families of deceased persons (Rupees 4 lakh per deceased) (Rs. In lakh):-</b>	<b>372.00</b>
7	<b>Animals loss (Milch animals- Buffalo/Cow/Camel/Yak etc.@ Rs, 30000/- and Sheep/Goat/Pig @ Rs. 3000/-) (Draught Animals- Camel/Horse/Bullock etc @ Rs. 25000/-&amp; Calf/Donley//Pony/Mule @ Rs. 16000/- (Rs. In lakh):-</b>	<b>25.65</b>
8	<b>Demand for livestock sector (Rs. In lakh):-</b>	<b>3057.62</b>
8	<b>Estimated total damage to Crops, Houses, Animal loss, Ex-gratia payment (Rs. In lakh)</b>	<b>754314.05</b>

### 2.14 Drought:

Drought is a long period with no or much less rainfall than normal for a given area. Meteorologically drought is defined as situation when the annual rainfall over any area is less than 75% of the normal. It is termed as moderate if rainfall deficit is between 25 to 50 % and severe if it is more than 50%. Area where frequency of

drought is above 20% of the years examined is classified as drought area and areas having drought conditions for more than 40% of the years represent chronically drought affected area.

Vindhya & Bundelkhand region of Uttar Pradesh is the chronic drought prone area, with an average annual rainfall about only 700 mm with more than half of the Block of Uttar Pradesh receiving rainfall within the range of 200-400 mm.

It is a hard rock area with limited or inadequate ground water resources, lacks infrastructure, access to improved technologies, markets and inputs with low productivity. Farming system of crops and livestock is the main occupation whereas out sourcing livelihood by seasonal migration minimizes risks and vulnerability. Rainfall in the range of 768 to 1087 mm, black, red, mixed and alluvial soils, sufficient surface runoff, network of rivers, streams, forests, animals and social capital are the opportunities for a sustained development process. Increased frequency of drought occurrences due to climatic changes, degradation of forest ground water etc. have been witnessed

In the year 2015, Uttar Pradesh received only 53.5% of the normal rainfall. State Govt of Uttar Pradesh has declared 50 districts of the State as drought hit. There were many long dry spells in the current monsoon season. The demand from Govt against crop loss is as under:-

<b>S. No.</b>	<b>Item</b>	<b>Demand of Funds (Rs. In Crore.)</b>
1.	Agriculture input subsidy for the farmers having upto 2 hec land.	1156.72
2.	Agriculture input subsidy for the farmers having more than 2 hec land.	270.45
	<b>Total</b>	<b>1427.17</b>

#### 2.14.1 Recent past history of drought in U.P.

In Uttar Pradesh usually from 1st June to 30 September normal monsoon rainfall occurs. Normal average rainfall of the whole state from 1st June to 30<sup>th</sup> Sep should be 829.8 M.M. but this year it is only 443.7 M.M which is only 53.5% of the expected average rainfall of this duration. In 16 districts rainfall has been recorded at less than 40% i.e. Scanty category, whereas in 33 districts it is in between 40% to 60% i.e. highly Deficient category. There are 20 Districts in the category of deficient rainfall. Only 6 districts of Uttar Pradesh have rainfall in category of excess or normal. The situation got worsen due to long dry spells.

**District wise detail of rainfall in the State from 1<sup>st</sup> June to 30 September 2015 is given below:-**

<b>S.No.</b>	<b>District</b>	<b>Normal Rainfall</b>	<b>Total Rainfall</b>	<b>% to its Normal</b>
		<b>1 June to 30 September, 2015</b>	<b>1 June to 30 September, 2015</b>	

<b>Above 120% i.e. Excess (00 Districts)</b>				
<b>80%-120% i.e. Normal (06 Districts)</b>				
1	Muzaffarnagar	639.5	592.9	92.7
2	Shamali	639.5	592.9	92.7
3	Sambhal	881.5	789.6	89.6
4	Bijnor	947.5	847.6	89.5
5	Moradabad	815.4	681.9	83.6
6	Kheri	921.8	759.8	82.4
<b>60%-80% i.e. Deficient (20 Districts)</b>				
7	Bulandshahr	582.0	461.9	79.4
8	Badaun	710.8	561.5	79.0
9	Varanasi	926.4	722.4	78.0
10	Kanshganj	612.1	470.0	76.8
11	Firozabad	584.3	435.1	74.5
12	Ghazipur	926.4	680.7	73.5
13	Behraich	994.5	719.8	72.4
14	Mathura	518.7	371.3	71.6
15	Azamgarh	899.7	633.1	70.4
16	Hapud	598.7	419.1	70.0
17	Saharanpur	788.6	550.6	69.8
18	Bareilly	959.7	669.5	69.8
19	Aligarh	579.5	394.1	68.0
20	Hardoi	767.9	520.3	67.8
21	G.B.Nagar	598.7	404.0	67.5
22	Shravasti	994.5	665.7	66.9
23	Meerut	598.7	388.1	64.8
24	Amroha	815.4	510.1	62.6
25	Balrampur	1009.8	617.2	61.1
26	Sitapur	849.8	511.0	60.1
<b>40%-60% i.e. Highly Deficient (33 Districts)</b>				
27	Sant.Ravidas Nagar	926.4	554.8	59.9
28	Sonbhadra	997.9	592.5	59.4
29	Sultanpur	886.7	517.1	58.3
30	Mirzapur	997.9	576.4	57.8
31	Ballia	892.2	511.6	57.3
32	Sidharthnagar	1099.7	630.0	57.3
33	Shahjahanpur	890.8	506.2	56.8
34	Banda	850.6	480.9	56.5
35	Pratapgarh	868.7	488.3	56.2
36	Chandauli	926.4	513.2	55.4
37	Etawah	669.1	369.1	55.2
38	Basti	1099.7	601.6	54.7
39	Bagpat	598.7	326.6	54.6

40	Jaunpur	885.1	476.1	53.8
41	Faizabad	891.3	460.6	51.7
42	Gonda	1009.8	520.8	51.6
43	Kannauj	705.0	362.4	51.4
44	Barabanki	883.3	442.4	50.1
45	Sant Kabir Nagar	1099.7	542.0	49.3
46	Jhansi	797.2	388.7	48.8
47	Jalaun (Orai)	704.8	339.0	48.1
48	Gorakhpur	1182.1	562.2	47.6
49	Hathrus	579.5	275.3	47.5
50	Etah	612.1	285.3	46.6
51	Allahabad	865.4	399.0	46.1
52	Ghaziabad	598.7	274.7	45.9
53	Farrukhabad	705.0	303.4	43.0
54	Mau	899.7	377.3	41.9
55	Unnao	742.3	310.0	41.8
56	Rampur	815.4	338.8	41.5
57	Hameerpur	768.7	314.1	40.9
58	Lalitpur	797.2	321.5	40.3
59	Chitrkut	850.6	340.9	40.1
<b>Below 40% i.e. Scanty (16 Districts)</b>				
60	Kanpur Nagar	713.1	278.8	39.1
61	Lucknow	848.4	331.7	39.1
62	Deoria	988.2	371.8	37.6
63	Mainpuri	630.4	235.0	37.3
64	Maharajganj	1182.1	426.2	36.1
65	Agra	584.3	208.0	35.6
66	Aurriya	669.1	235.3	35.2
67	Pilibhit	1085.4	364.5	33.6
68	Amethi	855.9	282.3	33.0
69	Mahoba	768.7	251.0	32.7
70	Raebareli	825.1	231.1	28.0
71	Kushi Nagar	988.2	251.9	25.5
72	Kanpur Dehat	713.1	156.3	21.9
73	Kaushambi	865.4	149.7	17.3
74	Fatehpur	806.3	108.8	13.5
75	Ambedkernagar	891.3	118.0	13.2
	<b>State Avg.</b>	<b>829.8</b>	<b>443.7</b>	<b>53.5</b>

Source: Email from Indian Metrological Department.

#### 2.14.2 Vulnerability to Drought:

Drought vulnerability of state is primarily due to the fact about two-third of rural population of the state is dependent on agriculture for earning their livelihood. Only

about 23% of the total agriculture land is irrigated and the remaining land under agriculture has to depend on rain for irrigation. Uncertainties of nature render majority of people highly vulnerable. Limited options due to climatic conditions couple with small size of operational holdings add further to the vulnerability conditions.

Entire Vindhya & Bundelkhand region is traditionally prone to drought. The factors that are responsible are exogenous in character and dependency on agriculture and allied livelihood is so high that even a small and seasonal change in weather component can create adverse impact on rural populace and force them to borrowing from moneylenders or banks.

## 2.15 Earthquake:

Most of the state of Uttar Pradesh lies in the Gangetic Plain. This is a fore-deep, a downwarp of the Himalayan foreland, of variable depth, converted into flat plains by long-vigorous sedimentation. This is known as a geosyncline and the Gangetic Plain is the Indo-Gangetic Geosyncline. This has shown considerable amounts of flexure and dislocation at the northern end and is bounded on the north by the Himalayan Frontal Thrust. The floor of the Gangetic trough (if see without all the sediments) is not an even plain, but shows corrugated inequalities and buried ridges (shelf faults). Beneath Uttar Pradesh, run the Delhi-Haridwar Ridge (DHR), trending NNE-SSW along New Delhi to the Gharwal region. The Delhi-Muzaffarnagar Ridge (DMR), which trends east to west, running from New Delhi to Kathgodam, in Nepal. The last ridge is the Faizabad ridge (FR), which runs in a curved manner, first east to west from Allahabad to Kanpur and then starts to bend towards the north-east towards Lucknow and carries on in this direction towards the Himalayas in Nepal. The depression that forms between the DMR and the FR, forms the West Uttar Pradesh shelf in the west and the Sharda Depression in the east. The region to the south of the FR, forms the East Uttar Pradesh shelf. There are several faults in the region, among them the Moradabad Fault which trends NE-SW and the Bhairwan Fault in the vicinity of Allahabad. Apart from these there are east-west running tear faults in the region that control the courses of the main rivers. Earthquakes have occurred in mostly all parts of Uttar Pradesh. Major earthquakes in the neighbouring states of New Delhi, Uttaranchal, Bihar and from across the Indo-Nepal border have also shaken many parts of Uttar Pradesh. However, it must be stated that proximity to faults does not necessarily translate into a higher hazard as compared to areas located further away, as damage from earthquakes depends on numerous factors such as subsurface geology as well as adherence to the building codes.

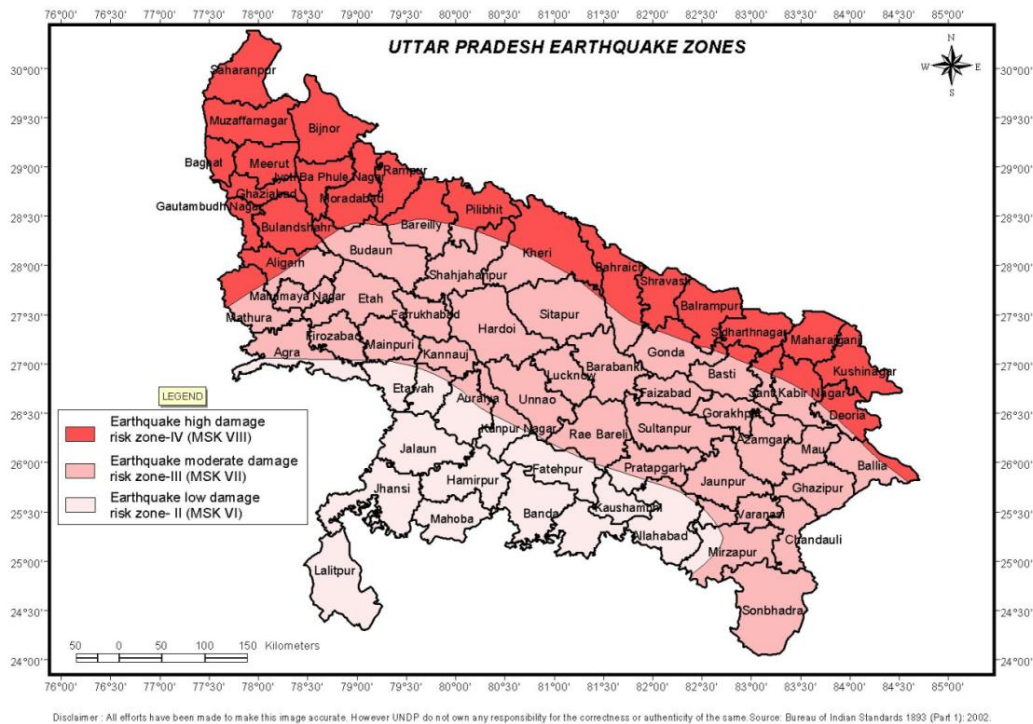
### 2.15.1 District wise seismicity of Uttar Pradesh:

DISTRICT NAME	PERCENTAGE AREA UNDER EQ INTENSITY, M.S.K.		
	IX or more	VIII	VII
Agra	-	-	44.8
Aligarh	-	21.8	78.2
Allahabad	-	-	3.3
Azamgarh	-	-	100
Bahraich	-	75.7	24.3

Ballia	-	25.8	74.2
Barabanki	-	-	100
Bareilly	-	41.6	58.4
Basti	-	6.1	93.9
Bijnor	-	100	-
Badaun	-	6.0	94.0
Bulandshaher	-	95.0	5.0
Deoria	-	87.5	12.5
Etah	-	-	100
Etawah	-	-	5.1
Faizabad	-	-	100
Farrukhabad	-	-	100
Fatehpur	-	-	2.4
Firozabad	-	-	82.9
Ghaziabad	-	100	-
Ghazipur	-	-	100
Gonda	-	45.3	54.7
Gorakhpur	-	33.9	66.1
Hardoi	-	-	100
Haridwar	-	100	-
Jaunpur	-	-	100
Kanpur Dehat	-	-	64.0
Kanpur Nagar	-	-	31.4
Kheri	-	68.9	31.1
Lucknow	-	-	100
Maharaj ganj	-	100	-
Mainpuri	-	-	97.8
Mathura	-	33.8	66.2
Mau	-	-	100
Meerut	-	100	-
Mirzapur	-	-	75.3
Moradabad	-	96.2	3.8
Muzaffarnagar	-	100	-
Pilibhit	-	82.8	17.2
Pratapgarh	-	-	79.5
Rae Bareilly	-	-	97.2
Rampur	-	98.2	1.8
Saharanpur	-	100	-
Shahjahanpur	-	8.6	91.4
Siddharth Nagar	-	94.1	5.9
Sitapur	-	-	100
Sultanpur	-	-	100
Unnao	-	-	100
Varanasi	-	-	95.1

Source- BMTPC Vulnerability Atlas.

(<http://www.bmtpc.org/topics.aspx?mid=56&Mid1=178> )



### 2.15.2 Past History of Earthquakes in UP & adjoining states-

- 10 October 1956** - Bulandshahr District (Uttar Pradesh), 6.2 (IMD) 15:31:36 UTC, 28.20N, 77.70E. One of the most powerful earthquakes in Uttar Pradesh struck the districts of western Uttar Pradesh at 21:01 IST on October 10th, 1956. The massive shock was centred near Jehangirpur, in Bulandshahr District. No fatalities were reported. The shock was also strongly felt at Delhi, where there was some minor damage.
- 15 July 1720** - New Delhi, Delhi, M7.6 (GSHAP Catalog) 28.66N, 77.25E The last major earthquake in the New Delhi region. Heavy damage in the city.
- September 1803** - Northern Gharwal region (Possibly Chamoli district),  $M > 7$  *Epicentral location unknown* This earthquake is believed to be one of the strongest earthquakes in this region. Between 200 - 300 were killed in this shock and several villages were buried by landslides and rockfalls. The Badrinath temple located ~40 km north of Chamoli was severely damaged. Tremors were felt as far away as Kolkata. Liquefaction was reported at Mathura.
- 28 August 1916** - Western Nepal, Mw 7.1 (SSA), Ms 7.3 (SSA), 7.5 (TS), 06:29:30 UTC, 30.00N, 81.00E This major earthquake was centred near Mount Api. It caused damage to some masonry buildings at Dharchula, India.
- 7 October 1920** - NW of Sasaram, Rothas District (Bihar-U.P. Border region), 5.5 (KISS) 23.00N, 83.80E
- 6 November 1925** - Rae Bareili-Sultanpur District border, 6.0 (TS) 19:20:45 UTC, 26.50N, 81.50E
- 15th January 1934** - India-Nepal Border Region, Mw 8.0 14:21 IST / 08:43 UTC, 26.50N, 86.50E Among the deadliest earthquakes in Indian history. Close to 10,500



were killed in Bihar. Damage occurred in eastern Uttar Pradesh, at Allahabad, Lucknow, Varanasi and many other places.

- **8 November 1952** - Indo-Nepal Border region (Bahraich-Gonda Districts), 6.0 (TS) 10:41:54 UTC, 27.90N, 82.20E
- **29 August 1953** - Indo-Nepal Border region (Bahraich-Gonda Districts), 6.0 (TS) 01:58:25 UTC, 27.90N, 82.20E
- **September 1954** - West of Pokhara, Central Nepal, 6.75 (TS) 06:45:14 UTC, 28.30N, 83.80E
- **10 October 1956** - Bulandshahr District (Uttar Pradesh), 6.2 (IMD) 15:31:36 UTC, 28.20N, 77.70E One of the most powerful earthquakes in Uttar Pradesh struck the districts of western Uttar Pradesh at 21:01 IST on October 10th, 1956. The massive shock was centred near Jehangirpur, in Bulandshahr District. No fatalities were reported. The shock was also strongly felt at Delhi, where there was some minor damage.
- **27 August 1960** - Gurgaon-Faridabad Districts (Haryana), 6.0 (TS) 15:58:59.20UTC, 28.20N, 77.40E Damage from this earthquake extended into New Delhi where at least 50 people were injured. Structural damage was reported in Karol Bagh and cracks in houses in R.K.Puram.
- **24 December 1961** - Indo-Nepal Border region (Pilibhit, Nainital, Kheri Districts), 6.0 (TS) 07:13:30 UTC, 28.80N, 81.50E
- **June 1965** - West of Ghorakpur, (Ghorakpur-Basti Districts), 5.7 (TS) 07:52:30 UTC, 27.00N, 83.00E
- **15 September 1966** - South of Moradabad, (Moradabad-Rampur Districts), 5.8 (TS) 02:15:33.80 UTC, 28.70N, 78.90E
- **29 July 1980** - Western Nepal, Mw 6.8 (HRV) 14:58:40 UTC, 29.60N, 81.09E Between 150 - 200 persons were killed and hundreds injured. Extensive damage in several towns in western Nepal. The quake also caused damage in Pithoragarh area, nearly 50 kilometres away from the epicentre. 13 persons were killed here and 40 were injured. The quake was felt as far away as Kathmandu and New Delhi.
- **21 October 1991** - Near Piliang (Uttarkashi District), Mw 6.8 (NEIC) 21:23:14 UTC / 02:53:14 IST, 30.78N, 78.77E Between 750 to 2000 people killed in the Gharwal region. It was also felt very strongly in Uttar Pradesh, Chandigarh, Delhi, Haryana and Punjab. Some minor damage was reported in Chandigarh and New Delhi.
- **29th March 1999** - Near Gopeshwar (Chamoli District), Mw 6.5 (HRV) 19:05:11 UTC, 30.492N, 79.288E 115 people killed in the Gharwal region. The quake was felt very strongly in Uttar Pradesh, Chandigarh, Delhi and Haryana. In Haryana, one person was killed in the city of Ambala and 2 at Nakodar in the neighbouring state of Punjab. Minor damage to buildings in New Delhi, most significantly in Patparganj. Minor damage also reported from Chandigarh.
- **18 October 2007** - Gautambudhnagar, Uttar Pradesh, M 3.6 05:54:41 UTC, 28.300 N, 77.600 E A mild earthquake struck the district of Gautambudhnagar in western

Uttar Pradesh, India, on 18 October 2007 at 11:24 AM local time. It had a magnitude of  $M=3.6$  and caused minor damage in the epicentral region.

(Source of above information- Amateur Seismic Centre, Pune, 2015)

(<http://www.asc-india.org/> )

### 2.15.3 Vulnerability to Seismic Hazard:

Many districts of the state fall in the category of seismic zone IV which is high damage risk zone. Although state Govt of U.P. has amended its building bylaws & code to incorporate earthquake safety features in buildings but the compliance mechanism for the reinforcement of these bylaws is very weak. Buildings especially in western UP are vulnerable to earthquake hazard.

### 2.16 Fire:

Uttar Pradesh is the most populous state and has very less per capita income. Majority of the population lives in rural areas and many of them still live in thatched houses. In summer season fire incidents are very common. Unplanned structures & haphazard wires lead to fire events in urban areas. Fire incidents are on rise due to industrialization in residential areas.

#### 2.16.1 History of Major Fire incidents in the state-

**April 2006 – Meerut** In Brand India Fair at Meerut Victoria Park fire Uttar Pradesh, a major fire broke out and killed 100 people on April 2006.

**June 2002 –Agra** In the Shree Lee International footwear factory of Agra, Uttar Pradesh fire broke out and 42 people were killed on June 26.

S.N	Year	Fire Calls	Rescue Calls	Total	Property Lost (in INR)	Property Saved (in INR)	Life Lost (Hum)	Life Lost (Ani)	Life Saved (Hum)	Life Saved (Ani)
1	2001	18805	583	19388	1220896567	3945771557	929	1262	1538	756
2	2002	20044	707	20751	1234706655	6717573148	699	1030	1915	1732
3	2003	17840	1146	18986	2206169646	9135764800	696	4081	1423	1723
4	2004	17060	1205	18265	848152413	6693072269	680	1703	2255	1591
6	2006	17299	1216	18515	1832193521	8445453970	656	1548	1736	1936
7	2007	18889	1477	20366	1816380746	8574284412	667	2087	1947	2025
8	2008	21575	1707	23282	2052823839	7427703372	876	3359	2275	3957
9	2009	24477	1521	25998	2391118634	11958399287	682	2420	2418	2852
10	2010	28009	1983	30117	5290824212	13986355984	898	2101	3189	2696
11	2011	21606	1978	23584	2065248027	13501206690	953	1008	3090	2591
12	2012	31086	1810	32896	2985524980	32206642683	806	3303	2452	2865
13	2013	28579	1077	29656	5754621262	19120894279	764	1795	2088	4915
14	2014	28593	905	29498	4259308806	21732160256	284	3144	923	1255

Source- Website of department of Fire, Govt of Uttar Pradesh

(<http://upfireservice.gov.in/activities.php> )

### 2.16.2 Vulnerability to fire:

- i. In summer season, thatched houses are very prone to fire. If one house catches fire, all the adjoining thatched houses also catch fire. There are many instances where the entire village or hamlet gets destroyed due to this.
- ii. Most the time fire burns the entire crop and causes massive economic loss as most of the rural economy is based on agriculture.
- iii. Loss of livestock in fire incidents makes the situations even worsen as it contributes a large part of rural economy.
- iv. Congested urban areas and unplanned urbanization has enhanced fire vulnerability in cities.
- v. Crop and building fires is a common phenomenon in the state of Uttar Pradesh. Precious life
- vi. and property is lost on account of this disaster in almost all parts of the state.
- vii. Haphazard growth of towns and habitations also render them susceptible to fires of all types.

### 2.17 Industrial & Chemical Disaster:

Uttar Pradesh is the second largest economy in India after Maharashtra. Uttar Pradesh has ample reserves of coal, dolomite and gems. There are a number of cement plants in Mirzapur in the Vindhya region, a bauxite-based aluminium plant in the Banda region and sonbhadra region. Uttar Pradesh has booming electronics industries, especially in UP-Delhi-NCR and Lucknow-Kanpur Corridor. It produces almost all types of durables. Cottage industries, such as handloom and handicrafts, have traditionally provided livelihood to a large number of people in the state. Varanasi & Lucknow are main textile hubs. The state has two major production centers of leather and leather products, with over 11,500 units; Agra and Kanpur are the key centers. About 200 tanneries are located in Kanpur. Meerut is the biggest gold market of Asia. It is the biggest exporter of sports related items and music instruments of the country.

In the State of Uttar Pradesh there are 2,456 factories of hazardous nature, wherein hazardous substances are being handled, used and stored and there is a possibility of impairment to the health of workers employed therein as well as pollution of the general environment. The regional officers of Factory Directorate keeps vigilant eye on such units through inspections once in a year, so that necessary and adequate safety arrangements are ensured in view of industrial activities and use of hazardous substances.

Out of these 2,456 hazardous factories, there are 118 factories, which are major accident hazard prone and wherein the use or storage of hazardous substance is equal to or more than the quantity specified in above cited rules. All the Major Accident Hazardous Factories are advised to, as per the provisions of MSIHC Rules, 1989 (amended 2000), to conduct the rehearsal of their On Site Emergency Plan twice in a year, in the month of June to December. Presently these 118 major accident hazard factories are situated in 38 districts. Districts Crisis Groups in all the 38 districts have been constituted under the chairmanship of District Magistrate of respective districts.

List of MAH Units is given in Part-2 of the Plan in Industrial/ chemical hazard chapter.

## 2.18 Accidents

In India, the motor vehicle population is growing at a faster rate than the economic and population growth. The surge in motorization coupled with expansion of the road network has brought with it the challenge of addressing adverse factors such as the increase in road accidents. According to the World Health Organization (WHO), road traffic injuries are the sixth leading cause of death in India with a greater share of hospitalization, deaths, disabilities and socio-economic losses in the young and middle-aged population.

### 2.18.1 Past History of Accidents in the state:

#### No. of Deaths in Road Accidents in the state-

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
No. of Deaths due to Road Accident	7,845	9,946	9,955	10,851	11,398	13,165	14,638	15,175	21,512	15109	30137	20653

Source- Open Government Data (OGD) Platform, Govt of India

(<http://ncrb.gov.in/StatPublications/ADSI/ADSI2012/accidental-deaths-11.pdf>)

## 2.19 Stampedes:

Human stampedes have been identified as a major hazard that could occur during mass gathering events where people crowd together. Stampede may occur in religious, entertainment, political or any other kind of gatherings. Studies show that religious gatherings and pilgrimages have been venues for 79% of the stampedes in India. There have been instances of recurrent stampedes at certain locations. Risk management strategies to tackle stampedes during religious festivals some time prove to be quite inadequate and have failed many times because of the large crowds and the constantly widening spread of the venue. The triggers of human stampedes have been identified from case studies and it is concluded that a simple accident, an intentional act or even a rumor can trigger a crowd disturbance. Hence the organizers have to take into consideration the causes of crowd disturbance for ensuring safety in mass gatherings. The vulnerability of religious gatherings is also increased due to venue inadequacies like remote or hazard-prone setting, poor facilities, or lack of basic infrastructure and medical care centers. There are many places in Uttar Pradesh where large scale religious gatherings take place.

### 2.19.1 Past History of stampedes in the state:

S.No.	Place/ Location	Year	No. of Deaths	Injured
1	Kumbh Mela, Allahabad.	3 February 1954	800	No Data
2	Chandrashekhar Azad Park, Uttar Pradesh	2004	21	28
3	Mughal Sarai railway station, Uttar Pradesh	2007	16	40

4	Ram Janki temple of the Kripalu Maharaj ashram in Kunda, Pratapgarh.	4 March 2010	63	100
5	Radha Rani Temple of Barsana, Mathura, Uttar Pradesh	2012	2	12
6	Hanuman Temple in Panki, Kanpur, Uttar Pradesh	2012	1	12
7	Kumbh Mela, Allahabad.	2013	36	No Data
8	Chitrakoot	August 2014	10	
9	Varanasi	October 2016	24	50

Source- International Journal of Disaster Risk Reduction 5 (2013), Human stampedes during religious festivals: A comparative review of mass gathering emergencies in India Faisel T. Illiyas, Shibu K. Mani, A.P. Pradeepkumar, Keshav Mohan & Media Reports review

#### 2.19.2 In order to stop or prevent such mishaps in future along with all other efforts, the following measures shall be taken:

- I. Ensure that the available infrastructure such as roads, corridors, entrances and exits are adequate for the gathering expected to assemble at religious places and there are no bottlenecks and compression points.
- II. Every temple or place where large gathering is expected shall have a crowd management plan.
- III. Contingency plans for evacuation shall be developed on priority.

#### 2.20 Other Hazards:

Studying the past record, there may be a risk of riots, communal violence, bomb blast, terrorist attack, nuclear hazard, etc. All the concern departments shall prepare Disaster Management Plan to deal with all such kinds of hazards.

#### 2.21 General Vulnerabilities:

The state of Uttar Pradesh being prone to multiple natural and man induced hazards, its people are highly vulnerable to vagaries of nature. Some of the peculiarities of the state that make communities vulnerable and risk prone are:

- i. Physical isolation as there are large no of people live in lower catchment of rivers and there are many people who live in seismic Zone IV. There are large number of people live near Narora Atomic Power Plant in district Bulandshahar.
- ii. Scattered nature of settlements & hamlets.
- iii. Harsh climatic conditions.
- iv. Inadequate infrastructure.
- v. Inadequate road connectivity
- vi. Non availability of adequate land.
- vii. Poor communication infrastructure.
- viii. Dependency of large population on agriculture and allied sectors for their livelihood.

- ix. Heavy dependence on rains and inadequate irrigation.
- x. Substantial population of livestock.
- xi. Vulnerability to climate change.
- xii. Low awareness & sensitization for disaster risk reduction practices
- xiii. Inadequate preparedness

The past experiences suggest that the vulnerabilities and associated risks in the state gets further complex due to the climate vulnerabilities.

### **2.21.1 Vulnerability to Climate Change**

In last few decades there were many extreme weather events which have happened and many of these are due to climate change. Climate change is enhancing our vulnerability manifold to the potential hazards.

At times climate induced disasters resulting in response to intense long lasting rains could also trigger flash floods as natural dams cause valley inundation upstream and when subsequently breached by lake water pressure results in flash floods or debris flows downstream causing heavy loss to life and property. Long/ short dry spells, Long/ short winter season, untimely rains, Heavy precipitation are also few of the major outcomes of climate change.

### **2.21.2 Socio Economic Vulnerability of Uttar Pradesh**

Physically challenged people, old, widow headed families are specially vulnerable to hazards. large agriculture based population where rural uncertainties of nature affect their livelihood in farm sector with small size of operational holdings.

## **2.22 Risk Identification:**

As described in the previous section, the State of Uttar Pradesh is highly vulnerable to various natural and man induced disasters. This coupled with vulnerability factors like limited awareness on disaster risk reduction; inadequate preparedness and improper planning have contributed significantly to the increased risk to the people. It is certainly possible to reduce the potential impact of disasters by evolving appropriate preparedness, preventive and response plans. Risk identification and assessment constitutes the first step in developing the State plan.

### **2.22.1 Population at Risk:**

- i. Although no GIS based sample assessment has been done in the state to confirm the exact population which is at risk but traditionally people living in the districts of eastern Uttar Pradesh especially in the catchment of Ghaghra, Sharda, Buri Rapti, Gandak, etc are at Risk. Even people living in lower catchment of Tehri Dam are at potential risk.
- ii. Similarly people living in concrete structures of Western Uttar Pradesh which have not followed proper earthquake safety norms are at Risk in case of Earthquake. This when viewed in conjunction with building topology and population density portrays very high risk scenario for the state requiring immediate attention.
- iii. People who live near Narora Power plant are at potential Risk of Nuclear hazard.

- iv. People who live near industrial hubs are have potential risk of industrial/ chemical hazards.
- v. There is very high concentration of fluoride or other harmful substances in many of the districts. People living in these areas are at risk of epidemics.
- vi. People living in eastern Uttar Pradesh are at risk of JE & AES.

### 2.22.2 Infrastructure at Risk:

- i. Buildings, factories, institutions, infrastructure which is considered crucial to sustain the country's economic growth is at risk. There are many Hydropower projects in Uttar Pradesh which are at risk.
- ii. Hydropower infrastructure at risk:-

Name	River	Location	Operator	Configuration
Rihand Power Station,	Rihand	Pipri, District : Sonebhadra (UP) i- about 165 km from Varanasi ii- about 150 km from Mirzapur iii-about 55 km from Obra	Uttar Pradesh Jal Vidyut Nigam Ltd	
Obra(Hydel), Rihand / Renuka	Rihand / Renuka	District : Sonebhadra (UP)	Uttar Pradesh Jal Vidyut Nigam Ltd	
Khara hydro electric power station	Khara Hydroelectric Power Plant India is located at Upstream of Tajewala Dam, Uttar Pradesh, India.	Rae Bareli (Location coordinates are: Latitude= 30.3508, Longitude= 77.6017.)	Uttar Pradesh Jal Vidyut Nigam Ltd	This infrastructure is of TYPE Hydro Power Plant with a design capacity of 72 MWe. It has 3 unit(s).
Hydro electric project matatila	left bank of river Betwa	Lalitpur district (UP), 60 K.m. far from Jhansi City.	Uttar Pradesh Jal Vidyut Nigam Ltd	
Nirgajani	On upper Ganga canal at chainage mile 42-3-582	Near Village Barla, Distt: Muzzafarnagar	Uttar Pradesh Jal Vidyut Nigam Ltd	
Chitraura	On upper Ganga canal at chainage mile 55-5-175.	Near Khatauli Town, Distt: Muzzafarnagar	Uttar Pradesh Jal Vidyut Nigam Ltd	
Salawa	On upper Ganga canal at chainage mile 67-2-600.	Near Sakauti Vill in Distt Meerut.	Uttar Pradesh Jal Vidyut Nigam Ltd	
Bhola	On upper Ganga canal at chainage mile 84-2-100.	About 8 km away from Bypass of Meerut	Uttar Pradesh Jal Vidyut Nigam Ltd	
Sheetala		Jhansi , Uttar Pradesh	Uttar Pradesh Jal Vidyut Nigam Ltd	2 X 1.5 MW tube
Belka, (dist. Saharanpur)	East Yamuna Canal	Behat, Saharanpur	Uttar Pradesh Jal Vidyut Nigam Ltd	
Babail,	East Yamuna Canal	(Dist. SAHARANPUR)		

## Chapter 3

# Preventive Measures & Plan for Disaster Mitigation

### Strategy for Preventive Measures & Plan for Disaster Mitigation

- Policy framework on disaster management reflecting the holistic approach involving prevention, mitigation and preparedness in pre-disaster phase.
- Govt of Uttar Pradesh has constituted State Disaster mitigation fund. A guideline is to be developed to use the SDMF for disaster mitigation purposes.
- Creation of awareness for disaster risk reduction at all level.
- Creating awareness for improving preparedness amongst the govt departments, communities, using media and school education.
- Appropriate amendments in the legislative and regulatory instruments along with strengthening of the enforcement mechanisms at different levels.
- The use of disaster resistant codes and guidelines related to disaster resistant construction in all sectors of the society by law and through incentives and disincentives.
- To mainstream disaster risk reduction in functioning of all the departments..
- Strengthening of State Disaster management Institute to build the capacity of all the stakeholders.
- To create a research oriented database on disasters and its impacts.
- To promote and encourage Research & Development activities.

### 3.8 Specific Hazards and Nodal Departments in Uttar Pradesh

**Table 3.1 Specific Hazards and Nodal Departments in Uttar Pradesh**

S.no.	Hazards specific	Nodal Departments	Supporting Agencies / Departments For Early warning systems
1.	Earthquake	Dept. of Urban Development	IMD, Ministry of Earth sciences/Geological Survey of India, Remote Sensing Application Center, Dept of Housing, Awas Bandhu, Health (Medical Care)
2.	Floods/Flash Floods/Cloud Burst	Dept. of Irrigation	IMD,CWC, UP SDMA, Health (Medical Care& Epidemic Control)
3.	Fire	Fire Department	IPH, Dept of Health(Medical Care), Dept of Home, UP SDMA,
4.	Drought	Agriculture	IMD, Revenue, RD, DRDA, Horticulture, Ground water, Health (Medical Care& Epidemic Control)
5.	Big/ Large Accidents	Department of Home	Transport, PWD, Health (Medical Care), District Administration
6.	Boat capsizing	Department of Revenue	District DMA, Home, Health (Medical Care), Local Bodies
7.	Stampede	Department of Home	Health (Medical Care)
8.	Terrorism & Crisis events	Department of Home	Health (Medical Care), Fire
9.	Industrial	Department of Industry	Labour, Home, Pollution Control Board, Health (Medical Care)
10.	Chemical	Dept of Environment	Industry/ Department Labour, Home, NDRF, Health (Medical Care)



11.	Biological	Health (Medical Care)	Home, NDRF, Health (Medical Care)
12.	Radiation	Environment and Science	Home, Health (Medical Care), Dept of Science & Technology, NDRF,
13.	Nuclear	Dept of Environment, and Science & Tech.	Home, NDRF, Central Ministry of Atomic Energy and Defense, Health (Medical Care).
14.	Wind Storms	Revenue	IMD, Agriculture and Horticulture, home, Health (Medical Care)
15.	Extreme Cold	Department of Revenue, District Administration	IMD, Forest, Electricity, Health (Medical Care), Home
16.	Dam / Reservoir Burst	Irrigation	PWD, Environment, Science and Technology, CWC and Administration, Health (Medical Care)
17.	Communal Riots	Dept of Home	District Administration, Health (Medical Care), Fire
18.	Epidemics	Dept of Health & Family Welfare (In case of Human)/ Dept of Animal Husbandry (In case of Animals)	SDMA, DDMA, Local Bodies, panchayati Raj, Health (Medical Care)

### 3.9 Early Warning and Dissemination Systems

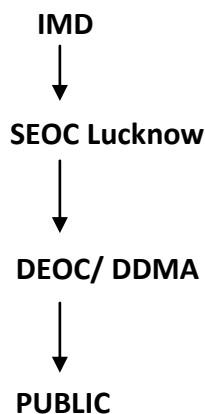
#### 3.9.1 Nodal Agencies for Early Warning:

Following are the Nodal agencies in the Government of India and in the state mandated for early warning of different natural hazards prevailing in the state of Uttar Pradesh:

Disasters	National Agencies	Agencies at State level	Detail
Floods	Central Water Commission	Department of Irrigation	<p><b>WATER DISCHARGE/ WATER LEVEL RELATED EWS:-</b></p> <p>Central Water Commission has developed a network of flood forecasting stations and issues Daily Flood Bulletins to all designated Authorities/Agencies of the Central Government and State Governments/ district Administration during the South West Monsoon season for all the major river basins in the following categories:</p> <ul style="list-style-type: none"> <li>☐ Category IV: Low Flood (Water level between Warning Level and Danger Level)</li> <li>☐ Category III: Moderate Flood (Water Level below 0.50m. less than HFL and above Danger Level)</li> <li>☐ Category II: High Flood (Water Level less than Highest Flood Level but still within 0.50m. of the HFL)</li> <li>☐ Category I: Unprecedented Flood (Water Level equal and above Highest Flood Level (HFL))</li> </ul> <p><b>WEATHER &amp; TEMPERATURE RELATED EWS:-</b> IMD has established an elaborate network of observatories in the state of Uttar Pradesh. During monsoon season, IMD issues General weather bulletins every day based on observations including forecasts for 24 hrs and weather warnings for next 48 hrs. The information is sent by IMD to relief commissioner &amp; all DMs through email. The IMD information is also available in website <a href="http://www.imd.gov.in">www.imd.gov.in</a></p>
Drought	Indian Meteorological Department	Department of Agriculture	IMD sends the email of temperature & rainfall predictions to RC & DMs
Heat & Cold Waves	Indian Meteorological Department	Department of Revenue	IMD sends the email of heat & cold wave predictions to RC & DMs

<b>Epidemics (Human)</b>	Medical & Health	Medical & Health	
<b>Earthquake</b>			Early warning or prediction of earthquake is not possible. India Meteorological Department (IMD) is the agency of Govt. of India responsible for monitoring seismic activity in and around the country. The IMD quickly estimates the earthquake source parameters on occurrence of earthquake and disseminates the information to all the concerned agencies responsible for relief and rehabilitation measures. An earthquake operational centre is functioning on a 24x7 basis at IMD headquarters in New Delhi which keeps round the clock watch of seismic activity through a country wide National Seismological Network(NSN).

State agencies will coordinate with central agencies. These agencies shall be responsible for keeping track of developments in respect of specific hazards assigned to them and inform the designated authorities/agencies at National, State and District levels about the impending disasters. All these agencies would develop guidelines for early warning of disasters.



### **Information Flow Mechanism at State EOC**

#### **3.10 Setting up of the Emergency Operation centers**

The Emergency Operations Centre has been set up at the state and is being set up at all the district level. EOC will be the hub of activity in a disaster situation. This is however, not to underestimate its normal time activities. The EOC, the key organizational structure, is flexible to expand when demands increase, and contract when the situation slows down.

The EOC, its system, and procedures are designed in such a way that information can be promptly assessed and relayed to concerned parties. Rapid dissemination contributes to quick response and effective decision-making during emergency. As the master coordination and control point for all counter-disaster efforts, the EOC is the place of decision-making, under a unified command.

The state EOC under the normal circumstances will work under the supervision of UP SDMA and district EOC will function under the District Magistrate. It is the nerve centre

to support, co-ordinate and monitor the disaster management activities at the district level. In a disaster situation, the EOC will come under the direct control of Chief Secretary or any other person designated by the Chief Secretary as Chief of Operations.

The State EOC will have a communication link with operational centre and nodal department science & technology which will provide and process the state specific information for further dissemination through the following mechanism-

### **3.10.1 The Primary Function of an EOC**

The primary function of an EOC is to implement the Disaster Management Action Plan which includes:

- Receive, monitor, and assess disaster information.
- Keep track of available resources.
- Monitor, assess, and track response units and resource requests.
- Manage resource deployment for optimal usage.
- Make policy decisions and proclaim local emergencies as needed.
- Provide direction and management for EOC operation through Standard Operations Procedures (SOP), set priorities and establish strategies.
- Coordinate Operations of all responding units, including law enforcement, fire, medical, logistics etc.
- Augment comprehensive emergency communication from EOC to any field operation when needed or appropriate.
- Maintain EOC security and access control.
- Provide recovery assistance in response to the situations and available resources.
- Keep senior, subordinate and tenant officials informed.
- Keep local jurisdictions (Village/town/city, district and State) informed.
- Operate a message center to log and post all key disaster information.
- Develop and disseminate public information warnings and instructions.
- Provide information to the news media.
- Manage donation / aids.

### **3.11 Mitigation Plan**

The primary objective of mitigation efforts would be

- To identify, delineate and assess the existing and potential risks and to work towards reducing potential casualties and damage from disasters
- To substantially increase public awareness of disaster risk to ensure safer environment for communities to live and work
- To reduce the risks of loss of life, infrastructure, economic costs, and destruction that result from disasters.

In view of the prevailing risk and the vulnerabilities perception, the mitigation measures proposed have been categorized under following six major groups:

- 1 Risk assessment
- 2 Construction work
- 3 Repair and maintenance
- 4 Research and technology transfer
- 5 Training and capacity building
- 6 Land Use Planning and Regulations
- 7 Resources for Mitigation

Since vulnerability & Risks varies from area to area and so is the capacity & capability to respond hence mitigation plan has been evolved by taking into considered local specificities. Mitigation strategies also envisage higher level of community involvement and participation.

In rural areas, characterized by inadequate infrastructure and poverty groups, all mitigation efforts will be backed up by a strong and committed programme of social development for the communities. Constant re-examination, of development policies and programmes, leading to equity and social justice, will be ensured for the successful implementation of mitigation efforts that are being proposed.

The role of training, education, and information dissemination will constitute the key intervention for ensuring the implementation and sustainability of the mitigation strategies.

The SDMA will plan and coordinate all the mitigation activities at the state level. All the concerned departments will develop and implement their respective mitigation plans. The departmental nodal officers will coordinate the mitigation activities and apprise the SDMA about the department's efforts from time to time.

In the face of increasing menace of hazards, mitigation would remain the key and the most effective strategy to reduce the risks of these hazards. State has to decide its own mitigation strategy according to its own risks, resources and capabilities. Broadly such strategies would to be twofold: structural and non-structural.

Structural mitigation measures generally refer to capital investment on physical constructions or other development works, which include engineering measures and construction of hazard resistant and protective structures and other protective infrastructure. Non structural measures refer to policy, mechanisms, awareness and education, policies techno-legal systems and practices, training, capacity development etc.

## **3.12 Components of Mitigation Plan**

### **3.12.1 Structural Mitigation**

#### **3.12.1.1 Building bylaws**

The techno-legal regime in the state recognizes the vulnerability of the State to natural disasters and the potential of strong laws in controlling detrimental developmental activities that can undermine the safety of people. Earthquake resistant features have been incorporated in the building by-laws of the State, which will be revised from time to

time. Adequate zoning laws such flood plain regulation etc will be put in place to regulate development away from unsafe locations. The enforcement of building bylaws & codes is important for structural mitigation.

#### **3.12.1.2 Infrastructure development**

- Transportation
- Roads and Bridges
- Provision of special corridors for Fire Brigade, Ambulances, etc
- Retrofitting and renovation of lifeline buildings

#### **3.12.1.3 Repair & Maintenance of lifeline structures**

- Lifeline buildings such as schools, hospitals are very important. The concern department will be the primary agency responsible for conducting structural assessment, retrofitting and renovation of lifeline buildings. Existing development programmes will be examined to incorporate disaster resistant technologies in all existing and new public buildings. Similarly in order to reduce the potential risk to other constructions, strengthening of micro level protection features will be identified and taken on priority in areas with recurrent threat of floods, and other water related disasters along major drainage basins in the state.
- All the departments will ensure that mitigation measures are incorporated into repairs, major alterations, new development, and redevelopment practices, especially in areas subject to substantial risk from hazards. For the rural areas, the Rural Development Department will ensure that mitigation measures are incorporated in all its rural development programmes such as MNREGA, PMGSY, etc.
- Undertaking regular safety audit of structures such as check dams and water storage tanks constructed as part of development programmes for ensuring the safety of people from potential threat.
- For the urban areas, the Urban Development Department will coordinate with the district/ local/ municipal authorities to ensure that mitigation measures are included in all development programmes.

#### **3.12.1.4 Research and Technology Transfer for structural safety**

The departments of Public works, Housing Boards, Town & Country Planning will be the primary agencies responsible for-

- Research, develop, and promote adoption of cost-effective building and development laws, regulations, and ordinances exceeding the minimum levels needed for life safety.
- Establish and maintain partnerships between all levels of government, the private sector, community groups, and institutions of higher learning that improve and implement methods to protect life and property.
- Report on changes in hazards, agency progress toward achieving mitigation goals ongoing projects, and new opportunities arising through advancements in technology, knowledge, or completed work.
- Identify and interact with research institutions to evolve structural mitigation strategies.
- Identify, recognize and incorporate, after suitable scientific validation, community

based traditional coping capacities against natural disasters.

### 3.12.2 Non-Structural Mitigation

3.12.2.1 **Training and Capacity Building of Government Officials:** At the state level disaster management will be added as a topic for all induction & foundation courses to be conducted by UPSDMI and all other training institutes in the state. At the district level, training programmes will be conducted in coordination with NGOs, and government training/research institutions.

3.12.2.2 **Community Level Training and Public Awareness Activities:** The community awareness and training activities will basically be carried out in the form of training programmes by DDMA through Master Trainers (trained under 13<sup>th</sup> FC Capacity Building Programme) NGOs, Private Sector, and Government Training Institutions. Apart from spreading awareness of disasters, the focus will essentially be on community capacity building. CSR funds may also be dovetailed for capacity building programmes.

### 3.12.3 Training Needs Analysis

- Training Analysis is most often used as part of the system development process. Due to the close tie between the design of the system and training required, in most cases it runs alongside the development to capture the training requirements.
- SDMA/ UPSDMI has analyzed education, training and information needs through interviews and conversations with stakeholders in different parts of Uttar Pradesh.
- The training need analysis is done considering variable factors of intensity, affected populations and severity of damage need to be quickly assessed based on which government and non-government agencies call allocate and deploy relief.

All the government line departments who have a stake in different phases of the disaster management will have to identify their roles and carry out training need analysis of their personnel. The list of the Government Dept. is as under;

Task	Activities	Responsibility
Training Need Analysis	Identification of roles and responsibilities of the department in disaster management	<ul style="list-style-type: none"> <li>• SDMA/UPSDMI</li> <li>• All line Dept.</li> <li>• Public Sector</li> <li>• Private Sector</li> <li>• Ngo and other organization</li> </ul>
	Identification of stake holders to carry out department's roles and responsibilities	
	To carry out training needs analysis	
	Development of training design as per the training need analysis	
	Arrangement for resources	
	Imparting training	

UPSDMA/ UPSDMI have done training need analysis and is organizing regular training programmes for various stakeholders. Various field level trainings are also being organized.

#### 3.12.3.1 Mobilizing Community Efforts for Mitigation Measures

The community will be encouraged to reduce the impact of the next disaster.

Demonstration modal housing units indicating various technology features and options

will be built by the Government/NGOs/Community. Priority will be given for buildings like Panchayat, primary health centres, community centre, schools etc.

The objective of such activity will be to encourage local communities to undertake and adopt appropriate measures at individual, household or community level to avoid loss of life, damage to property and crop.

### **3.12.3.2 Land Use Planning and Regulations**

The department of Town and Country planning & development authorities will be the primary agency to encourage new development to occur in locations avoiding or minimizing exposure to hazards or enhance design requirements to improve resiliency in future disasters. This department would also ensure proper enforcement of existing regulations and Acts and revision of existing laws.

## **3.13 Hazard Specific Mitigation Plan**

### **3.13.1 Action Plan for Flood Mitigation**

- i. Flood proofing
- ii. Embankments
- iii. Flood plain zonation.
- iv. Restricted construction in flood plain.
- v. Preparation of departmental flood mitigation plans.
- vi. Channelization of water.
- vii. Water recharge.
- viii. Water storage facilities development.

### **3.13.2 Action Plan for Earthquake Mitigation**

- i. Enforcement of model building bye-laws for construction both in urban and rural area.
- ii. Wide dissemination of earthquake-resistant building codes, the National Building Code 2005, and other safety codes.
- iii. Training of trainers in professional and technical institutions such as HIPA and NIT
- iv. Training professionals like engineers, architects, and masons in earthquake resistant construction.
- v. Launching demonstration projects to disseminate earthquake-resistant techniques.
- vi. Launching public awareness campaigns on seismic safety risk reduction and by sensitizing all stakeholders to earthquake mitigation measures.
- vii. Establishing appropriate mechanisms for compliance review of all construction designs submitted to ULBs.
- viii. Undertaking mandatory technical audits of structural designs of major projects by the competent authorities.
- ix. Developing an inventory of the existing built environment.
- x. Assessing the seismic risk and vulnerability of the existing built environment by carrying out structural safety audits of all critical lifeline structures.
- xi. Developing seismic strengthening and retrofitting standards and guidelines for

- existing critical lifeline structures.
- xii. Undertaking seismic strengthening and retrofitting of critical lifeline structures, initially as pilot projects and then extending the exercise to the other structures.
  - xiii. Preparation of DM plans by schools, hospitals, public buildings visited by large number of people etc., and carrying out mock drills for enhancing preparedness.
  - xiv. Strengthening the EOC network and flow of information.
  - xv. Streamlining the mobilization of communities, civil society partners, the corporate sector and other stakeholders.
  - xvi. Preparing community and village level DM plans, with specific reference to management of earthquakes.
  - xvii. Carrying out the vulnerability assessment of earthquake-prone areas and creating an inventory of resources for effective response.
  - xviii. Introducing earthquake safety education in schools, colleges and universities and conducting mock drills in these institutions.
  - xix. Strengthening earthquake safety research and development in professional technical institutions.
  - xx. Preparing documentation on lessons learnt from previous earthquakes and their wide dissemination.
  - xxi. Developing an appropriate mechanism for licensing and certification of professionals in earthquake-resistant construction techniques by collaborating with professional bodies.
  - xxii. Developing appropriate risk transfer instruments by collaborating with insurance companies and financial institutions.
  - xxiii. Making operational the local companies of Home Guards and Police for disaster response.
  - xxiv. Strengthening the medical preparedness for effective earthquake response, etc.
  - xxv. Enforcement and monitoring of compliance of earthquake-resistant building codes, town planning bye-laws and other safety regulations.

### **3.13.3 Action Plan for Drought Mitigation**

- i. A Drought Management Cell (DMC) will be established in the Agriculture Department.
- ii. Drought management plan for the entire season will be prepared by the Agriculture Department well in advance in the month of May, based on the long season forecast issued by IMD in April and also the previous season's rain fall.
- iii. Drought management plans will be prepared block wise.
- iv. As the season progresses from June onwards, the DMC will review the plans prepared earlier at the onset of the monsoon and revise the strategy if required.
- v. Weekly monitoring of the season and crop condition from June onwards till the end of the season and make necessary midseason corrections as and when required.
- vi. Agriculture Department will make use of remote sensing and GIS technology while providing the inputs to the SDMA & DDMA.
- vii. A sound database will be created and updated regularly on weather, crop



conditions, input supply, credit, insurance and market information, fodder supply etc. in order to assist the DDMA for Drought declaration and Management.

- viii. Awareness will be brought among the farmers on drought regulations and enforcement.
- ix. The techniques of rain water harvesting technology will be popularized on priority.

### 3.14 Mitigation plan for Chemical, Biological, Radiological and Nuclear Emergencies:

- i. Identification of specific hospitals which can handle Biological, Radiological and Nuclear Emergencies.
- ii. Regular meetings of State Crisis Group/ District Crisis Group.
- iii. Ensure that all MAH units have on & Off site emergency management plan.

#### 3.14.1 Who will do what for Disaster Mitigation:

##### 3.14.1.1 Manmade Disasters

Manmade disasters are unpredictable and can spread across geographical boundaries. Some disasters in this class are entirely manmade while other may occur because of natural disasters, equipment failures, or workers having inadequate training or fatigue and may errors.

Technological disasters include a broad range of incidents. Routes of exposure through water and food, airborne releases, fires and explosions, and hazardous materials or waste (e.g., chemical, biological, or radioactive) released into the environment from a fixed facility or during transport. Fires, explosions, buildings or bridge collapses, transportation crashes, dam or levee failures, nuclear reactor accidents, and breaks in water, gas or sewer lines are other examples of technological disasters.

The structural and non-structural prevention/mitigation measures for the industrial (chemical) disaster are mentioned below;

#### **Structural & non-structural measures for manmade disaster i.e. Industrial (Chemical) hazard, etc.**

S. No	Task	Activities	Responsibility
<b>Structural Measures</b>			
1	Land use planning	Planning permission of any factors/industry should consider the land use planning in view of hazard, risk and vulnerability of the State.	<ul style="list-style-type: none"> <li>• Industrial Development Authority</li> <li>• Industries</li> <li>• Labor</li> <li>• Local Authority</li> </ul>
2	Adaption of advance technology	1. Application of Science and technology and engineering inputs to improve infrastructures	<ul style="list-style-type: none"> <li>• Labor Dept.</li> <li>• Science and Technology</li> <li>• UP SDMA</li> </ul>
3	Techno-legal Regime	1. Review and revision of Acts and Rules 2. Strict implements of acts and Rules	<ul style="list-style-type: none"> <li>• Dept of Housing</li> <li>• Industries Dept.</li> <li>• Fire</li> <li>• Electrical Dept.</li> </ul>
4	Safety Audit	1. Carry out structural safety inspection/audit	<ul style="list-style-type: none"> <li>• Concern Inspectors</li> </ul>

5	Capacity Building	<ol style="list-style-type: none"> <li>1. Establish infrastructure for onsite and offsite warning dissemination</li> <li>2. Construction/Strengthening of EOC/ERC at all level</li> <li>3. Procurement of all necessary equipments including PPE.</li> </ol>	<ul style="list-style-type: none"> <li>• Industrial Installation-</li> <li>• DDMA/ Dist. Magistrate</li> <li>• Municipal Commissioner</li> <li>• Revenue Dept.</li> <li>• UP SDMA</li> </ul>
<b>Non-Structural Measures</b>			
1	Planning	<ol style="list-style-type: none"> <li>1. Prepare an onsite and offsite emergency plan</li> <li>2. Conduct mock drills as per the regulations</li> <li>3. Update the plan as per the requirement</li> <li>4. Monitor similar activities in all the factories/industries</li> </ol>	<ul style="list-style-type: none"> <li>• Industrial Development Authority</li> <li>• Local Authority</li> <li>• Dist. Collector</li> <li>• Municipal Commissioner</li> <li>• Revenue Dept.</li> <li>• UP SDMA</li> </ul>
2	Capacity Building	<ol style="list-style-type: none"> <li>1. Develop IEC material for Publication &amp; Distribution</li> <li>2. Awareness generation to general public and the people residing near MAH factories</li> <li>3. Organize training programmes, seminars and workshops</li> <li>4. Ensure the student community is imparted proper education on the relevant topics by schools/ colleges</li> <li>5. Encouragement disaster insurance</li> </ol>	<ul style="list-style-type: none"> <li>• Industrial Installation</li> <li>• Industrial Development Authority</li> <li>• Dist. Collector</li> <li>• Municipal Commissioner</li> <li>• Labor Dept.</li> <li>• UP SDMA</li> <li>• NGOs</li> </ul>

### 3.7.2.1 Earthquakes

#### Structural and Non Structural Measures for earthquake mitigation & management

S. No	Task	Activities	Responsibility
<b>Structural Measures</b>			
1	Micro-zonation	1. To undertake micro zonation study according to priority area	• Revenue Dept.
		2. To providing or make available seismic mirozonation map	• Relief Commissioner Organisation • Science & Technology Dept.
		3. Provide vulnerability and risk assessment map.	• UPSDMA/ Relief Commissioner Organisation
2	Earthquake	1. To develop earthquake resistant	• Revenue Dept.

	Resistance Design for different earthquake	design features for the construction of public utility structures. 1. To develop earthquake resistant design features for the construction of residential structures. 2. To develop earthquake resistant design for incorporating in different types of structures to the line departments	<ul style="list-style-type: none"> <li>Relief Commissioner Organisation</li> <li>Department of housing/Urban Development/ PWD</li> </ul>
3	Retrofitting of existing structure	6. Create a database of existing structure in the State. A. Public B. Private 7. Identify the available resources 8. Identifying structures that require retrofitting. 9. Prepare a scheme/programme for retrofitting 10. Identification and removal of unsafe buildings/structure	<ul style="list-style-type: none"> <li>Concern Dept.</li> </ul>
4	Monitoring of seismic activities	1. Establish seismological network and round the clock monitoring 2. Dissemination of information and reporting 3. Conduct seismological research	<ul style="list-style-type: none"> <li>Science &amp; Technology Dept.</li> </ul>
<b>Non Structural Measures</b>			
1.	Capacity Building	1. Departmental earthquake contingency plan 2. Ensure earthquake related departmental action plan and SOP 3. Include earthquake engineering topics in curriculum 4. Provide professional training about earthquake resistance construction to engineers and architects. 5. Provide training to masons. 6. Encourage soil and material testing in laboratories.	<ul style="list-style-type: none"> <li>UP SDMI/ UP SDMA</li> <li>Revenue Dept.</li> <li>State ATI</li> <li>Labour Dept.</li> <li>Line Dept.</li> </ul>
2	Awareness	1. To disseminate earthquake risk to general public residing in earthquake prone zones 2. Campaign for earthquake safety tips.	<ul style="list-style-type: none"> <li>UPSDMA</li> <li>Information Dept.</li> </ul>

### 3.7.2.2 Flood

#### Structural & Non Structural Measures

S. No	Task	Activities	Responsibility
<b>Structural Measures</b>			
1	Construction	5. Improvement of design for irrigation and flood protective structures 6. Construction of dams, flood protection wall, flood diverting channels etc. 7. Strengthening/repair of existing roads and bridges and other critical infrastructure in flood plains 8. Strengthening of dams and canals.	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Organisation Commissioner</li> <li>• Irrigation Dept.</li> <li>• All line Dept.</li> </ul>
2	Development of catchment area	1. Development of catchment area of the food plain <ul style="list-style-type: none"> <li>○ Forestation</li> <li>○ Land sloping</li> <li>○ Small reservoirs /check /dams / ponds etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Organisation Commissioner</li> <li>• Irrigation Dept.</li> <li>• Forest &amp; Environment Dept.</li> </ul>
3	Flood Proofing	1. Specific building by laws for food plains	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Organisation Commissioner</li> <li>• Irrigation Dept.</li> <li>• UDD, Panchayati Raj &amp; Rural Development</li> <li>• Local Bodies</li> </ul>
4	Techno-legal regime	1. Enactment and enforcement of laws regulating developmental activities in flood plain	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Organisation Commissioner</li> <li>• Irrigation Dept.</li> <li>• UDD, Panchayati Raj &amp; Rural Development</li> <li>• Local Bodies</li> </ul>
5	Forecasting and warning	1. Strengthening and Upgradation of existing Flood forecasting system. 2. Establish infrastructure for flood warning and dissemination	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Organisation Commissioner</li> <li>• Irrigation Dept.</li> <li>• CWC</li> <li>• IMD</li> </ul>

<b>Non Structural Measures</b>			
1	Capacity Building	<ol style="list-style-type: none"> <li>1. Departmental flood contingency plan</li> <li>2. Flood related departmental action plan and SOP</li> <li>3. Impairing training to the stakeholders involved in flood mitigation and management.</li> </ol>	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Commissioner Organisation</li> <li>• Irrigation Dept.</li> <li>• Line Dept.</li> <li>• WALMI</li> </ul>
2	Awareness	<ol style="list-style-type: none"> <li>1. Disseminate flood risk to general public residing in flood prone zones</li> <li>2. Campaign for Flood safety tips</li> </ol>	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Commissioner Organisation</li> <li>• Irrigation Dept.</li> <li>• UPSDMA</li> <li>• Information Dept.</li> </ul>
3	Review of Rules	Review of operational rules for reservoirs	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Commissioner Organisation</li> <li>• Irrigation Dept.</li> </ul>

### 3.7.2.3 Drought

#### Structural & Non Structural Measures to mitigate drought:-

S. No	Task	Activities	Responsibility
<b>Structural Measures</b>			
1	Construction	<ol style="list-style-type: none"> <li>1. Construction of dams, reservoirs, lift irrigation, tube wells and canal for surface irrigation</li> <li>2. Construction of percolation tanks, check dams, farms ponds etc</li> <li>3. Construction of warehouses and cold storages for preservation/storage of food grains</li> </ol>	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Commissioner Organisation</li> <li>• Irrigation Dept.</li> <li>• Agricultural Dept.</li> <li>• Civil Supply Dept.</li> </ul>
2	Repairs upgradation and strengthening	<ol style="list-style-type: none"> <li>1. Repairs, upgrading and strengthening of dams, reservoirs, lift irrigation and canals for surface irrigation</li> <li>2. Repairs, upgrading and strengthening of percolation tanks, check dams, farm ponds etc.</li> </ol>	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Commissioner Organisation</li> <li>• Irrigation Dept.</li> <li>• Agricultural Dept.</li> </ul>
3	Techno-legal regime	1. Enactment and enforcement of laws regulating ground water level and exploitation of natural recourses.	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Commissioner Organisation</li> <li>• Irrigation Dept.</li> <li>• UDD, Panchayati Raj &amp; Rural Development</li> <li>• Local Bodies</li> </ul>

4	Adaption of new technology	2. Application of advanced Agro Science technology and agro-engineering inputs to improve agriculture production	• Agricultural Dept.
5	Forecasting and Warning	1. Strengthening and Up gradation of existing Drought forecasting system 2. Establish infrastructure for drought warning and dissemination.	• Relief Commissioner Organisation • Irrigation Dept. • IMD
<b>Non Structural Measures</b>			
1	Capacity Building	1. Departmental drought contingency plan 2. Drought related departmental action plan and SOP 3. Imparting training to the stakeholders involved in drought mitigation and management 4. Encourage people to use advance technology of drip and sprinkler irrigation 5. Encourage water harvesting 6. Encourage farmers to understand crop pattern to be adopted in their area 7. Rational use of fertilizers and pesticides. 8. Encourage the adaption of technique for preservation of green fodder.	• Irrigation Dept. • Agricultural Dept. • Forest & Environment Dept. • All line Dept. • UPSDMI/ UPSDMA • SIRD
2	Awareness	1. Disseminate drought risk to general public residing in drought prone zones 2. Campaign for drought tips for agriculture, general public and industries	• UPSDMA/ UPSDMI • Irrigation Dept. • Information Dept. • All line Dept. • SIRD

**Note:** Plan will be forwarded to concern State departments and asked to prioritize and implement and mitigation measures derived in the plan.

## Chapter 4

# Mainstreaming DM Concerns into Development/ Schemes

### 8.1 The Legal mandate for DRR Mainstreaming

The DM Act mandates the DDMA to “lay down guidelines to be followed by the departments of the Government of the State for the purposes of integration of measures for prevention of disasters and mitigation in their development plans and projects and provide necessary technical assistance therefore” and to “review the development plans of the different departments of the State and ensure that prevention and mitigation measures are integrated therein”. Under Section 38 (2) (e) of the Act the State Government is to ensure that the integration of measures for prevention of disaster or mitigation have been incorporated by the departments of the Government of the State in their development plans and projects. The State Government is further to ensure integration of measures to reduce or mitigate the vulnerability of different parts of the State to different disasters in the state development plan {38 (2) (f)}

The Act also prescribes for preparation of District Plan and for incorporation of measures suggesting as to how mitigation shall be integrated into development plans and projects. The Act states that the DMPs shall prescribe “the manner in which the mitigation measures shall be integrated with the development plans and projects”. The DMPs of departments at State and district level shall also have provisions for prevention of disaster and mitigation of its effects or both in the development plans and programmes as provided for in the State DMP and as is assigned to the department or agency concerned.

### 8.2 Mainstreaming DM Concerns into developmental Plans/Projects

Mainstreaming disaster management into the development planning process essentially means looking critically at each activity that is being planned, not only from the perspective of reducing the disaster vulnerability of that activity, but also from the perspective of minimizing that activity’s potential contribution to the hazard.

Every development plan in the state would require incorporating elements of impact assessment, risk reduction, and adoption the ‘do no harm’ approach. The measures such as urban planning and zoning, upgradation of building codes their enforcement, adoption of disaster resilient housing designs and flood proofing, response preparedness planning, insurance, establishment of early warning systems generating community awareness, creating technical competence and promoting research among engineers, architects, health experts will be taken on priority.

DRR refers to the measures used to reduce direct, indirect and intangible disaster losses. The measures may be technical, economic or social. DRR encompasses the two aspects of a disaster reduction strategy: ‘mitigation’ and ‘preparedness’. Mitigation refers to measures aimed at reducing the risk, impact or effects of a disaster or threatening disaster situation, whereas, preparedness refers to the measures undertaken to ensure the readiness and ability of a society to forecast and take precautionary measures in

advance of imminent threat, and respond and cope with the effects of a disaster by organising and delivering timely and effective rescue, relief and other post-disaster assistance. 'Mainstreaming DRR' describes a process to fully incorporate the concerns of disaster preparedness, prevention and mitigation into development and post disaster recovery policy and practice. It means completely institutionalizing DRR within the development and recovery agenda.

Accordingly, the following broad objectives of mainstreaming DRR into Development will be encouraged:

- i. Ongoing schemes and projects of the Ministries and Departments of GoI and State Governments, as well as of all Government agencies and Institutions, including Public Sector Undertakings, will be selectively audited by designated government agencies for ensuring that they have addressed the disaster risk and vulnerability profiles of the local areas where such schemes and activities are being undertaken.
- ii. At conceptualization or funding stage itself, the development schemes will be designed with consideration of any potential hazardous impact associated with it and incorporate measures for mitigation of the same.
- iii. All the development schemes will be pragmatic, incorporating the awareness of local disaster risk and vulnerability, and ensuring that the schemes have addressed these concerns and included specific provisions for mitigating such disaster concerns; and
- iv. DDMA's will ensure that all the disaster relief and recovery programmes and projects that originate from or are funded by any agency satisfy developmental aims and reduce future disaster risks.

#### 4.3 Few examples of Mainstreaming DRR into ongoing Flagship Programmes:

Some of the following flagship programmes for Government of India could be used as an entry point for mainstreaming the DRR in development plans and the following steps may be undertaken:

(The list given in the below table is an indicative one, all the projects/ works/ schemes of the Govt shall be examined from DRR point of view & DRR mainstreaming shall be ensured. )

Sr. No.	Name of the Programme	Department / Sector	Proposed Strategies for DRR Integration into the Flagship Programmes
1.	Indira Awas Yojana	Rural Development	<ol style="list-style-type: none"> <li>i. Inclusion of such measures like application of Hazard resistant design in construction of IAY houses, appropriate sitting of IAY housing in guideline of IAY</li> <li>ii. Development of model design for IAY houses which could be easily referred to by DRDAs at district level and used for community awareness depending on the geographical location.</li> <li>iii. Capacity Building of Rural masons on safe construction.</li> <li>iv. Capacity Building of PRIs.</li> <li>v. Community Awareness.</li> <li>vi. Capacity Building Programmes for DRDA officials on Disaster Risk Reduction issues.</li> </ol>
			<ol style="list-style-type: none"> <li>i. Utilisation of MGNREGS funds to reduce the vulnerability of Panchayat vis a vis natural hazards such as landslide, drought, forest fire, cloud burst,</li> </ol>



2.	<b>Mahatma Gandhi National Employment Guarantee scheme</b>	Rural Development	<p>flash floods, earthquake etc.</p> <ul style="list-style-type: none"> <li>ii. Giving priority to those works which reduce the vulnerability of area over the works which enhances the vulnerability of the area to natural hazards.</li> <li>iii. Identified works are available which take into account the hazard profile and offer continuous employment opportunities in the event of disasters to ensure livelihood security in the event of disasters.</li> <li>iv. Works which reduce disaster risk are given priority in plans-such as local mitigation works etc.</li> <li>v. Any other implement able suggestion within the ambit of the scheme.</li> </ul> <p>I Water conservation and water harvesting; Drought proofing, including forestation and tree plantation;</p> <ul style="list-style-type: none"> <li>i) Irrigation canals, including micro and minor irrigation works;</li> <li>ii) Plantation and horticulture;</li> <li>iii) Renovation of traditional water bodies, including de-silting of tanks;</li> <li>iv) Land development;</li> <li>v) Flood-control and protection works, including drainage in water logged areas; and</li> <li>vi) Rural connectivity to provide all weather access.</li> </ul>
3.	<b>Pradhan Mantri Gram Sadak Yojana</b>	PWD	<ul style="list-style-type: none"> <li>i. The Master Plan for rural roads, the district rural road plan and identification of core network under the planning process of this scheme should, which the overall guidelines of its preparation, explicitly address the disaster risk reduction concerns and accord priority to connect the vulnerable habitations.</li> <li>ii. The technical guidelines should explicitly provide for suitable protection and inclusion of disaster risk concerns explicitly - while provision of cross drainage, slope stabilization, protection works are already included, in multi-hazard and especially flood and landslide prone areas fair weather roads need to be upgraded on a priority basis.</li> </ul>
			<ul style="list-style-type: none"> <li>iii. The maintenance guidelines are modified to ensure that in case of disasters these roads get provision for restoration to ensure all weather connectivity.</li> </ul>
4.	<b>Sarva Siksha Abhiyaan</b>	Education	<ul style="list-style-type: none"> <li>i. Development of a Policy paper of school safety.</li> <li>ii. Introducing school safety as a part of the guidelines of SSA which is currently focusing on inclusive development.</li> <li>iii. Developing model structurally safe designs for schools.</li> <li>iv. Introducing School Safety in the Teacher's Training Curriculum.</li> <li>v. Training of Rural Engineers appointed under SSA Scheme as well as the SSA State Coordinators.</li> <li>vi. Training of masons in rural areas.</li> <li>vii. Construction of Technology Demonstration Units.</li> <li>viii. Community Awareness.</li> </ul>
			<ul style="list-style-type: none"> <li>i. Strengthening of the compliance mechanism at the detail project report submission and appraisal stage in</li> </ul>

5.	<b>Jawahar Lal Nehru Urban Renewal Mission</b>	Urban Development	<p>case of infrastructure projects as well as housing scheme to ensure structural safety.</p> <ul style="list-style-type: none"> <li>ii. Emphasis on disaster risk audit at the stage of preparation of detail project reports.</li> <li>iii. Inclusion of amending of building byelaws to ensure structural safety as a mandatory reform in the Mission cities to ensure safe habitat development.(Both structural safety and fire safety norms).</li> <li>iv. Inclusion of disaster management as a function of the Urban Local Bodies and allocate resources.</li> <li>v. Inclusion of Disaster Resistant features in the houses being constructed under the BSUP component as well as promote development of safe habitat.</li> <li>vi. Inclusion of strategies for disaster management in the City Development Plans.</li> <li>vii. Training and Capacity Building Programmes for municipal officers on disaster risk reduction.</li> </ul>
6.	<b>Rajiv Awas Yojana</b>	Urban Development	<ul style="list-style-type: none"> <li>i. Since Rajiv Awas Yojana is focusing on developing slum free cities and Capacity Building and Community Mobilization is also an important component of RAY, through this programme attempts can be made towards community level disaster preparedness as slum dwellers often become the most vulnerable community during such disasters as floods, fire and high wind speed. The 30 cities selected on a plot basis can be targeted to initiate community based disaster preparedness activities.</li> <li>ii. Also the Housing Programmes to be implemented in these selected cities can ensure incorporation of hazard resistant features and safe sitting.</li> </ul>
7.	<b>National Health Mission</b>	Health and family welfare	<ul style="list-style-type: none"> <li>i. Ensure that the village Health Plan and the District health plan explicitly address the disaster risk reduction concerns in the vulnerable habitations and the vulnerable districts and the disaster management plan as per DM Act 2005 takes links itself to the District and village Health plans.</li> <li>ii. Provide training to the ASHA workers on disaster health preparedness and response.</li> <li>iii. Strengthening of Disease Health Surveillance System in rural areas.</li> <li>iv. Ensuring structural safety of the CHC/PHC and other health care service delivery centers in rural areas.</li> <li>v. Training of doctors and hospital staffs on mass casualty management and emergency medicine. Community awareness on disaster management.</li> </ul>

8	<b>Public Infrastructure</b>		<ul style="list-style-type: none"> <li>i) Incorporate disaster risk impact assessment as a part of the planning process before the construction starts.</li> <li>ii) Site analysis and risk sensitive land-use planning (either avoid development in hazard prone areas or adopt treatment and mitigation measures)</li> <li>ii) Strengthen compliance to the various provisions of the codes – set up hazard safety cell for advice and monitoring</li> <li>v) Disaster resistant technologies mandatory in case of all construction using public/corporate funds.</li> <li>v) Training and capacity building of the department and</li> </ul>
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			functionaries.
9	<u>Housing – Rural and Urban:</u>		<ul style="list-style-type: none"> <li>i) Application of hazard resistant designs</li> <li>ii) Prepare construction guidelines for rural areas, Nagar Panchayats and Municipal Councils.</li> <li>iii) Amendment of Building bye-laws, Zoning regulations and Development Control Regulations.</li> <li>iv) Strengthening the enforcement of techno-legal and managerial regime.</li> <li>v) Training of masons, engineers, architects, contractors, promoter and builders. <ul style="list-style-type: none"> <li>vi) Sensitization of the banking and financial institutions.</li> <li>vii) Promotion of disaster insurance in housing sector.</li> <li>viii) Having a housing reconstruction policy.</li> </ul> </li> </ul>
10	<u>Health Sector:</u>		<ul style="list-style-type: none"> <li>vii) Ensure hospitals and health facilities are not located in hazard-prone areas.</li> <li>viii) Analyze the internal and external vulnerabilities of existing health care facilities during emergencies.</li> <li>ix) Retrofitting of the critical hospitals.</li> <li>x) Prepare and implement hospital preparedness plan.</li> <li>xi) Training of doctors on mass casualty management, trauma care and emergency medicine.</li> <li>xii) Training of health workers on emergency preparedness and response.</li> <li>xiii) Strengthening of disease surveillance system.</li> </ul>

#### 4.4 DRR Mainstreaming Audit before during and after the project:

To ensure the implementation of key areas, a check list for EFC format and the responsible departments are as shown below;

Task	Activities	Responsibility
Mainstreaming disaster management into development planning	1. To ascertain whether project involve any creation/modification of structural engineering assets.	The concern department which is preparing EFC format
	2. To ascertain the possible risks, like hood and impact from disaster due to the location of project sites	
	3. To ascertain whether portable risks have been prioritized and the mitigation measures being contemplated, both structural and non structural measures.	
	4. To ascertain whether design and engineering of the structure has taken into consideration the National Building Code 2005, the appropriate BIS Codes, other applicable sources as per the type of the project and the NDMA guidelines (List of codes/guidelines for safety of building/structures from natural hazards is given in annexure 2 & 3)	
	5. To ascertain whether the cost of disaster treatment/mitigation measures been included in the overall project cost.	
	6. To ascertain whether the process of risk assessment has been done based on available information and secondary evidence	

To ensure the implementation of key areas, a check list for DPR format and the responsible departments are as shown below:

Task	Activities	Responsibility
Mainstreaming disaster management into development planning	<ul style="list-style-type: none"> <li>• .Impact Assessment of project (damage that can be issued to the project by natural disasters, design of the project that could accelerate the vulnerability of the area to disaster and/ or lead to rise in damage / loss of lives, property, livelihood and surrounding environment) checklist for natural disaster impact assessment is given in <b>Annexure 4</b></li> <li>• Risk assessment of Project</li> <li>• Vulnerability assessment of project (Evaluation of site with regards to parameters such as probable maximum storm surge, probable maximum wind speed, probable maximum precipitation, probable maximum flood discharge and level, soil liquefaction proneness under probable earthquakes intensities.</li> <li>• Complacence of               <ul style="list-style-type: none"> <li>○ Land use management</li> </ul> </li> </ul>	The concern department which is preparing DPR

	<ul style="list-style-type: none"> <li>○ Building Code</li> <li>○ Building use regulation</li> <li>○ Directives and Legislation</li> <li>○ Maintenance requirement</li> </ul>	
	<ul style="list-style-type: none"> <li>● Details about the location of the project, proneness of the project area to various hazards and analysis of impact on safety of the project</li> </ul>	
	<ul style="list-style-type: none"> <li>● Impact of the project on the environment and the surrounding population with respect to the type of the project and adoption of mitigation measures to reduce the impact of the same.</li> </ul>	

**4.5 Administrative Order for DRR Mainstreaming:**

State Govt has issued a GO regarding DRR Mainstreaming into development which is given in Anneuxure-1

# Chapter 5

## Preparedness Measure

### 10.1 Capacity Development

The SEC will ensure that all concerned departments implement their respective preparedness / contingency plans encompassing the following:

- Micro-Hazard zonation for each hazard.
- Display of warning boards for general public in sensitive area.
- Inventory of human and material resources available with Government, Private and Civil Society.
- Training, Capacity Building of the State Search and Rescue Task Forces.
- Training, Capacity Building of the State First Aid Task Forces
- Training and capacity building of Civil police, Fire Brigades, NCC, CBOs.
- Medical Preparedness- nominate/ designate hospitals, doctors and paramedics to cover emergency health management.
- State, District, Block & Village level mock drills and rehearsals.
- Public Awareness generation and community evacuation training.
- Community based disaster management (CBDM).
- Ensure that GP, Block and Districts develop and maintain its disaster management plans.
- Inventory of Lifeline buildings such as of schools, hospitals, administration buildings and assess their safety and take measures for improving safety.
- Knowledge management
- Budgetary allocations
- Yearly- Updating of the state plan. In case of a disaster the plan will be reviewed right after that.

### 10.2 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 organization.
- Various alternative Communication mode for state. There details access point, alternative link media, VHF, HF radio and policies of providing SAT phones and ensuring their operation with good/prolonged backup and publising the same.
- Work under the overall supervision of the Principal Secretary/Secretary(Disaster Management)/DC during emergencies.

### **10.2.1 Community and local level preparedness:**

The plan recognises the fact that in the event of disaster communities are the first responders and hence there is no better alternative to community and local level capacities for disaster response. In order to enhance communities' capacity to take action to help themselves in the absence of necessary outside response for days the plan envisages creating necessary awareness about hazards, risks and response. Areas which would be specifically addressed for community preparedness are-

- i) Medical first aid
- ii) Search and rescue extrication from damaged buildings
- iii) Road clearance
- iv) Fire fighting

Plan also envisages equipping community at Panchayat level by giving basic life saving equipments in selected 9000 Gram Panchayats.. Panchayat will be encouraged to establish local early warning systems in higher vulnerable areas and for holding community level disaster response drills. Development of response capacity at Panchayat level for first response would help in avoiding desperate situation. Creation of Sub-division level stock pile for relief and warehouses would be ensured.

### **10.2.2 India Disaster Resource Network (IDRN)**

IDRN, a web based information system, is a platform for managing the inventory of equipments, skilled human resources and critical supplies for emergency response. The primary focus is to enable the decision makers to find answers on availability of equipments and human resources required to combat any emergency situation. This database will also enable them to assess the level of preparedness for specific vulnerabilities.

Total 226 technical items listed in the resource inventory. It is nationwide district level resource database.

Each user of all districts of the state has been given unique username and password through which they can perform data entry, data updation in IDRN for resources available in their district. However there is not much data being uploaded in this website for Uttar Pradesh.

The IDRN network has functionality of generating multiple query options based on the specific equipments, skilled human resources and critical supplies with their location and contact details.

### **10.2.3 Community based Disaster Management**

- Community is not only the victim but invariably the first responder in any disaster.
- Any disaster resolves around the coping capacity of the community.
- Therefore, community should be closely associated with prevention mitigation, preparedness, training capacity building, response, relief, recovery i.e. short term and long term, rehabilitation and reconstruction.

#### 10.2.4 Training, capacity building and other proactive measures

Task	Activities	Responsibility
Community Preparedness	1. Selecting vulnerable community and most vulnerable groups at risk (keep gender issues in mind)	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• UPSDMA</li> <li>• IMD</li> <li>• Finance Dept.</li> <li>• All Dist. Collectors</li> <li>• Municipal Commissioner</li> <li>• Local Self Govt.</li> <li>• Urban Development Department/ Local Self Governance.</li> <li>• Panchayati Raj</li> <li>• Rural Development Dept.</li> </ul>
	2. Disseminate information about vulnerability and risk to the community.	
	3. Promote local level disaster risk management planning through participatory approach.	
	4. Advice and issue direction wherever necessary for community disaster prevention, mitigation and preparedness through local resources and participatory approach.	
	5. Provide necessary resources and support for disaster risk reduction at community level.	
	6. Promote community managed implementations.	
	7. Review the preparedness at community level	
	8. Take appropriate action to enhance community preparedness	
	9. Promote community education, awareness and training.	
	10. Ensure fail safe mechanism for timely dissemination of forecasting and warning of impending disaster to the community.	
	11. Disseminate information to community deal with any disaster situation.	

#### 10.2.5 Training, Capacity building and other proactive measure

Task	Activities	Responsibility
Training	1. Training to civil defense personal in various aspect of disaster management	<ul style="list-style-type: none"> <li>• Home Dept.</li> <li>• Home guards</li> <li>• Director Civil Defense</li> <li>• UPSDMA/UPSDMI</li> <li>• ATI/ SIRD/ SIHFW/ CTI/Etc.</li> </ul>
	2. Training to home Guards personal in various aspect of disaster management including search and rescue.	
	3. Training to NCC and NSS personal in various aspect of Disaster management.	<ul style="list-style-type: none"> <li>• Education Dept.</li> <li>• Director NCC</li> </ul>



		<ul style="list-style-type: none"> <li>• UPSDMI</li> <li>• ATI/ SIRD/ SIHFW/ CTI/Etc.</li> </ul>
	4. Training to educational and training institutions personal in various aspects of disaster management.	<ul style="list-style-type: none"> <li>• NIDM</li> <li>• UPSDMA/UPSDMI</li> <li>• ATI/ SIRD/ SIHFW/ CTI/Etc.</li> </ul>
	5. Training to civil society, CBOs and corporate entities of disaster management.	<ul style="list-style-type: none"> <li>• NIDM</li> <li>• UPSDMA/UPSDMI NGOs</li> <li>• ATI/ SIRD/ SIHFW/ CTI/Etc.</li> </ul>
	6. Training to fire and emergency service personal in various aspect of management.	<ul style="list-style-type: none"> <li>• NIDM</li> <li>• UDD</li> <li>• Municipal Corporation</li> <li>• UPSDMA/UPSDMI</li> <li>• ATI/ SIRD/ SIHFW/ CTI/Etc.</li> </ul>
	7. Training to police and traffic personal in various aspect of disaster management.	<ul style="list-style-type: none"> <li>• NIDM</li> <li>• UPSDMA/UPSDMI</li> <li>• Police Dept.</li> <li>• Police training Institute</li> <li>• ATI/ SIRD/ SIHFW/ CTI/Etc.</li> </ul>
	8. Training to State Disaster Response Force (SDRF) Teams in various disaster management	<ul style="list-style-type: none"> <li>• NIDM/NDRF</li> <li>• Home Dept.</li> <li>• UPSDMA/UPSDMI</li> <li>• ATI/ SIRD/ SIHFW/ CTI/Etc.</li> </ul>
	9. Training to media in various aspect of disaster management	<ul style="list-style-type: none"> <li>• NIDM</li> <li>• Information Dept.</li> <li>• UPSDMA/UPSDMI</li> <li>• ATI/ SIRD/ SIHFW/ CTI/Etc.</li> </ul>
	10. Training to govt. officials in various aspect of disaster management.	<ul style="list-style-type: none"> <li>• NIDM</li> <li>• UPSDMA</li> <li>• Departmental Training Institutes</li> <li>• ATI/ SIRD/ SIHFW/ CTI/Etc.</li> </ul>
	11. Training to engineers, architects, structural engineers, builders and masons in various aspect of disaster management	<ul style="list-style-type: none"> <li>• Departmental Training Institutes</li> <li>• NIDM</li> <li>• UPSDMA/UPSDMI</li> <li>• ATI/ SIRD/ SIHFW/ CTI/Etc.</li> </ul>

### 10.2.6 Awareness

Task	Activities	Responsibility
Information Education and Communication	1. Advertisement hording, booklets, leaflets, banners, stake-table, demonstration, folk dancing and music, jokes, street play, exhibition, TV Spot, radio spot, audio-visual and documentary, school campaign, - Planning and Design - Execution and Dissemination	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Commissioner</li> <li>• UPSDMA</li> <li>• Information Dept.</li> <li>• Education Dept.</li> <li>• All line Dept.</li> <li>• Dist. Collectors.</li> <li>• Municipal Commissioners</li> <li>• Other Dist. Authorities.</li> </ul>

### 10.2.7 Computer based programming

Task	Activities	Responsibility
Develop database for disaster management	1. Develop GIS based information system for different sectors viz. Medicals and health, civil supply, fire and emergency services, etc. <ul style="list-style-type: none"> <li>○ Collection of information</li> <li>○ Generation of maps</li> <li>○ Regular updation of data</li> </ul>	<ul style="list-style-type: none"> <li>• All line Dept.</li> <li>• UPSDMA</li> </ul>
	2. Develop Flood Disaster Management Information System <ul style="list-style-type: none"> <li>○ Develop of Software</li> <li>○ Collection and Feeding of basic data</li> <li>○ User's training</li> <li>○ Regular updation of real-time data.</li> </ul>	<ul style="list-style-type: none"> <li>• Irrigation Dept.</li> <li>• All line Dept.</li> </ul>
	3. Create and disseminate database of contact details, resources, response agencies, NGOs trained personnel, most vulnerable groups, evacuation routes, available shelters, relief centers, critical infrastructures, storage, godowns, etc. <ul style="list-style-type: none"> <li>○ Regular review and updation of such databases</li> </ul>	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Commissioner</li> <li>• UPSDMA</li> <li>• All line Dept.</li> </ul>

### 10.3 Medical Preparedness

Task	Activities	Responsibility
Medical Preparedness	<ol style="list-style-type: none"> <li>1. Prepare of Authentic medical database for public and private facilities available in the state               <ul style="list-style-type: none"> <li>○ Collection of Data</li> <li>○ Mapping and Gap analysis</li> <li>○ Strengthening</li> </ul> </li> <li>2. Resource management               <ul style="list-style-type: none"> <li>○ Manpower, logistics, medical equipments, medicines, antidotes, personal protective equipments, disinfectant, vaccine</li> </ul> </li> <li>3. Identification of medical incident command system               <ul style="list-style-type: none"> <li>- Incident Commander                   <ul style="list-style-type: none"> <li>○ State Level</li> <li>○ Dist. Level</li> <li>○ Disaster site</li> </ul> </li> <li>- Identification of each section head at each level                   <ul style="list-style-type: none"> <li>○ Operation</li> <li>○ Planning</li> <li>○ Logistic</li> <li>○ Administration &amp; Finance</li> <li>○ Media and Public information</li> </ul> </li> <li>- Identification of key members of different task force</li> <li>- Control room arrangement                   <ul style="list-style-type: none"> <li>○ Department control room</li> <li>○ State and district control room</li> </ul> </li> <li>- Appointment of medical management plan                   <ul style="list-style-type: none"> <li>- Planning                       <ul style="list-style-type: none"> <li>○ Preparation of medical management plan</li> </ul> </li> <li>- State level</li> <li>- Dist. Level</li> <li>- Hospital preparedness plan</li> <li>- Training and Capacity Building</li> </ul> </li> <li>○ Hospital preparedness,</li> <li>○ Pre hospital care,</li> <li>○ Mass casualty management, etc.</li> </ul> </li> </ol>	<ul style="list-style-type: none"> <li>• Medical &amp; Health Dept.</li> <li>• Medical Institutions/ SIHFW</li> <li>• SDMI/ ATI</li> </ul>

### 5.4 Knowledge Management

Task	Activities	Responsibility
Knowledge Management	<ul style="list-style-type: none"> <li>- Documentation of disasters and to make it available in easy accessible format</li> <li>- Undertake research studies and application of outcomes in disaster management practices</li> <li>- Documenting field data, experience and indigenous technological knowledge from local community</li> <li>- Development of plan by using available resources like SDRN, IDRN, etc.</li> <li>- Sharing of data/information/reports/proceeding through consultation meeting/seminars etc.</li> <li>- Use of Information and communication technology at disaster management centers, state, district taulka, village EOCs.</li> </ul>	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Commissioner</li> <li>• UPSDMA/ UPSDMI</li> <li>• Science &amp; Technology Dept.</li> <li>• ATI</li> </ul>

## 5.5 Communication

Task	Activities	Responsibility
Fail Safe communication and last mile connectivity	<ul style="list-style-type: none"> <li>- Undertake study to establish fail safe two way communication- information system from state, level to disaster site connecting state, district, Block and city level</li> <li>- Undertake study to establish alert/siren with multi-lingual recorded messages in coastal areas</li> <li>- To procure the system and run a pilot project</li> <li>- Establishment of multiple/alternative system</li> <li>- Training/IEC campaign for general public of the vulnerable areas</li> <li>- Plan for re-establishment of disrupted system</li> </ul>	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Commissioner</li> <li>• UPSDMA</li> <li>• Science &amp; Technology Dept.</li> <li>• Information Dept.</li> <li>• Local and district authorities</li> <li>• Municipal Commissioner</li> </ul>
Plan testing	<ul style="list-style-type: none"> <li>- Provide copy of the plan to each stakeholder</li> <li>- Organize mock drills and rehearsal for plan</li> <li>- Lesson learnt through mock drill; identification of gaps through feedbacks and modification of plan</li> <li>- Organize annual mock drill and updation of plan</li> </ul>	<ul style="list-style-type: none"> <li>• Revenue Dept.</li> <li>• Relief Commissioner</li> <li>• UPSDMA</li> <li>• Science &amp; Technology Dept.</li> <li>• Information Dept.</li> <li>• Local and district authorities</li> <li>• Municipal Commissioner</li> </ul>

## Chapter 6

# Disaster Response

Response measures are those which are taken instantly prior to, and following, a disaster aimed at limiting injuries, loss of life and damage to property and rescuing those who are affected or likely to be affected by disaster. Response process begins as soon as it becomes apparent that a disastrous event is imminent and lasts until the disaster is declared to be over.

Since response is conducted during periods of high stress in a highly time-constrained environment and with limited information and resources (in majority of the cases), it is by far the most complex of four functions of disaster management. Response includes not only those activities that directly address the immediate needs, such as search and rescue, first aid and shelters, but also includes system developed to coordinate and support such efforts. For effective response, all the stakeholders needs to have a clear perception/ vision about hazards, its consequences and actions that needs to be taken in the event of it.

The Relief Commissioner Organisation/ UPSDMA of the state is the nodal department for controlling, monitoring and directing measures for organizing rescue, relief and rehabilitation. All Other concerned line departments should extend full cooperation in all matters pertaining to the response management of the disaster whenever it occurs. The State EOC and other control rooms at the state level as well as district control rooms should be activated with full strength.

### **6.1 Primary tasks during this phase would be:**

- a) Proper need assessment
- b) Deployment of resources to all affected sections in an equitable manner
- c) Besides food, cloth and shelter facilities such as public health and sanitation is to be provided in shelters or camps or as per the SDFR guideline to the people who are affected by the disaster
- d) Ensuring total transparency in distribution of relief material
- e) Putting in place an objective method of assessing damage

#### **6.1.1 Role of Specialized agencies:**

- Civil defense & other community based organizations which are available in districts will be involved in organizing relief & rescue operations especially in urban localities in the State.
- Recognizing the fact that police are among the first responders in any crisis all police stations in the State would be further trained for ensuring effective response rescue in the wake of disaster or crisis situation. As first responder police normally communicate information and mount rescue and relief operation with whatever rescue available at their disposal.
- Specific rescue teams have been constituted in PAC for flood rescue at the State level. Under 13<sup>th</sup> FC Capacity Building Grant, Rescue teams are being

trained at the Gram Panchayat level. However there is a need for developing specialized teams at District and Sub Division level to serve as an auxiliary to Police & Fire teams. Budget has been given to the Department of Home guards to train & equip their cadets so that they can help in disaster rescue & assist the police in maintaining law and order.

### **6.1.2 Institutional Arrangements**

Under this SDMP, all disaster specific mechanisms would come under a single umbrella allowing for attending to all kinds of disasters. The existing arrangements therefore will be strengthened by the Relief Commissioner through Emergency Operations Centers (EOC), both at State Level and at the district levels.

The DM Act 2005 empowers Relief Commissioner to be the Incident Commander in the State and District Collector in the respective districts.

### **6.1.3 State Emergency Operations Centre**

The Emergency Operations Centre will be the hub of activity in a disaster situation. This is however, not to underestimate its normal time activities. The EOC, the key organizational structure, is flexible to expand when demands increase, and contract when the situation slows down. There is no one best way to organize an EOC. The primary function of an EOC is to implement the Disaster Management Action Plan which includes :

- Coordination
- Policy-making
- Operations management
- Information gathering and record keeping.
- Public information
- Resource management.

The EOC, its system, and procedures are designed in such a way that information can be promptly assessed and relayed to concerned parties. Rapid dissemination contributes to quick response and effective decision-making during emergency. As the master coordination and control point for all counter-disaster efforts, the EOC is the place of decision-making, under a unified command.

The EOC in the general circumstances will work under the supervision of Relief Commissioner. It is the nerve centre to support, co-ordinate and monitor the disaster management activities at the district level. However in a major disaster situation, the EOC will come under the direct control of Chief Secretary or any other person designated by the Chief Secretary as Chief of Operations.

#### **6.1.4 Sequence of Action at the State Level:**

##### **SEOC-**

On receipt of information either from NEOC from DEOC or from early warning agencies at national or state level or from any other reliable source the following action will be taken:

- i)** SEOC shall bring the information to the notice of SEC
- ii)** Issue alerts / warnings to all DDMA's / Nodal Departments ESF and all other designated Departments in the State.
- iii)** Through public information directorate release the information for public through AIR, television and Press.
- iv)** Establish contact and provide status report to NEOC, MHA
- v)** Collect collate and synthesise information for consideration of SEC & SDMA
- vi)** Provide regular appraisal and status reports to all designated authorities in the State.
- vii)** Arrange meetings of SEC
- viii)** Activate ESF's if situation warrants

#### **6.1.5 The Uttar Pradesh State Disaster Management Authority (UPSDMA):**

**State Disaster Management Authority (SDMA) has been constituted in Uttar Pradesh vide Notification in exercise of the powers conferred by sub section (1) of section 14 of DM Act 2005.**

##### **The UPSDMA has few distinct objectives viz.**

- Development and updating of Plans, policies and Strategies to handle any type of disaster at various levels and (b) Undertake projects for restoration and strengthening of infrastructure damaged by disasters. Undertake projects for restoration and strengthening of infrastructure damaged by disasters. UPSDMA is expected to review and approve the technical proposals received from the executing agencies, process the procurement packages, manage the disbursement of funds and monitor the implementation.
- Disaster Risk Reduction & Mitigation related activities.
- Development of Multi-hazard response plan,
- Establish and maintain a failsafe communication network interconnecting the State, district, block and GP Headquarters for dissemination and collection of information relating to disaster management.
- Institutional capacity building
- Capacity building of the communities and Community Based Organisations to handle emergencies.
- Preparation of Geographic Information System (GIS) for disaster mitigation and development planning.
- Design and development of training programme for decision makers, elected representatives and the Civil Society groups.
- Coordination of NGO efforts

- The one of the main role of UPSDMA is to coordinate between the executing agencies i.e. the various line departments and the various funding agencies, Govt. of India, various funding agencies such as the World Bank, the DFID, etc.
- 100 Positions have been sanctioned under SDMA.

#### **6.1.6 State Executive Committee (SEC):**

**As per the Disaster Management Act 2005, the SEC may discharge following functions:**

1. Coordinate and monitor the implementation of the National Policy, the National Plan and State plan.
2. Examine the vulnerability of different parts of the State to different forms of disasters and specify measures to be taken for their prevention or mitigation.
3. Preparation of SDMPs.
4. Monitor the implementation of SDMP (SDMP) and Crisis Management Plan (CMP) prepared by the line departments of the State Government and District Authorities.
5. Monitor the implementation of the guidelines laid down by the State Authority for integrating the measures for prevention of disasters and mitigation by the departments in their development plans and projects.
6. Evaluate preparedness at all government or non-governmental levels to responds to any threatening disaster situation or disaster and give directions, where necessary, for enhancing such preparedness.
7. Coordinate response in the event of any threatening disaster situation or disaster;
8. Give directions to line Departments of the government of the state or any other authority or body in the State regarding actions to be taken in response to any threatening disaster situation;
9. Promote general education, awareness and community training and to conduct regular Mock drills to test the plan in regard to the forms of disasters to which different parts of the State are vulnerable and the measures that may be taken by such community to prevent the disaster, mitigate and respond to such disaster;
10. Advise, assist and coordinate the activities of the Departments of the Government of the State, District Authorities statutory bodies and other governmental and non-governmental organizations engaged in disaster management.;
11. Provide necessary technical assistance or give advice to District Authorities and local authorities for carrying out their functions effectively;
12. Advise the State Government regarding all financial matters in relation to disaster management.

#### **6.1.7 Role of Key Departments:**

- i) At the time disaster and on activation of State ESF plan all the departments shall deploy nodal officers toSEOC for coordination measures.
- ii) All concerned departments shall coordinate with their national counterparts and mobilise specialist resources and assistance as per requirement.



iii) All departments and organisation of the state shall place the resources at the disposal of DDMA's during disaster situation.

### 6.1.8 District Disaster Management Authority:

DDMA has been formed in all the districts of the state. Chairperson of this authority is the district magistrate and it is co- chaired by the Zila Panchayant chairman. DDMA acts as the planning, coordinating and implementing body for DM at District level and take all necessary measures for the purposes of DM in accordance with the Guidelines laid down by the NDMA and SDMA. It, inter alia, prepares the District DM plan for the District and monitor the implementation of the National Policy, the State Policy, the National Plan, the State Plan concerning its own District and prepare the District Plan. The DDMA will also ensure that the Guidelines for prevention, mitigation, preparedness and response measures laid down by NDMA and SDMA are followed by all Departments of the State Government, at the District level and the Local Authorities in the District.

### 6.1.9 District Emergency Operation Centre (DEOC):

- District Emergency Operation Centre located in the office of deputy commissioner shall discharge the following functions:
- On receipt of information from SEOC/SEC or from any field office or Panchayat or from any other reliable source, DEOC will bring this in the notice of DDMA.
- DEOC shall issue necessary alerts to all authorities in the district or at state level depending on the situation.
- DEOC will send regular status and appraisal reports to SEOC.
- DEOC shall maintain all records.
- DEOC shall collate and synthesise information for consideration of DDMA.

## 6.2 Roles and Responsibilities of Nodal Departments/ Agencies

Roles and responsibilities of the various departments/ stakeholders in Emergency Support Functions

ESF	Responsibilities
<b>Communication</b>	Department of IT will ensure the provision of state wide telecommunication ,communication and other Network services to the state, and districts in response efforts
<b>Public Health and Sanitation</b>	Department of health & family welfare will provide coordinated assistance in response to public health and medical care needs following any natural or manmade disaster.
<b>Power</b>	Department of power through UP State Electricity Board facilitate restoration of energy systems in any disaster and maintain their functioning.
<b>Transport</b>	Department of Transport through UPSRTC will provide transport support. Coordinate the use of both Govt. & Private resources. Support Forces requiring transportation to perform their emergency response, recovery and assistance for any other activity.
<b>Search and Rescue</b>	Department of home through Police, Home Guard & Fire Brigade will provide specialized life saving assistance to district and local authorities In locating, extricating and providing on site medical treatment to victims trapped in collapsed structures.
<b>Donations</b>	Department of Revenue will ensure donation management to control the flow of goods and services into a disaster area.

<b>Public works and Engineering</b>	Department of public works, Irrigation & other engineering departments will provides technical advice and technical services in repairing facilities and engineering infrastructure, contracting for construction management, inspection, and emergency repair. Engineering departments would assist in restoring life sustaining actions, damage mitigation and recovery. Perform immediate damage assessment of physical infrastructure.
<b>Information and Planning</b>	Department of Information & Public relation will collect, process and disseminate information about an actual or potential situation.
<b>Relief supplies</b>	Department of Revenue through district administration will coordinate activities involved with emergency provisions of temporary shelters, emergency mass feeding, and bulk distribution of coordinated relief supplies for victims of disasters
<b>Food</b>	Department of Food & Civil Supplies will identify the basic needs of food in the aftermath of a disaster or emergency. Procure appropriate supplies. Store at secured places and arrange to transport food assistance to the affected areas and authorize food stamp assistance.
<b>Drinking water</b>	Jal Nigam will ensure and provide a minimum quantity of clean drinking water and check the spread of any potential disease during disaster. Undertake repair of infrastructures.
<b>Shelter</b>	Department of Revenue will provide and arrange for the physical needs of individuals, families and communities for safe. Secure and comfortable living space compatible with season.
<b>Media</b>	Department of Information & public relations will provide and collect reliable information on the status of disaster and disaster victims for effective coordination of relief work at all levels.
<b>Help Lines</b>	All nodal departments will collect, process and disseminate information about the welfare of citizens of the affected area Assist in managing the flow of information maintaining accuracy as well as easy access. The help lines will be responsible for providing, directing, and coordinating, logistical resource operations.

### Ministries Responsible for Disaster Response at Union Level for Various Disasters

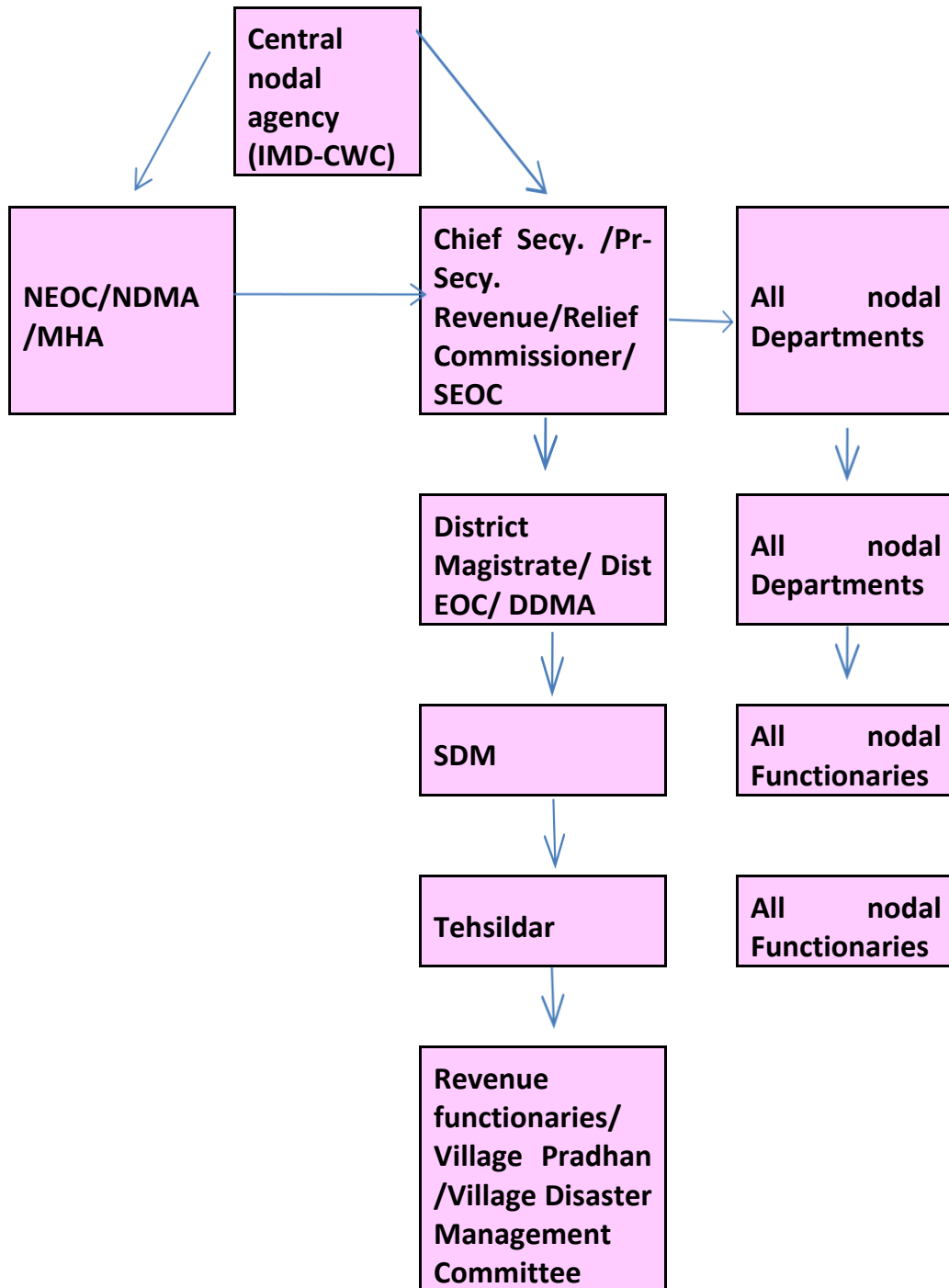
Disasters	Ministries / departments
<b>Floods</b>	Ministry of Home Affairs/ Ministry of Water Resources/CWC
<b>Earthquake</b>	Ministry of Home Affairs/ Ministry of Earth Sciences/IMD
<b>Drought</b>	Ministry of Agriculture
<b>Biological Disasters</b>	Ministry of Health and Family Welfare
<b>Chemical Disasters</b>	Ministry of Environment & Forests
<b>Nuclear Disasters</b>	Ministry of Atomic Energy
<b>Air Accidents</b>	Ministry of Civil Aviation
<b>Railway Accidents</b>	Ministry of Railways

### Nodal agencies in the Government of India and in the state mandated for early warning of different natural hazards prevailing in the state of Uttar Pradesh

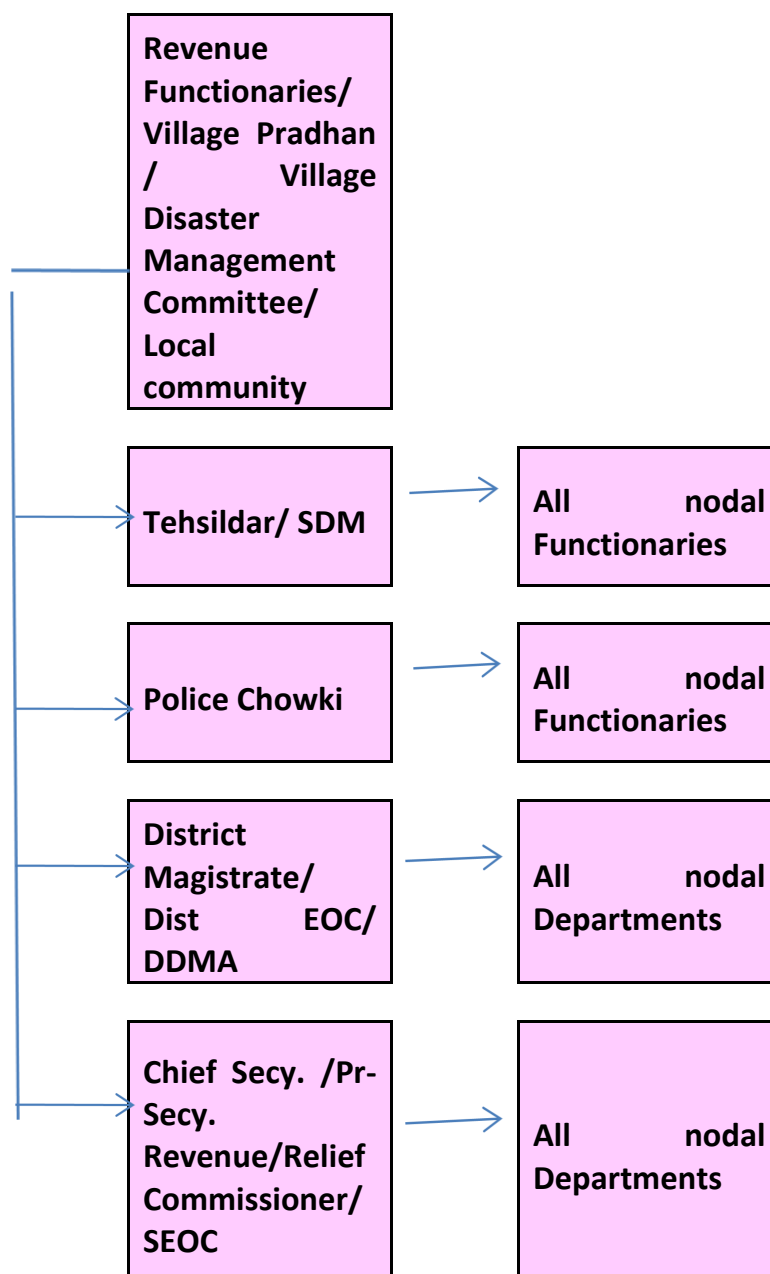
Disaster	National Agency/ Dept	State Agency/ Dept
<b>Floods</b>	Central Water Commission	Department of Irrigation

<b>Heat &amp; Cold Waves</b>	Indian Meteorological Department	Department of Revenue
<b>Drought</b>	Indian Meteorological Department	Department of Agriculture/ Revenue

**The information flow when warning signals are available**



**Information flow in situation when early warnings are not available**



<b>U.P. State Disaster Management Authority (UPSDMA)</b>	Lay down policies and plans for disaster management in the State. Declare emergency situation in case of State level disaster and the end of it. Provide policy directions and integration of Disaster Management programmes in the state development framework.
<b>State Executive Committee for Disaster Management (SEC)</b>	Implementation of the State Plan and monitoring body for management of disasters in the State.
<b>Department of Revenue and Relief</b>	Member Secretary of SDMA. Member of SEC, Overall coordination, implementation of the EOC activities and documentation and reporting to the SEC,
<b>Department of Public Works (PWD)</b>	Primary agency for maintenance of public infrastructure identifies safer places, assess physical damage, identify safer routes, and provide necessary reconstruction and rehabilitation support. Ensure hazard resistant features as per all building by laws and maintain all National & State roads.

<b>Department of Housing</b>	Primary agency responsible for evolving policy and ensuring land use, hazard wise zonation and implementation building by laws.
<b>Department of Urban development</b>	Main agency to ensure repair and maintenance in the urban areas.
<b>Uttar Pradesh Housing and Urban Development Authority</b>	One of the executing agency for constructions under implementation of recovery and rehabilitation plans. Responsible for ensuring the mitigation measures while construction or reconstruction of its projects in the state.
<b>Department of Education</b>	The department will prepare curriculum related to disaster management and conduct training programme for teachers and children. The department will coordinate with the local authority and arrange for mock drills, search and rescue drills. Awareness campaigns, Volunteer Teams. Ensuring maintenance and retrofitting of school buildings/school safety.
<b>Department of Home</b>	Be the primary agency responsible for “Urban Fire”, “Village fire”, Nuclear disasters, Serial Bomb blasts and Festival related disasters. And also for Security, evacuation, emergency assistance, search and rescue, first aid, law and order, communication, shifting of people to relief camps, traffic management. Burial work of dead bodies, Fire management.
<b>Department of Forest</b>	Be the primary agency responsible for “Forest Fire”. During response and recovery support SEOC with resources. Identification of prone areas, mitigation activities, research and assessment.
<b>Department of Environment And Science and Technology</b>	The primary agency responsible for Avalanches Snow Storms & Environmental & Climate Change Hazards. GIS mapping for effective disaster management. Primary agency of research and development on Climate Change impact and adaptation activities for the State. Provide inputs to the State Disaster Mitigation Committee for new technologies and also for awareness programs.
<b>Department of Power</b>	Primary agency responsible for Dam failures / bursts and electrical disasters and fires. It will ensure power supply for public facilities such as Hospital, police stations, telecommunication building and meteorological stations. Coordination with Hydro Power Projects.
<b>Department of Information Technology</b>	Various alternative Communication mode for state. There details access point, alternative link media, VHF, HF radio and policies of providing SAT phones and ensuring their operation with good/prolonged backup and publishing the same.
<b>Department of Irrigation health</b>	Primary agency responsible for Floods, Water supply and Drought, Issue flood warnings, identification of safer places, construct embankments, arrangement of boats and pump sets, swimmers and divers and communication.
<b>Department of Health</b>	Be the primary agency responsible for “Biological Disasters and Epidemics”. First aid, health and medical care, ambulance arrangements, preventive steps for other diseases, establishment of health camps. Providing Trauma Centres and all other health related support
<b>Department of Information and Public Relations</b>	Communicate warnings to the public, relay announcements issued by SEC, telecast special programmes for information and actions, education and awareness messages for preparedness actions and coordinated response. Promote disaster related polices, provide emergency communication systems, enable critical communication links with disaster sites and coordinate with media.
<b>Department of Rural Development</b>	Primary agency to implement vulnerability reduction projects to alleviate poverty and improve people’s livelihoods. Ensure Rural development

	schemes implemented in the State incorporating disaster management measures. Assists in rehabilitation of the victims.
<b>Department of Agriculture</b>	Primary agency for hailstorms, Droughts and pest attacks. To provide seeds and necessary planting material and other inputs to assist in early recovery. Early warning and avert ion of disasters such as Hail Storms and droughts.
<b>Department of Finance</b>	Arrange necessary funds and ensure equitable distribution, manage accounts.
<b>Department of Planning</b>	Allocation of funds on priority basis for disaster mitigation and rehabilitation projects

### 6.3 Alert Mechanism – Early Warning

On the receipt of warning or alert from any such agency which is competent to issue such a warning, or on the basis of reports from District Collector of the occurrence of a disaster, the response structure of the State Government will be put into operation. The Chief Secretary / Relief Commissioner will assume the role of the Chief of Operation during the emergency situation.

The details of agencies competent enough for issuing warning or alert pertaining to various types of disasters are given below;

Disaster	Agencies
Earthquakes	IMD , ISR
Floods	IMD , Irrigation Department
Drought	Agriculture Department
Epidemics	Health & Family Welfare Department
Industrial & Chemical Accidents	Industry , Labor & Employment Department, DISH
Fire	Fire & Emergency Services

#### 6.3.1 The occurrence of the disaster will be communicated to

##### 6.3.1 At state Level:

- Governor, Chief Minister, Home Minister, Chief Secretary and non-officials namely MP's and MLAs from the affected district.

##### At the Central Level:-

- PMO, Cabinet Secretary, Secretary-Home and Defense, NDMA, MHA.
- Uttar Pradesh Sub Area Command: HQ, Lucknow.

#### 6.3.2 The occurring of the disaster would essentially, bring into force the following:

- The EOCs will be out on full alert and expanded to include Branch arrangements, with responsibilities for specific tasks, depending on the nature of disaster and extent of its impact. The number of branches to be activated will be decided by the Chief of Operations. i.e the Relief Commissioner at the State level and respective District Collectors at the District level .

- All Branch Officers and Nodal Officers will work under the overall supervision and administrative control of the Chief of Operations. All the decisions taken in the EOC have to be approved by the Chief of Operations.
- In case of disaster the alternation mode of communication should be made available to desired dept. for implementation of the help to the sufferings masses.

The EOCs in its expanded form will continue to operate as long as the need for emergency relief and operations continue and the longer term plans for rehabilitation are finalized. For managing long-term rehabilitation programmes, such as reconstruction of houses, infrastructure and other social amenities, the responsibility will be that of respective line department through a well structured Relief & Rehabilitation Programme. This will enable EOCs to attend to other disaster situations, if the need be.

### **6.3.3 Hazard wise alert and warning mechanism**

The alert / warning mechanism has been described below for the hazard which can be forecasted;

#### **6.3.3 Flood**

Flood forecasting requires understanding of meteorological and hydrological conditions, and is therefore the responsibility of Central Water Commission (CWC).

- Control room of irrigation department stationed at Lucknow collects information regarding meteorological situation of the State.
- These Hydro Meteorological data are transmitted by Control room of irrigation department to the District Magistrates, RC Office, Executive Engineer at Division level as per their specific requirements.
- Control room of irrigation department also issue heavy rainfall warnings to those officers of Revenue Departments & UPSDMA.

#### **Dissemination**

Keeping constant watch over the flood situation, flood warning, monitoring flood discharges through concerned authorities, formulating flood forecasted

On receipt of flood warning the Relief Commissioner will in turn take necessary actions for alerting and evacuating the people likely to be affected.

Whenever heavy outflow is likely to be let off from the dam/weir or whenever bursting of dam is anticipated, warnings are also be communicated by the Focal Officer/ Executive Engineer either to the Assistance Engineer of Railway or to the Station Master of the nearest railway station or Divisional Railway Managers.

During emergency, flood messages are also conveyed by Focal Officer or any officer authorized by him and District Magistrate to All India Radio/Doordarshan Kendra for necessary broadcast.

### **6.3.3.2 Drought**

Drought in the Indian region is monitored from the progress of the onset and the withdrawal of the southwest monsoon. Weather forecasts are broadly classified into three categories viz.

1. Short range forecast (validity for less than 3 days),
2. Medium range forecast (validity for less than 3-10 days),and
3. Long range forecast (validity for less than 10 days),

These forecasts are issued by the Indian Metrological Department through the All India Radio, the Doordarshan and various Newspapers.

### **6.3.3.3 Earthquake**

For earthquake and most of the man-made disasters prediction cannot be done so the response activities are initiated immediately after its occurrence.

## **6.4 Search & Rescue**

The first priority in the aftermath of a disaster is to minimize loss of lives by undertaking rescue efforts for the affected people and providing medical treatment. People who are trapped under destroyed buildings or are isolated due to any disaster need immediate assistance

The District Magistrate, in conjunction with local authorities will be responsible for the search and rescue operations in an affected region. In doing so, The DM will be guided by relevant disaster management plans and will be supported by Government departments and local authorities.

## **6.5 Coordination with Armed Forces, Airport Authority of India (AAI) and Indian Railways & Other Stakeholders:-**

As described earlier, for the management and control of the adverse consequences of any disaster will require coordinated, prompt and effective response systems at the central and state government levels, especially at the community levels.

These agencies (Armed Forces, AAI, and Indian Railways, etc) shall be called upon to assist the civil administration only when the situation is beyond the coping capability of the State Government.

The details activities need to be taken up by these agencies during disaster response is explained in the next chapter.

## **6.6 Finalizing relief payouts and packages**



Relief Packages would include details relating to collection, allocation and disbursement of funds to the affected people. Relief would be provided to all the affected families without any discrimination of caste, creed, religion, community or sex whatsoever.

#### **6.7 Post-Disaster Rehabilitation & Restoration**

As per the guidelines of State Disaster Response Fund, Rehabilitation & Restoration work would be carried out by the concerned departments & agencies. The Principle of Build Back Better would be followed in rehabilitation & restoration.

#### **6.8 Post-relief assessment**

UPSDMA, with assistance from Government departments, district administration and local authorities will document learning from the relief experience, which can be inputs into further mitigation, relief or rehabilitation and reconstruction plans in future.

## **Chapter 7**

### **Partnership with Other Stakeholders**

Disaster Management is an inclusive field and requires contribution from all stakeholders in order to effectively manage the emergency situation. Coordination amongst various stakeholders hence becomes extremely important to archive the desired results

There are various agencies/organizations/departments and other authorities that constitute a core network for implementing various disaster management related functions/activities. It also includes academic, scientific and technical organizations which have an important role to play in various facets of disaster management. A brief note and activities of such functionaries and the existing system of coordination established by the State Government with them is mentioned below.

#### **7.1 NDMA**

- The National Disaster Management Authority (NDMA) as the apex body in the GOI, has the responsibility of laying down policies, plans and coordinating their enforcement and implementation for ensuring timely and effective response to disasters.
- The guidelines assist the central ministries, departments and states to formulate their respective plans. It also approves the National Disaster Management plan prepared by the National Executive Committee (NEC) and plans of the central ministries and departments.
- It takes such other measures as it may consider necessary, for the prevention of disasters, or mitigation or preparedness and capacity building, for dealing with a threatening disaster situation or disaster.
- It also oversees the provision and application of funds for mitigations and preparedness measures. It has the power to authorize the departments or authorities concerned, to make emergency procurement of provisions of materials for rescue and relief in a threatening disaster situation or disaster. It also provides such support to other countries in times of disasters as may be determined by the Central government.
- The State keeps in touch with NDMA for implementing various projects / schemes which are being funded through the Central Government. The State also appraises the NDMA about the action taken by the State Government regarding preparation of DM plans and implementation of guidelines issued by NDMA for various hazard from time to time.

#### **7.2 National Institute of Disaster Management (NIDM)**

- The NIDM in partnership with other research institutions has capacity development as one of its major responsibilities along with training, research, documentation and development of a National level information base. It networks with other knowledge-based institutions and functions within the broad policies and guidelines laid by the NDMA.

- It organizes training of trainers, DM officials and other stakeholders as per the training calendar finalizes in consultation with the respective State Governments.

### **7.3 National Disaster Response Force (NDRF)**

- For the purpose of a specialized response to a threatening disaster situation or disasters/emergencies both natural and man-made such as those of CBRN origin, the National Disaster Management Act has mandated the constitution of a National Disaster Response Force (NDRF)
- The general superintendence, direction and control of this force is vested in and exercised by the NDMA and the command and supervision of the Force is vested in an officer appointed by the Central Government as the Director General of Civil Defense and National disaster Responses Force. Presently, the NDRF comprises eight battalions and further expansion may be considered in due course. These battalions are positioned at different locations across the State.
- NDRF units maintains close liaison with the designated State Governments and are available to them in the event of any serious threatening disaster situation. While the handling of natural disasters rests with all the NDRF battalions are equipped and trained to respond to situations arising out of CBRN emergencies.
- Training centers are also set up by respective paramilitary forces to train personnel from NDRF battalions of respective forces and also meets the training requirements of State/UT Disaster Response Forces. The NDRF units also impart basic training to all the stakeholders identified by the State Governments in their respective locations. In addition, the State Government also utilizes the services of the NDRF, whenever required during emergency search, rescue and response.

### **7.4 Armed Forces**

- Conceptually the Armed Forces are called upon to assist the civil administration only when the situation is beyond the coping capability of the State Government. In practice, however, the Armed Forces an important part of the Government's response capacity and are immediate responders in all disaster situations.
- On account of their vast potential to meet any adverse challenge, speed of operational response and resources and capabilities at their disposal, the Armed Forces has historically played a major role in emergency support functions. These include communication, search and rescue operations, health and medical facilities, and transportation, especially in the immediate aftermath of a disaster. Airlift, hell-lift and movement of assistance to neighboring countries primarily fall within the expertise and domain of the Armed Forces.
- The Armed forces also participates in imparting training to trainers and DM managers, especially in CBRN aspects, high-altitude rescue, waterman ship and training of paramedics. At the State and Districts levels, the local representatives of the Armed Forces have been included in their executive committees to ensure closer coordination and cohesion in all aspects related to Disaster Management.

### **7.5 Airport authority of India (AAI)**

- When disaster strikes, the airports are quickly overwhelmed with the tons of relief materials (like food, bottled ware, medical supplies, cloths, tents, etc.) arriving from all over world. This material is urgently needed to be in the field.
- In such cases, AAI should appoint senior officer at the airport for proper handling and distribution (which includes precise unloading, inventory, temporary storage, security and distribution of relief material) of relief during disaster situation.
- The AAI shall prepare and provide a list of equipments required for handling the material to either UPSDMA or Commissioner of Relief. The equipments will be procured and maintained through nearest Emergency Response Centre (ERC). Deputation of team of official along with necessary infrastructure at the airports will be made available by the Commissioner or Relief for necessary dispatch and accounting of relief material during emergency situation

### **7.6 Indian Railways**

- Indian Railways is spread over a vast geographical area 63000 route kilometers, unlike in other countries where the role of Railways, in the event of a disaster, is restricted to clearing and restoring the traffic, in our country Indian Railways handles the rescue and relief operations. Railways are preferred mode of transport both for the movement of people and martial in bulk, if accessible.
- Railways should have a provision for transportation of mass community and proper handling and distribution of relief material (through special trains, if required) in their disaster management plan.

### **7.7 Indian Metrological Department (IMD)**

The role of IMD has already been discussed in previous chapters

- The metrological department undertakes observations, communications, forecasting and weather services. The IMD was also the first organization in India to have a message switching computer for supporting its global data exchange.
- In collaboration with the Indian Space /research organization, the IMD also uses the Indian National Satellite system (INSAT) for weather monitoring of the Indian subcontinent, being the first weather bureau of a developing country to develop and maintain its own geostationary satellite system.
- During the cyclone and flood seasons, the state government keeps close contact with the IMD- Lucknow office for weather related forecasts.
- Earthquake occurring in the State which are of magnitude 3.0 and above on Richter scale are also reported by the IMD to the State Government immediately.

### **7.8 State Disaster Response Force (SDRF)**

- PAC has earmarked 17 battalion as flood battalions. Three dedicated battalions of SDRF are being constituted under the home department.

### **7.9 Media**

Reducing the losses of life and property caused by natural hazards is a compelling objecting now receiving worldwide attention. It is now being increasingly believed that the knowledge and technology base potentially applicable to the mitigation of

natural hazards has grown so dramatically that it would be possible, through a concerted cooperative effort, to save many lives and reduce human suffering, dislocation and economic losses simply by better information, communication and awareness.

- Timely mass media communication about impending disaster can lead to appropriate individual and community action, which is the key to implementing effective preventing strategies including evacuation and survival of people. Such communication can educate, warn, inform, and empower people to take practical steps to protect themselves from natural hazards.
- The role of media, both print and electronic, in informing the people and the authorities during emergencies thus, becomes critical, especially the ways in which media can play a vital role in public awareness and preparedness through educating the public about disaster warning of hazards; gathering and transmitting information about affected areas; alerting government officials, helping relief organization and the public towards specific needs and even in facilitating discussions about disaster preparedness and response. During an emergency, people seek up-to-date, reliable and detailed information.
- The State Government has established an effective system of partnering with the media during emergency situations. At the time of disaster daily media bulletin is issued by the govt. Both print and electronic media is regularly briefed at predetermined time intervals about the events as they occur and the prevailing situation on ground. The State Government has also ensured that the interaction with media is a two way process through which not only the State Government provides the information / updates to the media but the media too, through their own sources / resources draws the attention of the Government officials to the need and requirement of the affected people. This helps the State Government to control the flow of information and prevent rumours which could create a panic situation during the disasters. The State Government also partners with the media during information Education and Communication (IEC) campaigns carried out for creating awareness amongst general public towards the precautions to be taken for prevention and mitigation of various hazards / events. A similar mechanism is also active at the district level.
- Apart from coordination with the media during disasters, the State Government regularly partners the print and electronic media to publish / broadcast safety messages during two important festivals of the State, Diwali and Kite Flying. There has been a considerable drop in the number of cases (fire burn during Diwali and injury cases during Kite Flying) reported at the local level because of such campaigns through media

# Chapter 8

## Financial Arrangements

### 8 Financial Arrangements for Disaster Management

To ensure the long-term sustenance and permanency of the organization, funds would be generated and deployed on an ongoing basis. There are different ways to raise the funds in the State for disaster management as described below:-

#### 8.1 State Disaster Response fund

To carry out Emergency Response & Relief activities after any disaster the State Disaster Response Fund is made available to Relief Commissioner in which the Central Government share is 75% and the Govt. of Uttar Pradesh share is 25% as per the recommendation of 14<sup>th</sup> Finance Commission. The SDRF Guidelines is given in Annexure-2.

#### 8.2 State Budget

The State Disaster Management Authority, submit to the State Government for approval a budget in the prescribed form for the next financial year, showing the estimated receipts and expenditure, and the sums which would be required from the State Government during that financial year.

As per the provisions of The Uttar Pradesh State Disaster Management Act, 2005 the Authority may accept grants, subventions, donations and gifts from the Central or State Government or a local authority or body, INGOs whether incorporated or not.

#### 8.3 Grant in aid

Further State receives grant in aid from Central Govt., other agencies to carry out specific projects/ schemes related to disaster management/mitigation/capacity building. Currently under 13<sup>th</sup> Finance Commission, Central Govt has allocated Rs. 25 Crore for Capacity Building for Disaster Management. Under this, 4.5 lakh people of community are being trained on Disaster Management & response practices. Basic lives saving equipments are also being provided to vulnerable Panchayats.

## Chapter 9

# Rehabilitation & Reconstruction

Reconstruction and Rehabilitation activities come under the post-disaster phase. Currently, the activities are primarily carried by the various Government departments and authorities but role of local bodies (Gram Panchayats, District, Municipal Corporations, and Municipalities etc.) is also very important. However, their activities in this phase shall be in accordance with the reconstruction and rehabilitation plans which shall be framed by UPSDMA.

The reconstruction and rehabilitation plan is design specifically for worst case scenario. It is activated in case of L3 type of disaster in which the capacity of State and District authorities have been overwhelmed and require assistance from the Central Government for re-establishing normally in the State.

The key activities in this phase are as below;

### **9.1 Detailed damage assessment**

While a preliminary damage assessment is carried out during disaster phase, a detailed assessment must be conducted before commencing reconstruction and rehabilitation activities. The district administration, relevant Government departments and local authorities shall initiate detailed assessment at their respective level for damages sustained in housing, industry/ services, infrastructure, agriculture, health/education assets in the affected regions. The detailed damage assessment shall be vetted by the DDMA.

### **9.2 Assistance to restore houses and dwelling units in case of massive disaster.**

As per SDRF norms assistance is given to the families whose houses have got damaged due to any disaster.

### **9.3 Relocation (need based)**

The GOUP believes that need-based considerations and not extraneous factors drive relocation of people. Govt of Uttar Pradesh has made budget provision for rehabilitation of displaced community in state budget. The district administration, in consultation with the people affected and under the guidance of Relief Commissioner & UPSDMA, shall determine relocation needs taking into account criteria relevant to the nature of the calamity and the extent of damage. Relocation efforts will include activities like:

- Gaining consent of the affected population
- Land acquisition
- Urban/rural land use planning
- Customizing relocation packages
- Obtaining due legal clearances for relocation
- Getting the necessary authorization for rehabilitation
- Livelihood rehabilitation measures for relocated communities wherever necessary

#### **9.4 Finalizing reconstruction & rehabilitation plan**

The effectiveness of any reconstruction and rehabilitation are based on detailed planning and careful monitoring of the relevant projects. Relief Commissioner organization/ SEC/ UPSDMA will oversee reconstruction and rehabilitation work and ensure that it takes into account the overall development plans for the state. Relief Commissioner organization/ SEC/ UPSDMA will approve reconstruction and rehabilitation projects based on:

- Identification of suitable projects by relevant departments;
- Projects detailing and approval by the relevant technical authority.

#### **8.5 Funds generation**

Reconstruction & rehabilitation projects are fairly resources intensive so the budget should be immediately given from National Disaster Response Fund to the State Govt.

#### **9.6 Project management**

Since rehabilitation and reconstruction efforts typically involves the co-ordinate effort of several entities, the State Govt would encourage the respective entities to ensure that synergies across and within entities are managed efficiently. In addition, it is also necessary to constantly monitor the activities to ensure that the project is executed on time, accordance with the technical specification and to the satisfaction of the beneficiaries. RC Organisation, in conjunction with relevant Government departments, will monitor the reconstruction activity that is carried out by various implementation agencies. Typical implementation activities would include:

#### **9.7 Information, Education and Communication**

Communication activities are necessary to convey to the larger community the scope and nature of the proposed reconstruction and rehabilitation effort so as to increase the stakeholder awareness for the ongoing activities. Hence, UPSDMA and relevant Government department, district administration and local shall undertake the IEC activities.

#### **9.8 Dispute resolution mechanisms**

RC Organisation, in conjunction with relevant agencies, shall institutionalize mechanisms to address beneficiary grievances various levels, as well as explore innovative ways of dispute minimization like involving the community in reconstruction initiatives. Appropriate mechanism with penalties for dealing with false claims will be involved to prevent misuse of assistance.



## Chapter 10

# Plan Maintenance/ Mechanism for Review & Updation of Plan and Coordination & Implementation

### 10.1 Introduction

Plan maintenance means updating the plan on a periodic basis. The back-bone of maintaining the plan is carrying out mock drills and updating the plan based on the lesson learnt as an outcome of the mock exercises which consists of identifying the gaps and putting in place a system to fill the same.

### 10.2 Plan Testing

The UPSDMA shall prepare, review and update SDMP as provided for in the Act. UPSDMA shall ensure that disaster management drills and rehearsals are carried out periodically.

While updating the plan the following aspects need to be considered by the Relief Commissioner/ ACEO of SDMA every year:

- i. Critical analysis of the outcome of exercises & mock drills as part of plan testing.
- ii. Incorporation of lessons learnt in the updated plan as an outcome of mock exercises through identification of gaps and measures to fill them.

The plan must be thoroughly tested and evaluated on a regular basis once in a year. The Plan testing should preferably be organized on the first Monday in the months of March every year.

After plan testing and incorporation of lesson learnt, the Relief Commissioner/ ACEO of SDMA should send a copy of the revised and updated plan to the following officials:

- a. Chief Secretary, Government of Uttar Pradesh
- b. Chief Executive officer, UP State Disaster Management Authority
- c. Principal Secretary, Revenue Dept.
- d. Head of all line Depts.
- e. State EOC
- f. District EOCs
- g. IMD
- h. CWC/ACWC
- i. Other stakeholder which he/she feels necessary

The main objectives of plan testing are to

- i. Determine the feasibility and compatibility of back up facilities and procedures.
- ii. Identify area in the plan that need modification
- iii. Identify training needs of key stakeholders.

- iv. Assess the ability of the organization/department to respond to disaster. All the departments, which have specific roles and responsibilities in SDMP, must have a system to ensure that all Officers of their departments who have a specific role to play are fully conversant with their responsibilities/tasks.

### **10.3 Debrief and Evaluation Mock-Drills**

- After the mock exercise debriefing and evaluation is very important. It is of critical importance that these insights are collected from participants (who participated in the exercise) and used to modify the plan.
- Immediate debriefing is very effective as it is carried out immediately after the exercise. It also includes documentation in terms of recommendation and improvements of the plan.
- The lesson learned from the mock exercise is likely to be similar to those from real events. The only major difference is that exercises are controlled events, specifically designed to test procedures and they can be reported again until sound/workable arrangements are in place.

### **10.4 Review/ Updation of Plan**

- The SDMP should be reviewed and updated regularly by month of April, based on inputs as under:
  - a. Drills and Rehearsals
  - b. Recommendations from all Depts. In their Annual DM Report.
  - c. Lessons learnt from any disaster event in other states and countries.
  - d. Directions from Ministry of Home Affairs, National Disaster Management Authority, Government of India, etc.UPSDMA and all other concerned Depts. Should encourage formal and informal interaction with various stakeholders at different levels to learn and document their experiences, so that such experiences can contribute constructively towards updation of SDMP for further improving the capability to deal with future disasters.

प्रेषक,

जावेद उस्मानी,  
मुख्य सचिव, उ०प्र० शासन/  
मुख्य कार्यपालक अधिकारी,  
उ०प्र० राज्य आपदा प्रबंध प्राधिकरण।

सेवा में,

- 1- समस्त प्रमुख सचिव/ सचिव,  
उ०प्र० शासन।
- 2- समस्त मण्डलायुक्त  
उत्तर प्रदेश।
- 3- समस्त जिलाधिकारी,  
उत्तर प्रदेश।

राजस्व अनुभाग-11

दिनांक: 13 मार्च 2013

**विषय:- आपदा प्रबंधन व जोखिम न्यूनीकरण तत्वों को समस्त विभागों के योजनाओं/ कार्यों में सम्मिलित किए जाने के संबंध में।**

महोदय,

उपर्युक्त विषय पर मुझे यह कहने का निदेश हुआ है कि राष्ट्रीय आपदा प्रबंध अधिनियम, 2005 के धारा 39 में किए गए प्राविधानों के अनुसार, राज्य सरकार के विभिन्न विभागों को अपने विभागीय योजनाओं एवं कार्यों में आपदा जोखिम न्यूनीकरण के तत्वों का समावेश किया जाना आवश्यक है। इस अधिनियम की धारा 39 के प्राविधान निम्नवत हैं-

- "39. It shall be the responsibility of every department of the government of a State to-
- (a) take measures necessary for prevention of disasters, mitigation, preparedness and capacity-building in accordance with the guidelines laid down by the National Authority and the State Authority;
  - (b) Integrate into its development plans and projects, the measures for prevention of disaster and mitigation;
  - (c) allocate funds for prevention of disaster, mitigation, capacity-building and preparedness;
  - (d) respond effectively and promptly to any threatening disaster situation or disaster in accordance with the state plan, and in accordance with the guidelines or directions of the National Executive Committee and the State Executive Committee;
  - (e) review the enactments administered by it, its policies, rules and regulations with a view to incorporate therein the provisions necessary for prevention of disasters, mitigation or preparedness;
  - (f) provide assistance, as required, by the National Executive Committee, the State Executive Committee and District Authorities, for-
    - (i) drawing up mitigation, preparedness and response plans, capacity building, data collection and identification and training of personnel in relation to disaster management;
    - (ii) assessing the damage from any disaster;
    - (iii) carrying out rehabilitation and reconstruction;
  - (g) make provision for resources in consultation with the State Authority for the implementation of the District Plan its authorities at the district level;

(h) make available its resources to the National Executive Committee or the State Executive Committee or the District Authorities for the purposes of responding promptly and the effectively to any disaster in the State, including measures for-

- (i) providing emergency communication with vulnerable or affected area;
- (ii) transporting personnel and the relief goods to and from the affected area;
- (iii) providing evacuation, rescue, temporary shelter or other immediate relief;
- (iv) carrying out evacuation of persons or live-stock from an area of any threatening disaster situation or disaster;
- (v) setting up temporary bridges, jetties and landing places;
- (vi) providing drinking water, essential provisions, healthcare and services in an affected area;

(i) such other actions as may be necessary for disaster management.

2. 11वीं पंचवर्षीय योजना में आपदा जोखिम न्यूनीकरण तत्वों का विकास कार्यक्रमों में समावेशित किए जाने के संबंध में निम्नवत वर्णन है "Mainstreaming disaster management into the development planning process essentially means looking critically at each activity that is being planned, not only from the perspective of reducing the disaster vulnerability of that activity, but also from the perspective of minimizing that activity's potential contribution to the hazard. Every development plan of a ministry/department should incorporate elements of impact assessment, risk reduction, and the 'do no harm' approach"

3. अतः अनुरोध है कि समस्त विभागों द्वारा अपने विभाग के माध्यम से संचालित किए जाने वाले नए कार्यक्रमों/परियोजनाओं/गतिविधियों को इस दृष्टिकोण से बनाया जाएगा कि उनके माध्यम से आपदाओं के जोखिम को कम किया जा सके व आपदाओं से निपटने की पूर्व तैयारी की जा सके। विभाग द्वारा यह भी सुनिश्चित करने का प्रयास किया जाएगा कि किसी भी गतिविधि/परियोजना से आपदाओं में बढ़ोत्तरी न हो। आपदा जोखिम न्यूनीकरण घटकों को विभागीय नीतियों व इनके क्रियान्वयन दोनों स्तरों पर शामिल किया जाना आवश्यक है। केन्द्र द्वारा प्रायोजित विभिन्न विकासीय योजनाओं के प्रत्येक चरण में आपदा जोखिम न्यूनीकरण तत्वों को समावेशित किया जाए।

4. आपदा जोखिम न्यूनीकरण के तत्वों के समावेश के कुछ उदाहरण निम्नवत हैं-

क्षेत्र (Sector)	आपदा जोखिम न्यूनीकरण समावेश हेतु की जाने वाली गतिविधियां (Key interventions for DRR mainstreaming)
आवास (Housing)	<ul style="list-style-type: none"> <li>- घरों को जोखिम वाले क्षेत्रों में न बनाया जाना।</li> <li>- इंजिनियर्स, आर्कीटेक्ट, राजमिस्त्रियों को आपदासुरोधी निर्माण हेतु प्रशिक्षण।</li> <li>- आपदासुरोधी भवन निर्माण।</li> <li>- शहर का मास्टर प्लान आपदाओं की संभावना को ध्यान में रखकर बनाया जाना।</li> <li>- शहरी नियोजन संबंधी कार्यों को बाढ़ अथवा भूकम्प आदि सम्भावित आपदाओं के परिप्रेक्ष्य में नियोजित किया जाए।</li> <li>- समस्त सरकारी व गैरसरकारी भवनों को आपदासुरोधी तकनीक से बनाने हेतु भवन उपविधि का पालन व इसका प्रवर्तन सुनिश्चित किया जाए।</li> <li>- समय-समय पर भवन उपविधि व विनियमों का आपदा जोखिम न्यूनीकरण के दृष्टिकोण से पुनरीक्षण किया जाए।</li> <li>- भवन निर्माण हेतु आपदासुरोधी तकनीक अपनाए जाने के संबंध में जनमानस को जागरूक करने हेतु व्यापक प्रचार प्रसार किया जाए।</li> <li>- संबंधित विभाग/प्राधिकरण/निकाय द्वारा सुनिश्चित किया जाए कि बिल्डर्स व प्राइवेट कम्पनियों द्वारा बनाए जा रहे भवन, बहुमंजिली-इमारतें आदि सुरक्षित स्थलों पर बनें व आपदासुरोधी तकनीक से भवन उपविधि व विनियमों का अनुपालन करते हुए बनें।</li> </ul>
अवसंरचनाएं (Infrastructure)	<ul style="list-style-type: none"> <li>- सड़क व अन्य परिसम्पत्तियां बनाते समय उस क्षेत्र की आपदा संवेदनशीलता व पूर्व घटित आपदाओं को दृष्टिगत रखते हुए आपदासुरोधी बनाया जाए।</li> </ul>

	<ul style="list-style-type: none"> <li>- रोड बनाते समय पर्याप्त जल निकासी का प्रबंध किया जाए तथा देखा जाए कि इससे जलभराव की समस्या न हो व यह बाढ़ के दौरान सुरक्षित रहे।</li> <li>- संबंधित विभागों द्वारा मूलभूत सार्वजनिक अवस्थापनाओं जैसे बांध, सड़क, ब्रिज, पलाई ओवर, रेलवे लाइन, स्कूल, हॉस्पिटल, पॉवर स्टेशन, पानी की टंकी और अन्य सार्वजनिक उपयोग वाले संसाधनों की मजबूती की समय-समय पर समीक्षा की जाए व आवश्यकता पड़ने पर इनका सुदृढीकरण किया जाए।</li> <li>- सम्भावित आपदाओं को दृष्टिगत रखते हुए इन निर्माणों को सुरक्षा के मानकों व मानदण्डों के आधार पर बनाया जाए, ताकि आपदाओं के दौरान भी यह संरचाएं प्रयोग में लायी जा सकें व दुर्घटना का कारण न बनें।</li> <li>- आपदा से नष्ट हुई परिसम्पत्तियों के पुनर्निर्माण को एक अवसर के रूप में मानते हुए इसे पहले से बेहतर पुनर्निर्माण (Build Back Better) के सिद्धान्त पर बनाया जाए ताकि इन्हें बार-बार टूटने से बचाया जा सके।</li> </ul>
शिक्षा (Education)	<ul style="list-style-type: none"> <li>- समस्त शैक्षणिक संस्थानों के पाठ्यक्रमों में आपदा प्रबंधन विषय का समावेशन।</li> <li>- समस्त शैक्षणिक संस्थान भवनों को आपदासुरी तकनीक से बनाया जाना।</li> <li>- आपदा प्रबंधन को टीचर ट्रेनिंग पाठ्यक्रम में शामिल करना।</li> <li>- विश्वविद्यालयों में आपदा प्रबंधन विभाग की स्थापना।</li> <li>- नियमित पूर्वान्वयास/मॉक ड्रिल को अनिवार्य किया जाना।</li> </ul>

उपरोक्त उल्लिखित आपदा जोखिम न्यूनीकरण के क्षेत्र व गतिविधियां उदाहरण मात्र है, यह सम्पूर्ण नहीं है।

अतः उपर्युक्त के परिप्रेक्ष्य में आपको निर्देश दिया जाता है कि राज्य सरकार द्वारा संचालित विभिन्न कार्य/योजनाओं को इस दृष्टि से परीक्षण करें कि उनमें कहां-कहां और किस रूप में आपदा जोखिम न्यूनीकरण उपायों का समावेश किया जा सकता है व तदनुसार उन्हें शामिल करने हेतु यथोचित प्रभावी कदम उठाना सुनिश्चित करें। उक्त के साथ ही आपदा जोखिम न्यूनीकरण घटकों को विभिन्न कार्य/योजनाओं में समाहित करने हेतु राज्य एवं जनपद स्तर पर विभागीय बजट में आवश्यक धनराशि की व्यवस्था कराना सुनिश्चित करें।

भवदीय,



(जावेद उस्मानी)

मुख्य सचिव, उ०प्र० शासन/  
मुख्य कार्यपालक अधिकारी,  
उ०प्र० राज्य आपदा प्रबंध प्राधिकरण।

## Norms of State Disaster Response Fund



राज्य आपदा मोचक निधि (S.D.R.F.)

एवं

राष्ट्रीय आपदा मोचक निधि (N.D.R.F.)

से सहायता हेतु मदों की सूची एवं मानक दरें।

(वर्ष 2015–2020)

(एम0एच0ए0 पत्र संख्या-32-7 / 2014-एन0डी0एम0-1, दिनांक 08 अप्रैल, 2015)

राज्य आपदा मोचक निधि (SDRF)/राष्ट्रीय आपदा मोचक निधि (NDRF) से भारत सरकार द्वारा अधिसूचित निम्नलिखित आपदायें आच्छादित है :-

1. हिमस्खलन (Avalanches)	7. बाढ़ (Flood)
2. चक्रवात (Cyclone)	8. ओलावृष्टि (Hailstorm)
3. बादल फटना (Cloud Burst)	9. भूस्खलन (Landslides)
4. सूखा (Drought)	10. कीट आक्रमण (Pest Attack)
5. भूकम्प/सुनामी (Earthquake/Tsunami)	11. कोहरा एवं शीतलहरी (Cold Wave & Frost)
6. आग (Fire)	

उत्तर प्रदेश सरकार द्वारा निम्नलिखित आपदाओं को राज्य स्तरीय आपदा घोषित किया गया है जो राज्य आपदा मोचक निधि के मानक एवं दरों से आच्छादित है:-

1. बेमौसम भारी वर्षा	3. आंधी-तूफान
2. आकाशीय विद्युत	4. लू-प्रकोप

### राज्य आपदा मोचक निधि की मानक एवं दरें ।

क्रम सं०	मद	सहायता की मानक दरें
1.	अहैतुक सहायता (GRATUITOUS RELIEF)	
	(क) मृतकों के परिवार को देय अनुग्रह सहायता (Ex-Gratia payment to Families of deceased persons.)	रु० 4.00 लाख/प्रति मृतक ❖ राज्य सरकार द्वारा अधिकृत राहत कार्य अथवा पूर्व तैयारी में लगे हुए व्यक्ति भी सम्मिलित हैं इस शर्त के साथ कि सक्षम प्राधिकारी (Appropriate authority) द्वारा मृत्यु के कारण का प्रमाणीकरण किया गया है।
	(ख) किसी अंग अथवा आंखों के बेकार हो जाने पर देय अनुग्रह सहायता (Ex-Gratia payment for loss of a limb or eye (s).)	❖ रु० 59,100/- प्रति व्यक्ति उस दशा में जब शारीरिक अक्षमता 40 प्रतिशत से 60 प्रतिशत के मध्य हो। ❖ रु० 2.00 लाख प्रति व्यक्ति उस दशा में जब शारीरिक अक्षमता 60 प्रतिशत से अधिक हो। इस शर्त के साथ कि सरकारी अस्पताल या

		डिस्पेन्सरी के चिकित्सक द्वारा शारीरिक अक्षमता की सीमा तथा कारण प्रमाणित किया गया हो।
(ग) गम्भीर चोट जिसके कारण अस्पताल में भर्ती होना पड़े। (Grievous injury requiring hospitalization.)	❖ <b>₹ 12,700/-</b> प्रति व्यक्ति (गम्भीर चोट जिसके कारण एक सप्ताह से अधिक समय तक अस्पताल में भर्ती होने की आवश्यकता हो) ❖ <b>₹ 4,300/-</b> प्रति व्यक्ति (गम्भीर चोट जिसके कारण एक सप्ताह से कम समय तक अस्पताल में भर्ती की आवश्यकता हो।)	
(घ) जिन परिवारों के घर प्राकृतिक आपदा के कारण बह गये हो/पूर्णतया क्षतिग्रस्त हो गये हों/दो दिन से अधिक समय के लिये गम्भीर रूप से जलमग्न हो गये हों, उनके लिए कपड़े और बर्तन/घरेलू सामग्री हेतु प्रति परिवार सहायता।	❖ <b>₹ 1,800/-</b> प्रति परिवार कपड़ों के नुकसान पर। ❖ <b>₹ 2,000/-</b> प्रति परिवार बर्तन/घरेलू सामग्री के नष्ट होने पर।	
(ड.) उन परिवारों के लिये अहैतुक सहायता जिनकी आजीविका प्राकृतिक आपदा से गम्भीर रूप से प्रभावित हुई है। (Gratuitous relief for families whose livelihood is seriously affected.)	❖ <b>₹ 60/-</b> प्रति वयस्क और <b>₹ 45/-</b> प्रति अवयस्क, उनके लिये जो राहत कैम्पों में नहीं रह रहे हैं।  राज्य सरकार प्रमाणित करेगी कि चिन्हित लाभार्थी राहत कैम्पों में नहीं रह रहे हैं। साथ ही राज्य सरकार चिन्हित लाभार्थियों को चुनने का आधार तथा प्रक्रिया का जनपदवार विवरण देगी।  अहैतुक सहायता उपलब्ध कराने हेतु समयावधि जैसा कि राज्य कार्यकारिणी समिति आंकलन करे या एन0डी0आर0एफ0 से सहायता की दशा में केन्द्रीय दल आंकलन करे। इस हेतु सामान्य अवधि ( <b>Default Period</b> ) 30 दिवस है जिसे शुरुआत में आवश्यकतानुसार 60 दिनों की अवधि	



		<p>तक बढ़ाया जा सकता है और सूखा/कीट आक्रमण की स्थिति में 90 दिवस तक किया जा सकता है।</p> <p>स्थानीय स्थिति के आधार पर <b>(Depending of Ground Situation)</b> राज्य कार्यकारिणी समिति उक्त निर्धारित अवधि को बढ़ा सकती है परन्तु शर्त यह होगी कि इस मद पर होने वाला व्यय एस0डी0आर0एफ0 के वार्षिक आवंटन के 25 प्रतिशत से अधिक न हो।</p>
2.	<b>खोज एवं बचाव कार्य (Search &amp; Rescue Operations)</b>	
	<p>(क) खोज एवं बचाव कार्यों में व्यय/प्रभावित व्यक्तियों या सम्भावित रूप से प्रभावित होने वाले व्यक्तियों को सुरक्षित स्थान पर पहुँचाने पर व्यय।</p>	<p>❖ वास्तविक व्यय के अनुसार <b>(As per actual cost incurred, assessed by SEC)</b>, राज्य कार्यकारिणी समिति द्वारा किये गये आंकलन के अनुसार या एन0डी0आर0एफ0 से सहायता की दशा में केन्द्रीय दल द्वारा संस्तुत।</p> <p>आपदा उपरांत जब केन्द्रीय दल द्वारा प्रभावित क्षेत्रों का दौरा किया जाता है तब तक राहत बचाव कार्य समाप्त हो चुके होते हैं, अतः राज्य कार्यकारिणी समिति या केन्द्रीय दल वास्तविक/वास्तविक के आस – पास व्यय <b>(Actual/Near Actual Cost)</b> की संस्तुति कर सकते हैं।</p>
	<p>(ख) जीवन रक्षा एवं तात्कालिक राहत पहुँचाने हेतु किराये पर नाव लिया जाना (Hiring of boats for carrying immediate relief and saving lives.)</p>	<p>❖ वास्तविक व्यय के अनुसार, राज्य कार्यकारिणी समिति द्वारा किये गये आंकलन के अनुसार या एन0डी0आर0एफ0 से सहायता की दशा में केन्द्रीय दल द्वारा संस्तुत।</p> <p>अधिसूचित प्राकृतिक आपदा में फंसे हुए व्यक्तियों के बचाव एवं जीवन रक्षा हेतु आवश्यक उपकरण तथा किराये पर नाव पर होने वाला वास्तविक व्यय की सीमा तक सहायता अनुमन्य होगी।</p>

3.	राहत कार्य (Relief Measures)	
	<p>(क) राहत कैम्प में सुरक्षित बचा कर लाये गये व्यक्तियों/शरणार्थियों/प्रभावितों के अस्थाई आवास, भोजन, वस्त्र, चिकित्सा सुविधा आदि की व्यवस्था हेतु प्रावधान</p>	<ul style="list-style-type: none"> <li>❖ जैसा कि राज्य कार्यकारिणी समिति आवश्यकता का आंकलन करे या एन0डी0आर0एफ0 से सहायता की दशा में केन्द्रीय दल आंकलन करे, अधिकतम 30 दिवस के लिए।</li> <li>❖ राज्य कार्यकारिणी समिति द्वारा कैम्पों की संख्या, उनकी अवधि तथा कैम्पों में व्यक्तियों की संख्या का स्पष्ट उल्लेख किया जाएगा।</li> <li>❖ आपदा यथा-सूखा अथवा बाढ़ या भूकम्प आदि जिससे व्यापक स्तर पर तबाही हुई हो, की दशा में यह अवधि 60 दिन तक तथा भीषण सूखे की स्थिति में 90 दिवस तक बढ़ाई जा सकती है।</li> <li>❖ स्थानीय स्थिति के आधार पर (<b>Depending of Ground Situation</b>) राज्य कार्यकारिणी समिति उक्त अवधि की तय सीमा को बढ़ा सकती है परन्तु शर्त यह होगी कि इस मद पर होने वाला व्यय एस0डी0आर0एफ0 के वार्षिक आवंटन के 25 प्रतिशत से अधिक न हो।</li> <li>❖ चिकित्सकीय सेवायें राष्ट्रीय ग्रामीण स्वास्थ्य मिशन (एन0आर0एच0एम0) के माध्यम से दी जा सकती है।</li> </ul>
	<p>(ख) आवश्यक वस्तुओं की एयर ड्रॉपिंग (Air dropping of essential supplies.)</p>	<ul style="list-style-type: none"> <li>❖ वास्तविक व्यय के अनुसार, राज्य कार्यकारिणी समिति द्वारा आंकलन के आधार पर और एन0डी0आर0एफ0 से सहायता की दशा में केन्द्रीय दल द्वारा की गयी संस्तुति के अनुसार।</li> </ul> <p>सहायता की सीमा, आवश्यक वस्तुओं की एयर ड्रॉपिंग तथा राहत कार्य हेतु रक्षा मंत्रालय द्वारा प्रस्तुत किये गये वास्तविक बिल तक सीमित रहेगी।</p>
	<p>(ग) नगरीय तथा ग्रामीण क्षेत्र में आपात स्थिति में पेयजल</p>	<ul style="list-style-type: none"> <li>❖ वास्तविक व्यय के अनुसार, राज्य कार्यकारिणी समिति द्वारा आंकलन के अनुसार और</li> </ul>

	<p>उपलब्ध कराने संबंधी प्राविधान। (Provision of emergency supply of drinking water in rural areas and urban areas).</p>	<p>एन0डी0आर0एफ0 से सहायता की दशा में केन्द्रीय दल द्वारा की संस्तुत के अनुरूप।</p> <ul style="list-style-type: none"> <li>❖ समयावधि 30 दिवस तक जिसे सूखे की स्थिति में 90 दिवस तक बढ़ाया जा सकता है।</li> <li>❖ स्थानीय स्थिति के आधार पर राज्य कार्यकारिणी समिति उक्त अवधि की तय सीमा को बढ़ा सकती है परन्तु शर्त यह होगी कि इस मद पर होने वाला व्यय एस0डी0आर0एफ0 के वार्षिक आवंटन के 25 प्रतिशत से अधिक न हो।</li> </ul>
4.	<b>प्रभावित क्षेत्रों की सफाई (Clearance of Affected Areas)</b>	
	<p>(क) सार्वजनिक स्थलों के मलबे की सफाई। (Clearance of debris in public areas.)</p>	<ul style="list-style-type: none"> <li>❖ कार्य प्रारम्भ होने के 30 दिवस के भीतर वास्तविक व्यय जैसा कि एस0डी0आर0एफ0 से सहायता हेतु राज्य कार्यकारिणी समिति आवश्यकता का आंकलन करें और एन0डी0आर0एफ0 से सहायता हेतु केन्द्रीय दल आंकलन करें</li> </ul>
	<p>(ख) प्रभावित क्षेत्र से बाढ़ के पानी की निकासी। (Draining off flood water in affected areas.)</p>	<ul style="list-style-type: none"> <li>❖ कार्य प्रारम्भ होने के 30 दिवस के भीतर वास्तविक व्यय जैसा कि एस0डी0आर0एफ0 से सहायता हेतु राज्य कार्यकारिणी समिति आवश्यकता का आंकलन करें और एन0डी0आर0एफ0 से सहायता हेतु केन्द्रीय दल आंकलन करें।</li> </ul>
	<p>(ग) मानव शवों का अन्तिम संस्कार एवं पशु शवों का निस्तारण। Disposal of dead bodies / Carcasses.)</p>	<ul style="list-style-type: none"> <li>❖ वास्तविक व्यय के आधार पर जैसा कि एस0डी0आर0एफ0 से सहायता हेतु राज्य कार्यकारिणी समिति आवश्यकता का आंकलन करें और एन0डी0आर0एफ0 से सहायता हेतु केन्द्रीय दल आंकलन करें।</li> </ul>

5.	<b>कृषि (Agriculture)</b>	
(i)	02 हेक्टेयर तक भूमि के स्वामित्व वाले कृषकों हेतु सहायता (Assistance farmers having land holding upto 2 ha)	
(अ)	<b>भूमि तथा अन्य नुकसान हेतु सहायता (Assistance for land &amp; other losses)</b>	
	(क) कृषि भूमि की सफाई (De-silting of agricultural land) (जहाँ पर जमा रेत/गाद की मोटाई 03 इंच से अधिक हो। इसे राज्य सरकार के सक्षम प्राधिकारी द्वारा प्रमाणीकृत किया जाएगा।)	❖ ₹0 12,200/- प्रति हेक्टेयर प्रत्येक मद के लिए। (इस शर्त के साथ कि प्रभावित व्यक्ति किसी अन्य सरकारी योजना से कोई अन्य सहायता/अनुदान का उपभोग न किया हो अथवा अन्य सहायता/अनुदान हेतु पात्र न हो।)
	(ख) पहाड़ी क्षेत्रों की कृषि भूमि से मलबा हटाने हेतु।	
	(ग) मत्स्य फार्म की डिसिल्टिंग/पुनर्स्थापना/मरम्मत।	
	(घ) भूस्खलन, हिमस्खलन, नदी के प्रवाह बदलने से भूमि के अधिकांश भू-भाग का नष्ट हो जाना।	❖ ₹0 37,500/- प्रति हेक्टेयर: (यह सहायता उन्हीं लघु तथा सीमान्त कृषकों को उनकी नष्ट हुई भूमि के सापेक्ष अनुमन्य होगी जो राजस्व अभिलेखों में भूमि के विधिक भूस्वामी हों।)
(ब)	<b>कृषि निवेश अनुदान (Agriculture Input Subsidy)</b> (जहाँ पर फसल का नुकसान 33 प्रतिशत या इससे अधिक हुआ हो)।	
	(क) कृषि फसलों, हॉर्टिकल्चर फसलों और वार्षिक फसलों के लिये (For agriculture crops, horticulture crops and annual plantation crops)	❖ ₹0 6,800/- प्रति हेक्टेयर: असिंचित क्षेत्र में और बोये गये क्षेत्रफल तक सीमित। ❖ ₹0 13,500/- प्रति हेक्टेयर सुनिश्चित सिंचित क्षेत्र हेतु और बोये गये क्षेत्रफल तक सीमित परन्तु न्यूनतम सहायता राशि ₹0 1,000/- से कम नहीं दी जाएगी।
	(ख) बहुवर्षीय फसलें (Perennial Crops)	❖ ₹0 18,000/- प्रति हेक्टेयर : सभी प्रकार की बहुवर्षीय फसलों (Perennial Crops) के हेतु बोये गये क्षेत्रफल तक सीमित परन्तु न्यूनतम सहायता राशि

		रु० 2,000/- से कम नहीं दी जाएगी।
	(ग) रेशम उत्पादन (Sericulture)	<ul style="list-style-type: none"> <li>❖ 4,800/- प्रति हेक्टेयर : इरी, मलबरी, और टसर के लिये।</li> <li>❖ रु० 6,000/- प्रति हेक्टेयर मूंगा के लिये।</li> </ul>
(ii)	02 हेक्टेयर से अधिक भूमि के स्वामित्व वाले कृषकों हेतु सहायता (Input Subsidy to farmers having more than 2 ha of land holdings)	<ul style="list-style-type: none"> <li>❖ रु० 6,800/- प्रति हेक्टेयर: असिंचित क्षेत्र हेतु और सिर्फ बोये गये क्षेत्रफल तक सीमित।</li> <li>❖ रु० 13,500/- प्रति हेक्टेयर : सुनिश्चित सिंचित क्षेत्र के लिये और बोये गये क्षेत्रफल तक सीमित।</li> <li>❖ रु० 18,000/- प्रति हेक्टेयर : सभी प्रकार की बहुवर्षीय फसलों (Perennial Crops) के लिये और बोये गये क्षेत्रफल तक सीमित।</li> </ul> <p>02 हेक्टेयर प्रति कृषक सीलिंग की शर्त के साथ जहाँ फसल नुकसान 33 प्रतिशत या इससे अधिक है, यह सहायता दी जा सकेगी।</p>
6.	<b>पशुपालन-लघु और सीमान्त कृषकों को सहायता।</b> (Animal Husbandry Assistance to Small and Marginal Farmers)	
	(i) दुधारू, कृषि भारवाहक पशु का प्रतिस्थापन (Replacement of milch animals, drought animals or animals used for haulage.)	<p><u>दुधारू पशु (Milch Animals)-</u> रु० 30,000/- भैंस/गाय/ऊँट/याक/सांड़ या भैंसा (Mithun) आदि। रु० 3,000/- भेड़/बकरी/सुअर।</p> <p><u>गैर दुधारू पशु (Drought Animals)-</u> रु० 25,000/- ऊँट/घोड़ा/बैल आदि रु० 16,000/- Calf (गाय या भैंस का बछड़ा)/गधा/टट्टू/खच्चर)</p>

		<p>❖ देय सहायता आर्थिक रूप से उपयोगी पशुओं की क्षति के लिए ही सीमित होगी। इस सहायता को देने में प्रति परिवार अधिकतम 03 बड़े दुधारू पशु या 30 छोटे दुधारू पशु या 03 बड़े गैर दुधारू पशु या 06 छोटे गैर दुधारू पशु की सीलिंग लागू होगी चाहे प्रति परिवार अधिक संख्या में पशु क्षति हुई हो। (क्षति का प्रमाणीकरण, राज्य सरकार द्वारा नामित सक्षम प्राधिकारी द्वारा किया जाएगा।)</p> <p><b>कुक्कुट (Poultry)-</b></p> <p>❖ ₹0 50/- प्रति पक्षी की दर से। प्रति लाभान्वित परिवार को अधिकतम ₹0 5,000/- की सीलिंग तक सहायता देय होगी। कुक्कुट की क्षति प्राकृतिक आपदा के फलस्वरूप होनी चाहिये।</p> <p>नोट: किसी अन्य सरकारी योजना में सहायता के उपलब्ध होने पर, उक्त मदों में राहत अनुमन्य नहीं होगी उदाहरणार्थ – एवियन इनफ्लुएंजा या ऐसी अन्य कोई बीमारी जिसमें पशुपालन विभाग द्वारा सहायता की विशिष्ट योजना लागू हो।</p>
	<p>(ii) पशु कैम्पों में चारा/पशु संतुलित आहार के अतिरिक्त पानी और दवाओं का प्राविधान।(Provision of fodder/feed concentrate including water supply and medicines in cattle camps.)</p>	<p>❖ बड़े पशु – ₹0 70/- प्रति दिन।</p> <p>❖ छोटे पशु – ₹0 35/- प्रति दिन।</p> <p>❖ राहत देने की समयावधि जैसा कि एस0डी0आर0एफ0 से सहायता हेतु राज्य कार्यकारिणी समिति और एन0डी0आर0एफ0 से सहायता हेतु केन्द्रीय दल आंकलन करें। सहायता की सामान्य समयावधि (Default Period) 30 दिवस तक होगी जिसे प्रथमतः 60 दिनों की अवधि तक बढ़ाया जा सकता है और गम्भीर सूखा की स्थिति में 90 दिवस</p>

		<p>तक किया जा सकता है। स्थानीय स्थिति के आधार पर राज्य कार्यकारिणी समिति उक्त अवधि की तय सीमा को बढ़ा सकती है परन्तु शर्त यह होगी कि इस मद पर होने वाला व्यय एस0डी0आर0एफ0 के वार्षिक आवंटन के 25 प्रतिशत से अधिक न हो।</p> <p>❖ राज्य कार्यकारिणी समिति द्वारा आवश्यकता के आंकलन के आधार पर तथा एन0डी0आर0एफ0 से सहायता की दशा में केन्द्रीय दल द्वारा संस्तुति के आधार पर, पशुओं का आंकलन पशुधन गणना के अनुसार हो तथा राज्य सरकार के सक्षम प्राधिकारी द्वारा दवाइयों तथा टीकाकरण की आवश्यकता का प्रमाणीकरण कि यह आवश्यकता आपदा से संबंधित है।</p>
	(iii) पशु कैम्पों के बाहर रहने वाले पशुओं हेतु चारे की ढुलाई (Transport of fodder to cattle outside cattle camps)	<p>❖ ढुलाई पर वास्तविक व्यय के आधार पर, जैसा कि राज्य कार्यकारिणी समिति आंकलन करें और एन0डी0आर0एफ0 से सहायता हेतु केन्द्रीय दल आंकलन करे। पशुओं का आंकलन पशुधन गणना के अनुसार हों।</p>
7.	<b>मत्स्य पालन (Fishery)</b>	
	<p>(i) मछुवारों को क्षतिग्रस्त/खोये हुये नावों, जालों की मरम्मत/प्रतिस्थापन हेतु सहायता</p> <p>–नाव (Boat)</p> <p>–छोटी डोंगी (Dugout-canoe)</p> <p>–लट्ठो का बेड़ा (Catamaran)</p> <p>–जाल (Net)</p> <p>(यदि लाभार्थी उक्त आपदा के लिये किसी अन्य सरकारी योजना में</p>	<p>❖ रू0 4,100/- केवल आंशिक क्षतिग्रस्त नौकाओं की मरम्मत हेतु।</p> <p>❖ रू0 2,100/- केवल आंशिक क्षतिग्रस्त जाल की मरम्मत हेतु।</p> <p>❖ रू0 9,600/- पूर्णतः क्षतिग्रस्त नौकाओं के प्रतिस्थापन हेतु।</p> <p>❖ रू0 2,600/- पूर्णतः क्षतिग्रस्त जाल के प्रतिस्थापन हेतु।</p>

	अनुदान/सहायता पा चुका है या पाने का पात्र है, तो इस मद से सहायता नहीं दी जायेगी।)	
	(ii) मत्स्य बीज फार्म के लिये इनपुट सब्सिडी (Input Subsidy for fish seed farm)	❖ रू0 8,200/- प्रति हैक्टेयर (कृषि मंत्रालय के पशुपालन, डेयरी, मत्स्य विभाग की योजनाओं में एकमुश्त अनुदान योजना को छोड़ कर यदि लाभार्थी ने तात्कालिक आपदा में कोई अन्य सहायता/अनुदान का उपभोग किया हो/किसी सरकारी योजना में अन्य सहायता/अनुदान हेतु पात्र हो तो यह सहायता अनुमन्य नहीं होगी।)
8.	<b>हथकरघा/हस्तशिल्प हेतु दस्तकारों को सहायता (Handicrafts/Handloom assitance to artisans)</b>	
	(i) क्षतिग्रस्त औजार/संयंत्र के प्रतिस्थापन के लिए।	❖ रू 4,100/-प्रति दस्तकार, संयंत्रों हेतु। ❖ इस शर्त के साथ कि क्षतिग्रस्तता तथा इसके प्रतिस्थापन के संबंध में प्रमाणीकरण राज्य सरकार द्वारा नामित सक्षम प्राधिकारी के द्वारा किया जायेगा।
	(ii) कच्चा माल/अर्द्धनिर्मित उत्पादों/ पूर्ण तैयार उत्पादों में हुई क्षति के लिये।	❖ रू 4,100/-प्रति दस्तकार, कच्चा माल हेतु। ❖ इस शर्त के साथ कि क्षति तथा इसके प्रतिस्थापन के संबंध में प्रमाणीकरण राज्य सरकार द्वारा नामित सक्षम प्राधिकारी के द्वारा किया जायेगा।
9.	<b>मकानों हेतु सहायता (Housing)</b>	
	(क) पूर्णतया क्षतिग्रस्त/नष्ट मकान	❖ रू 95,100/-प्रति मकान, मैदानी क्षेत्रों में।
	(1) पक्का मकान	



	(2) कच्चा मकान	❖ रू 1,01,900 /—प्रति मकान, पहाड़ी क्षेत्रों में।
	(ख) अत्य अधिक(Severely) क्षतिग्रस्त मकान	
	(1) पक्का मकान	
	(2) कच्चा मकान	
	(ग) आंशिक (Partially) क्षतिग्रस्त मकान	
	(1) पक्का मकान (झोपड़ी के अतिरिक्त) जहाँ पर नुकसान कम से कम 15 प्रतिशत हुआ हो	❖ रू 5,200 /—प्रति मकान
	(2) कच्चा मकान (झोपड़ी के अतिरिक्त) जहाँ पर नुकसान कम से कम 15 प्रतिशत हुआ हो	❖ रू 3,200 /—प्रति मकान
	(घ) क्षतिग्रस्त/नष्ट झोपड़ी (Hut)	❖ रू 4,100 /—प्रति झोपड़ी ❖ (परंपरागत रूप से राज्य/जिला प्रशासन द्वारा झोपड़ी का आशय—फूस, मिट्टी, प्लास्टिक शीट आदि से बने अस्थाई निवास जो कच्चे मकान से भी निम्न श्रेणी के हों, द्वारा लिया जाता है।) नोट:—क्षतिग्रस्त मकान राज्य सरकार के सक्षम प्राधिकारी द्वारा अधिकृत निर्माण होना चाहिये। (The damaged house should be an authorized construction duly certified by the copetent authority of the State Governemnt)
	(ङ) मकान से सम्बद्ध पशुशाला (Cattle shed attached with house)	❖ रू 2,100 /—प्रति पशुशाला

10	<b>अधिसंरचना (INFRASTRUCTURE)</b>
	<p>क्षतिग्रस्त अधिसंरचनाओं की तात्कालिक प्रकृति की मरम्मत/पुनर्स्थापना <b>Repair/ Restoration (of immediate nature) of dammage infrastructure.</b></p> <p>(1) सड़क एवं पुल (2) पेयजल आपूर्ति संबंधी कार्य (3) सिंचाई (4) विद्युत (प्रभावित क्षेत्रों में तत्काल विद्युत आपूर्ति सुनिश्चित करने तक सीमित) (5) विद्यालय (6) प्राथमिक स्वास्थ्य केन्द्र (7) पंचायत के स्वामित्व वाली सामुदायिक परिसम्पत्तियाँ क्षेत्र जैसे-दूरसंचार और विद्युत (तत्काल विद्युत आपूर्ति के अतिरिक्त), जो अपना राजस्व अर्जित करते हैं और अपने बजट/संसाधनों से तात्कालिक मरम्मत/पुनर्स्थापन का कार्य करते हैं, इसकी परिधि से बाहर हैं।</p> <p><b>तात्कालिक प्रकृति के कार्य</b></p> <ul style="list-style-type: none"> <li>❖ वह कार्य जिन्हें तात्कालिक प्रकृति (Of an immediate nature) की श्रेणी में रखा जा सकता है, की सूची परिशिष्ट-I में दी गयी है।</li> </ul> <p><b>आवश्यकता का आंकलन</b></p> <ul style="list-style-type: none"> <li>❖ जैसा कि राज्य सरकार द्वारा मरम्मत हेतु दरों (Cost/Rate sheduled for rapair) के आधार पर राज्य कार्यकारिणी समिति या एन0डी0आर0एफ0 से सहायता हेतु केन्द्रीय दल द्वारा आवश्यकता का आंकलन किया जाये।</li> <li>❖ अतिवृष्टि/बाढ़, साइक्लोन, भूस्खलन, सैण्ड ड्युन्स इत्यादि दैवीय आपदाओं से प्रभावित सड़कों की मरम्मत के लिए “Norms for maintenance of roads in India, 2001” जो समय-समय पर संशोधित होते रहते हैं, का ध्यान रखना आवश्यक होगा। संन्दर्भ हेतु मानक निम्नवत् है:- <ul style="list-style-type: none"> <li>● सामान्य एवं शहरी क्षेत्र- Ordinary Repair (OR) तथा Periodiacal Repair (PR) के कुल-योग का 15 प्रतिशत तक।</li> <li>● पहाड़ी क्षेत्र- OR तथा PR के कुल-योग का 20 प्रतिशत तक।</li> </ul> </li> </ul> <p>सड़क मरम्मत की दशा में अधिसूचित सामान्य मरम्मत (O.R.) और समय-समय पर नवीनीकरण (P.R.)की दर के आधार पर सहायता देय होगी। यदि (O.R.) और (P.R.) दर उपलब्ध नहीं है तो सहायता रू0 1.00 लाख प्रति किमी0 के दर से राज्य हाइवे व मेजर डिस्ट्रिक्ट रोड़ के लिये तथा रू0 0.60 लाख प्रति किमी0 की दर से ग्रामीण सड़क के लिये देय</p>

		<p>होगा।</p> <p>राज्य प्रथमतः इसके लिए नियमित रख-रखाव और मरम्मत के बजट प्रावधान का उपयोग करेगा। कठिनाइयों के मद्देनजर आवश्यक होने पर यह सहायता देय होगी। यद्यपि इसका अनुश्रवण किया जाना कठिन है फिर भी सभी राज्यों के लिए यह वांछनीय है।</p> <p>पुल की मरम्मत और सिंचाई संबंधी कार्यों के संबंध में सहायता राज्य सरकार द्वारा अधिसूचित दर (Schedule of Rates) के आधार पर देय होगी। सूक्ष्म सिंचाई योजनाओं के लिये सहायता प्रति क्षतिग्रस्त स्कीम रू0 1.50 लाख देय होगी। क्षतिग्रस्त मध्यम और वृहद सिंचाई प्रोजेक्ट के पुर्नस्थापना के सम्बन्ध में सहायता तटबंध भाग के लिये भी ग्रामीण सड़को के लिये अनुमन्य दर के अनुसार दी जायेगी शर्त यह की चल रही परियोजना में डुप्लीकेसी न की जाय।</p> <p>क्षतिग्रस्त पेजयल स्कीम की मरम्मत के संबंध में पात्र क्षतिग्रस्त पेजयल स्कीम के लिये प्रति स्कीम रू0 1.50 लाख की दर से सहायता अनुमन्य होगी। क्षतिग्रस्त प्राइमरी, सेकेन्ड्री स्कूल, प्राथमिक स्वास्थ्य केन्द्र, आंगनबाड़ी और पंचायत की स्वामित्य वाली सामुदायिक परिसम्पत्तियों की मरम्मत के संबंध में रू0 2.00 लाख की दर से प्रति संरचना सहायता अनुमन्य होगी।</p> <p>क्षतिग्रस्त विद्युत इकाईयों के लिये सहायता क्षतिग्रस्त खम्भें, कन्डक्टर और 11 के0वी0 के ट्रान्सफार्मर तक देय होगी। इस संबंध में सहायता की दर रू0 4 हजार प्रति खम्भा, रू0 50 हजार प्रति किमी0 क्षतिग्रस्त कन्डक्टर के लिये और 1 लाख क्षतिग्रस्त ट्रान्सफार्मर के लिये अनुमन्य होगी।</p>
11.	आपदाओं के प्रत्युत्तर (Response to Disaster) हेतु आवश्यक खोज बचाव, इवैक्युएशन उपकरण, संचार उपकरण आदि की खरीद (Procurement)	<ul style="list-style-type: none"> <li>❖ व्यय केवल एस0डी0आर0एफ0 से किया जायेगा (एन0डी0आर0एफ0 से अनुमन्य नहीं), जैसा कि राज्य कार्यकारिणी समिति आंकलन करे।</li> <li>❖ इस मद पर कुल व्यय, एस0डी0आर0एफ0</li> </ul>

		के वार्षिक आवंटन के 10 प्रतिशत से अधिक नहीं होना चाहिए।
12.	क्षमता निर्माण (Capacity Building)	<ul style="list-style-type: none"> <li>❖ व्यय केवल एस0डी0आर0एफ0 से किया जायेगा (एन0डी0आर0एफ0 से अनुमन्य नहीं), जैसा कि राज्य कार्यकारिणी समिति आंकलन करे।</li> <li>❖ इस मद पर कुल व्यय, एस0डी0आर0एफ0 के वार्षिक आवंटन के 5 प्रतिशत से अधिक नहीं होना चाहिए।</li> </ul>
13.	राज्य स्तर पर प्रासंगिक उन राज्य विशिष्ट आपदाओं, जो एस0डी0आर0एफ0/एन0डी0आर0एफ0 से सहायता हेतु अनुमन्य आपदाओं की सूची में नहीं आती है, पर भी एस0डी0आर0एफ0 से इस निधि के वार्षिक आवंटन का 10 प्रतिशत तक व्यय किया जा सकता है।	<ul style="list-style-type: none"> <li>❖ व्यय केवल एस0डी0आर0एफ0 से किया जायेगा (एन0डी0आर0एफ0 से अनुमन्य नहीं), जैसा कि राज्य कार्यकारिणी समिति आंकलन करे।</li> <li>❖ मानक व दरें वही रहेंगी जो नोटीफाइड प्राकृतिक आपदाओं हेतु ऊपर सूचीबद्ध की गयी हैं।</li> <li>❖ राज्य विशिष्ट आपदाओं के लिये दी जाने वाली राहत की सीमा एस0डी0आर0एफ0 के मानकों से अधिक न हो।</li> <li>❖ यह शिथिलता तभी लागू होगी जब राज्य ने विशिष्ट आपदाओं को सम्मिलित करने हेतु अधिकारिक रूप से सूचीबद्ध कर लिया हो और इन आपदाओं हेतु राहत के लिये लाभार्थियों के चिन्हांकन की प्रक्रिया सहित पारदर्शी मानक और गाइडलाइन राज्य कार्यकारिणी समिति के अनुमोदन से नोटीफाइ की हो।</li> </ul>

नोट:— (1) राज्य सरकारें इस बात पर विशेष ध्यान देंगी और सुनिश्चित करेंगी कि व्यक्तिगत लाभार्थी को दी जाने वाली सहायता आवश्यक/अनिवार्य रूप से बैंक खाते (जैसे—जनधन योजना आदि ) के माध्यम से वितरित की जायेगी।

(2) सभी आपदाओं (राज्य विशिष्ट आपदाओं को सम्मिलित करते हुये) पर विभिन्न मदों के सापेक्ष दी जाने वाली राहत की सीमा एस0डी0आर0एफ0/एन0डी0आर0एफ0 के मानक मदों से अधिक नहीं होनी चाहिए। यदि इस सीलिंग से अधिक धनराशि राज्य द्वारा खर्च की जाती है तो वह राज्य सरकार के बजट से व्यय की जायेगी, एस0डी0आर0एफ0 से नहीं।

नोट:- गृह मंत्रालय भारत सरकार द्वारा पत्र संख्या-32-7/2014-एन0डी0एम0-1, दिनांक 08 अप्रैल, 2015 द्वारा प्राप्त एस0डी0आर0एफ0/एन0डी0आर0एफ0 के मानक मदों का हिन्दी अनुवाद/रूपान्तरण अत्यंत सावधानी से किया गया है परंतु फिर भी किसी भ्रम/संशय की दशा में कृपया [www.ndmindia.nic.in](http://www.ndmindia.nic.in) पर अंग्रेजी में उपलब्ध मूल अभिलेख को अंतिम माना जाये।

तत्कालिक प्रकृति के कार्यों (कार्यकलापों) की विस्तृत सूची (Illustrative list of activities identified as of an immediate nature) :-

**1. पेय जलपूर्ति:**

- i. हैंडपम्पों के क्षतिग्रस्त चबूतरों/रिंगवेल्स/स्प्रिंग-टैण्ड चेम्बर्स/पब्लिक स्टैण्ड पोस्ट/जल-कुण्डों (Cisterns) की मरम्मत।
- ii. क्षतिग्रस्त पाईप लेन्थ (नई पाईप लेन्थ, स्वच्छ जलाशय की सफाई सहित) के प्रतिस्थापन सहित क्षतिग्रस्त स्टैण्ड पोस्ट का पुनःसीपन (लीक प्रूफ बनाने हेतु)।
- iii. क्षतिग्रस्त पंपिंग मशीन, चूने वाले जलाशय और वाटर पंप (क्षतिग्रस्त इनटेक सहित) की मरम्मत।

**2. सड़क:**

- i. दरार (Breaches) और सड़क के गड्ढे को (Potholes) भरना, जलमार्ग बनाने हेतु पाईप का उपयोग, तटबंधों की मरम्मत और स्टोन पीचिंग।
- ii. दरारयुक्त टूटे पुलियों की मरम्मत।
- iii. तत्कालिक सम्पर्क स्थापित करने हेतु क्षतिग्रस्त/बह गए पुलों के अंश भाग पर दिक् परिवर्तन (Diversion) बनाना।
- iv. तत्कालिक सम्पर्क स्थापित करने हेतु पुल/पुल के तटबंधों के समीप अस्थायी मरम्मत, क्षतिग्रस्त रेलिंग ब्रिज की मरम्मत/काउजवेज (Causeways)की मरम्मत कराना/यातायात को पुनः स्थापित करने हेतु क्षतिग्रस्त सड़क का लेपन।

**3. सिंचाई:**

- i. क्षतिग्रस्त नहर संरचनाओं की तत्कालिक मरम्मत और नहरों और छोटे जलाशयों का मिट्टी, सीमेंट, बालू के बोरों एवं पत्थरों से किया जाने वाला मिट्टी/राज मिस्त्री का कार्य।
- ii. बंध/तटबंध के कमजोर सीलों पर (यथा पाईपिंग या रैट होल्स) की मरम्मत।
- iii. नहर और जल निकासी तंत्र से वनस्पति सामग्री/मकान बनाने की सामग्रियों/मलबों का बाहर निकालना।
- iv. लघु, मध्यम एवं वृहत सिंचाई परियोजनाओं के तटबंधों की मरम्मत।

**4. स्वास्थ्य:**

क्षतिग्रस्त पहुँच मार्ग/भवनों और जन स्वास्थ्य केन्द्र/सामुदायिक स्वास्थ्य केन्द्र की मरम्मत।

**5. पंचायतों की सामुदायिक परिसम्पत्तियों:**

- a) गाँव के आंतरिक सड़कों की मरम्मत।
- b) ड्रेनेज /सीवरेज से मलबों को हटाना।
- c) आंतरिक जलापूर्ति लाईन की मरम्मत।
- d) स्ट्रीट लाईट की मरम्मत।
- e) प्राथमिक विद्यालयों, पंचायत भवनों, सामुदायिक हॉल, आंगनबाड़ी केन्द्रों इत्यादि की अस्थायी मरम्मत।

6. ऊर्जा: पोल/कन्डक्टर एवं 11 केवी के ट्रांसफॉर्मर। (Power: Poles/conductors and transformers upto 11 kv.)

7. निम्नलिखित गतिविधियों के लिए गुणवत्ता के अनुसार सहायता पर विचार किया जायेगा: (The assistance will be considered as per the merit towards the following activities:)

	आइटम/मद	तात्कालिक मरम्मत हेतु दर
1	क्षतिग्रस्त प्राथमिक विद्यालय हायर सेकेन्डरी स्कूल/मिडिल/कालेज तथा अन्य शैक्षणिक भवन	रु0 1.5 लाख/यूनिट तक आच्छादित नहीं।
2	प्राथमिक स्वास्थ्य केन्द्र	रु0 1.5 लाख/यूनिट तक
3	बिजली के खम्भों और तार इत्यादि	नियम संगत लागत (रु0 4000 प्रति खम्भे और रु0 0.50 लाख प्रति किलोमीटर तक)
4	पचायत घर, आगनबाडी/महिला मण्डल/युवा केन्द्र/कम्युनिटी हाल	रु0 2.00 लाख/यूनिट तक
5	स्टेट हाइवे/मुख्य जिला सड़क (State Higways/Major District road)	रु0 1.00 लाख प्रति किलोमीटर*
6	ग्रामीण सड़क/पुल (Rural road/Bridge)	रु0 0.60 लाख प्रति किलोमीटर*
7	पेय जल योजना	रु0 1.50 लाख प्रति यूनिट
8	सिंचाई प्रभाग: लघु सिंचाई योजना/केनाल मुख्य सिंचाई योजना बाढ़ नियंत्रण और कटाव संरक्षक कार्य	रु0 1.50 लाख प्रति योजना आच्छादित नहीं।
9	हाइड्रो पावर/हाइड्रो थर्मल (एच0टी0) वितरण प्रणाली /ट्रांसफॉर्मर और सब स्टेशन	आच्छादित नहीं।
10	हाई टेन्सन लाइनें (11 के0वी0 के ऊपर)	आच्छादित नहीं।
11	राज्य सरकार के भवन यथा- विभागीय/कार्यालय भवन, विभागीय/ आवासीय क्वार्टर, धार्मिक संरचना, पटवार खाना, न्यायिक परिसर, खेल मैदान, वन विभाग के बंगले परिसम्पत्ति एवं जानवर/बर्ड सैंक्युरी इत्यादि।	आच्छादित नहीं।

12.	दीर्घ अवधि/स्थायी - पुर्न स्थापना सम्बन्धी कार्य	आच्छादित नहीं।
13.	दीर्घ अवधि प्रकृति के नये कार्य (Any new work long term nature)	आच्छादित नहीं।
14.	सामग्री का वितरण (Distribution of Commodities)	आच्छादित नहीं (यद्यपि आपदा से गम्भीर रूप से प्रभावित परिवारों को अहैतुक सहायता का प्राविधान किया गया है। )
15.	राष्ट्रीय आपदा मोचक निधि से उपकरण और मशीनरी का क्रय	आच्छादित नहीं।
16.	राष्ट्रीय राज्य मार्ग	आच्छादित नहीं। (क्योंकि भारत सरकार द्वारा पुर्नस्थापना सम्बन्धी कार्यों का सम्पूर्ण व्यय भार वहन किया जाता है।)
17.	चारा उत्पादन बढ़ाने के लिए चारा बीज (Fodder seed to augment fodder production)	आच्छादित नहीं।

\*यदि ओ0आर0 तथा पी0आर0 दर राज्य द्वारा नहीं उपलब्ध कराया गया है।



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Most Immediate

No. 33-5/2015-NDM-I  
Government of India  
Ministry of Home Affairs  
(Disaster Management Division)

'C' Wing, 3<sup>rd</sup> Floor, NDCC- II,  
Jai Singh Road, New Delhi-110001,  
Dated the 30<sup>th</sup> July 2015

OFFICE MEMORANDUM

Subject: - Guidelines on Constitution and Administration of the State Disaster Response Fund and National Disaster Response Fund based on the recommendations of the Fourteenth Finance Commission 2015-20.

Sir/ Madam,

The Fourteenth Finance Commission (FFC) has made provision of funds for the State Disaster Response Fund in its recommendations which has been accepted by the Government of India. Keeping in view of the provision of the Disaster Management Act, 2005 and the recommendations of Fourteenth Finance Commission, Government of India has framed guidelines for administration of National Disaster Response Fund (NDRF) at the National level and for State Disaster Response Fund at the State level, which are enclosed herewith for necessary action.

2. A copy of each of the guidelines for SDRF and NDRF respectively are enclosed for further necessary action at your end. These guidelines can also be downloaded from website of Disaster Management Division of Ministry of Home Affairs i.e. [www.ndmindia.nic.in](http://www.ndmindia.nic.in).

  
(Goutam Ghosh)  
Director (DM-I)  
Telefax: 23438123

Encl: As above.

**Distribution:-**

1. Ministry of Finance, Department of Expenditure, North Block, New Delhi.
2. Ministry of Agriculture [Joint Secretary (DM)], Krishi Bhawan, New Delhi.
3. National Disaster Management Authority, New Delhi.
4. Chief Secretaries of (All States).
5. Relief Commissioners/ Secretaries, Department of Disaster Management of (All States).
6. Accountants General of all State Governments.
7. Controller General of Accounts (CGA), New Delhi.
8. Comptroller & Auditor General (CAG), New Delhi.

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Ministry of Home Affairs  
(Disaster Management Division)

**Guidelines on Constitution and Administration of the State Disaster Response Fund (SDRF)**

**Introduction**

1. The State Disaster Response Fund (SDRF) is a fund constituted under section 48(1) (a) of the Disaster Management Act, 2005 (53 of 2005) (hereinafter DM Act, 2005). These guidelines are being issued under section 62 of the DM Act, 2005.

**Period of Operation**

2. These guidelines will be operative from financial year 2015-16 and will continue till further orders.

**Calamities covered under the SDRF**

3. (i) The SDRF shall be used only for meeting the expenditure for providing immediate relief to the victims of cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloud burst, pest attack and frost & cold wave.

(ii) A State Government may use up to 10 per cent of the funds available under the SDRF for providing immediate relief to the victims of natural disasters that they consider to be 'disasters' within the local context in the State and which are not included in the notified list of disasters of the Ministry of Home Affairs subject to the condition that the State Government has listed the State specific natural disasters and notified clear and transparent norms and guidelines for such disasters with the approval of the State Authority i.e. the State Executive Authority (SEC). Any amount spent by the state for such disasters over and above the ceiling would be borne out of its resources and would be subject to the same accounting norms.

(2)

### **Constitution of State Disaster Response Fund**

4. The State Disaster Response Fund will be constituted with the nomenclature "State Disaster Response Fund" in the Public Account under the Reserve Fund bearing Interest in the Major Head:8121-General and other Reserve Fund in the accounts of the State Governments concerned and would be invested as per provisions of paras 18-25 of these guidelines. The closing balance as on 31.03.2015 in the State Disaster Relief Fund (SDRF) shall be transferred to the SDRF as opening balance for 2015-16. The State Government shall pay interest to the SDRF at the rate applicable to overdrafts under Overdraft Regulation Guidelines of the RBI. The interest will be credited on a half-yearly basis. State Governments are required to issue certificate that the relevant notifications establishing SDRF as per section 48(1) (a) of the DM Act, 2005 is in force.

### **Contributions to the Fund**

5. The aggregate size of the State Disaster Response Fund of each State for each of the financial years 2015-16 to 2019-20, would be as recommended by the 14<sup>th</sup> Finance Commission. Of the total size of SDRF indicated, Government of India will contribute 75% for general category States and 90% for special category States of the total yearly allocation in the form of a non-plan grant. The balance 25% in case of general category States and 10% in case of special category States will be contributed by the State Government concerned.

6. The share of the Government of India to the SDRF shall be paid as Grant-in-aid and accounted for in the Government of India accounts under the major head "3601-Grants-in-aid to State Governments-01 Non-plan grants- 109 Grants towards contribution to State Disaster Response Fund". The State Governments shall take these as receipts in their budget and account under the Major Head "1601-Grants-in-aid from Central Government-01 Non-plan Grant-109 Grants towards contribution to State Disaster Response Fund".

7. In order to enable transfer of the total amount of contribution to the SDRF (including the States' share of contribution), the State Governments would make suitable Budget provision on the expenditure side of their budget under the head "2245-Relief on Account of Natural Calamities-05 State Disaster Response Fund-101 Transfers to Reserve Fund and Deposit Accounts- State Disaster Response Fund". Immediately upon receipt of Government of India's share as per para 6 above, the States would transfer the amount, along with their share, if not already transferred, to the Public Account Head within 15 days of its receipt. Any delay will require the State Government to release the amount, with interest, at Bank rate of RBI, for the number of days of delay. The State Government is required to endorse the copy of the release order to the Ministry of Finance and Ministry of Home Affairs.

(3)

### **Booking of Expenditure on Immediate Relief**

8. The actual expenditure on relief works will be booked only under respective Sub/ minor head within Major Head: 2245. (i.e. 01 for drought; 02 for flood, 03 for cyclones, 4 for earthquake, 05 for hailstorm, 06 for landslides, 07 for cloud burst, 08 for fire, 09 for tsunami, 10 for avalanche, 11 for pest attack and 12 for cold wave/frost and 13 for other State specific disasters, 13.1 for specific disaster, 13.2 for specific disaster, 13.3 for specific disaster, 13.4 for specific disaster, 13.5 for specific disaster... etc; 16 for "State Disaster Response Fund" and 80 for General). The expenditure to be charged to the SDRF will be shown as a negative entry under 2245-05-901 – deduct amount met from SDRF for relief expenditure". As proper accounting brings in transparency for booking of expenditure, office of the Controller General of Accounts/Accountant Generals in the respective States may create Sub Head/ Minor Head in respect of each of the notified calamities / items under Major Head 2245. The expenditure to be charged from the SDRF will be shown as a negative entry under 2245-05-901-deduct amount met from SDRF for relief expenditure.

9. Direct expenditure should not be made from the Public Account. Even if for some administrative reasons, expenditure on immediate relief has been met under heads of account other than MH:2245, these should be finally booked under MH: 2245 through inter-account transfers.

### **Release of Central Contribution to the Fund**

10. The share of the Central Government in SDRF shall be remitted to the State Governments in two instalments in June and December in each financial year. Likewise, the State Governments shall also transfer their contribution to the SDRF in two instalments in June and December of the same year, provided that if Ministry of Home Affairs, upon being satisfied that exigencies of a particular calamity so warrant, may recommend an earlier release of the Central share upto 25% of the funds due to the State in the following year. This release will be adjusted against the instalments of the subsequent year.

11. The share of the Government of India to the SDRF due in a year shall be released to the State Governments subject to fulfillment of the following conditions:-

- (i) The first instalment of central contribution to SDRF for 2015-16 will be released on receipt of self certification by State Government that the arrangement of accounting procedure as mentioned in paras 4 to 9 above and other conditions as mentioned below in paras 11(ii) to (vii) will continue during the award period of Fourteenth Finance Commission. Any

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deviations from these accounting practices would result in withholding of further releases until the required accounting procedure is adopted or restored.

(ii) A 'State Disaster Response Fund' has been duly constituted by the State Government as specified in DM Act, 2005, following the accounting procedure and manner described in paras 4 to 9 above. State Governments are required to issue certificate that the relevant notifications establishing SDRF as per section 48(1) (a) of the DM Act, 2005 is in force.

(iii) State has to constitute the State Executive Committee (SEC) as mentioned in para 12 below. State Governments are required to issue a certificate that the relevant notifications constituting SEC is in force.

(iv) The State Government shall furnish a certificate to the Ministry of Home Affairs and to Ministry of Finance in the months of April and October every year indicating that the amount received earlier has been credited to the SDRF along with the State's share of contribution, accompanied by a statement giving the up-to-date expenditure and the balance amount available in the SDRF. This statement is to be provided in the format at Attachment-II, Once the Finance Accounts of the previous year are available, expenditure reported for that particular year should match with expenditure figure in Major Head:2245 and balance in SDRF in MH:8121. In case of any discrepancy, the figures in MH: 2245 and in MH: 8121, as reflected in the Finance Accounts, will be considered.

(v) The central contribution due in December of a year shall be released after the receipt, in the Ministry of Home Affairs and in the Ministry of Finance, by September of that year, of an 'Annual Reports on Natural Calamities', prepared by the State Government on any natural calamities, mentioned in para 3 above, faced in the previous year, by September of every year. This Annual Report shall, inter-alia, furnish details of expenditure incurred by the State Government on each of calamities, for each type of expenditure allowed as per the items and norms of expenditure of SDRF/ National Disaster Response Fund (NDRF) so fixed by MHA with the concurrence of Ministry of Finance. Format will be prescribed in due course.

(vi) Whenever the SDRF of a State is replenished with additional grant-in-aid from NDRF, the State Government would treat this grant in the same manner as the funds in SDRF as far as transfer and accounting are concerned. However, in such cases, a specific utilization certificate will be required within three months of the close of the financial year in which

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such a grant is released. Format for the utilization certificate will be prescribed in due course.

(vii) The release of installments shall be made by Ministry of Finance after receiving due recommendations from the Ministry of Home Affairs (DM Division).

### **State Executive Committee**

12. Every State will constitute a State Executive Committee (SEC) as per section 20 of the Disaster Management, Act, 2005. The Chief Secretary to the State Government shall be the ex-officio Chairperson of the SEC.

### **Functions of the State Executive Committee regarding affairs of SDRF**

13. State Government shall entrust the SEC, inter-alia, with following responsibilities:-

(i) The SEC will decide on all matters connected with the financing of the relief expenditure of immediate nature from SDRF. Period for providing gratuitous relief will be as per assessment of the SEC and the Central Team (in case of NDRF). The default period of assistance should be as per prescribed time limit. However, if the SEC so feels and depending on the ground situation, the period of relief assistance can be extended beyond the prescribed time limit subject to the condition that expenditure on this account should not exceed 25% of SDRF allocation for the year.

(ii) The SEC will arrange to obtain the contributions from the concerned Governments, administer the SDRF and invest the accretions to the SDRF in accordance with the norms approved by the Government of India from time to time. The norms of investment are indicated in paras 18-25 below.

(iii) The SEC shall ensure that a) the money drawn from the SDRF is actually utilised for the purposes for which the SDRF has been set up, b) expenditures are only on items of expenditure and as per the norms as in para 15 below, c) timely remittance of State share into SDRF account, d) amount is not retained under non-receipt bearing public account, e) fund is not diverted to inadmissible expenditure, f) excess utilization of fund due to mixing up of State resources/ budget fund with SDRF resulting the identity of SDRF is lost and g) accounting procedures in para 4 to 9 above are followed.

(iv) The accretions to the SDRF together the income earned on the investments of the SDRF will be used by the SEC to meet items of expenditure covered under the approved norms as in para 15 below.

(6)

## Expenditure of SEC

14. All administrative expenses of the SEC and miscellaneous expenses shall be borne by the State Government from its normal budgetary provisions and not from the SDRF or NDRF.

### Assessment of assistance under Items and Norms of Expenditure

15. The norms for the amounts to be incurred on each approved item of expenditure will be fixed by the Ministry of Home Affairs with the concurrence of Ministry of Finance, as amended from time to time. In case any State Government exceeds the amount prescribed, the excess expenditure should be borne on the budget of the State Government and not be charged to SDRF or NDRF.

16. The SEC will assess the requirements of assistance from the SDRF for financing relief expenditure. The provision for expenditure on relief will be made in the budget of the State Government as mentioned in para 7 above. The extent of relief expenditure to be financed from the SDRF as authorized by the SEC shall be withdrawn from the SDRF after liquidation of the investment holdings in the manner described in paras 26-27 below.

17. Expenditure for providing immediate relief to the victims of State-specific natural disasters within the local context in the State, which are not included in the Government of India (GoI) notified list of disasters, issued by MHA, as per approved norms, may be met from SDRF within the limit of 10 percent of the fund available in SDRF. However, this flexibility would be applicable only after the State has listed the natural disasters for inclusion and notified clear and transparent norms and guidelines for disaster relief for such disasters with the approval of the State Authority, i.e. the SEC. Any amount spent by the State for such natural disasters over and above the ceiling would be borne out of its own resources and would be subject to the same accounting norms.

18. The provision for disaster preparedness, restoration, reconstruction and mitigation should not be a part of SDRF or NDRF. Such expenditure is needed to be built into the normal budgetary heads/ State Plan funds etc.

18.1 Five per cent (5%) of the annual allocation of SDRF may be kept for Capacity Building Activities by the States. These activities are as under :

- a) Setting up/strengthening of Emergency Operation Centres (EOCs) in the State.
- b) Training/Capacity Building of stakeholders and functionaries in the State.
- c) Supporting disaster management centres of State ATIs and other institutions.

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- d) Preparation of Disaster Management Plans based on Hazards, Risk and Vulnerability Analysis.
- e) Strengthening of SDMA's and DDMA's.

#### **Patterns of Investment from the Fund**

19. On receipt of the amounts of contributions from the Government of India and/or the State Government, the SEC would take action for investment of the funds as per the norms prescribed in para 20 of the Guidelines.

20. The accretions to the SDRF together with the income earned on the investment of the SDRF shall, till contrary instructions are issued by Government of India, be invested in one or more of the following instruments.

- (a) Central Government dated Securities;
- (b) Auctioned Treasury Bills; and
- (c) Interest earning deposits and certificates of deposits with Scheduled Commercial Banks.

The investment of the funds shall be carried out by the branch of the Reserve Bank of India (having Banking Department) at the headquarters of the State, or a Bank designated by RBI. In cases of Jammu & Kashmir and Sikkim, these functions may be carried out by that State's bankers.

#### **Account of Investment Transactions**

21. The SEC will, from time to time, issue instructions to the concerned local bankers indicated in para 20 above to invest specified amount(s) from the SDRF in the securities specified in clauses (a) to (c) under para 20. Banks will immediately arrange to make the necessary investment locally or through their branches /correspondent banks/RBI at Mumbai or other metropolitan centres. The banks would scroll to the Government the debit on account of the investment and other incidental charges like brokerage, commission etc. in the usual course. However, in order to ensure that the investment transactions of the SDRF do not get mixed up with other transactions these may be indicated distinctly in separate scrolls.

22. On receipt of the scrolls the investment transactions would be accounted for under the head "8121-General and Other Reserve Fund-'State Disaster Response Fund'. The incidental charges like brokerage, commission etc. shall be accounted for as a charge on the SDRF.

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23. The bank will arrange to collect interest on these securities/bonds and credit the same to the account of the Government on the due date. These receipts shall form a part of the receipts of the SDRF and would be accounted for as such. Further, these would require to be invested by the SEC as in the case of the contributions by the Government i.e. in accordance with the investment norms prescribed in para 20 above. On maturity of the securities, the proceeds will be collected and credited to the account of the Government or reinvested on the basis of instructions received from the SEC. As in the case of the debit scrolls the banks shall use separate scrolls for the receipts.

24. On receipt of instructions from the SEC, the concerned bank will arrange to sell the securities at the ruling price through its branches/correspondent banks/RBI at Mumbai or any other metropolitan Centre and credit the amount realised, less incidental charges, to the account of the Government.

25. The receipts on account of maturity or sale of the securities would be credited to the "State Disaster Response Fund". The incidental charges on sale may be charged to the SDRF.

26. The auctioned Treasury Bills may be purchased by the bank either at the Treasury Bill auctions on the basis of a non-competitive bid or in the market.

#### **Encashment of Securities**

27. To meet liability on account of the claims sanctioned for relief, the SEC will first dispose of its holdings of auctioned Treasury Bills to the extent required, the oldest lot of bills being sold first and so on. If the amount obtained by the sale of auctioned Treasury Bills is not sufficient to meet the liability towards relief sanctioned, the SEC may encash the deposits with the local branches of the scheduled commercial banks. The Central Government dated securities may be sold only if the amount realised by the sale of treasury bills and encashment of the deposits is not adequate.

28. The concerned State Government will pay to the RBI/banks a commission at the rate determined by RBI in consultation with the concerned State Government. These charges shall also be borne by the SDRF as in the case of the charges indicated in para 22. The loss or gain on the sale of securities shall also be taken to the account of the SDRF.

## Monitoring by the Ministry of Home Affairs

29. The Ministry of Home Affairs is the nodal Ministry for overseeing the operation of SDRF, and shall monitor compliance with the prescribed processes. MHA may issue directions/instructions under of DM Act.

## Unspent Balance in the SDRF

30. The unspent balance in the SDRF account as at the end of the financial year 2014-15 shall be the opening balance of SDRF account of the financial year 2015-16. Government of India will communicate the modalities for handling any balances available at the end of 2019-20 in SDRF of the States. Otherwise, unless provided, the closing balance would be available for relief expenditure under SDRF in the ensuing period of 2020-25.

## Accounts and Audit

31. The accounts of the SDRF (approved calamity-wise) and the investment shall be maintained by the Accountant General in charge of accounts of the State in the normal course. Disclosure about the position of the opening balance, receipts, expenditure and closing balance in respect of SDRF will be made in the Finance Accounts, as a separate appendix/line. The SEC will, however, maintain subsidiary accounts (calamity wise) in such manner and details as may be considered necessary by the State Government in consultation with the Accountant General.

32. Comptroller and Auditor General of India would cause audit/ performa audit of SDRF conducted every year in conformity with approved items & norms in terms of the purposes of the SDRF Guidelines. The State Government shall furnish a copy of the audit report of the Comptroller and Auditor General of India in respect of SDRF to the Ministry of Finance and Ministry of Home Affairs.

## Saving

33. The Ministry of Home Affairs with the concurrence of Ministry of Finance, shall alter/modify instructions as may be considered necessary from time to time. Further, in case of any difficulty in the operation of any provision of these instructions, the Central Government, if satisfied, may modify the provisions or by amending the DM Act.

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PROFORMA

(Rs. in lakhs)

**(A) Statement of earlier released amounts to the Calamity Relief Fund (CRF)/ State Disaster Response Fund (SDRF).**

1. Opening balance as on 01.04.20.....
2. Centre share including advance release credited to CRF/SDRF:
3. Corresponding share of state:
4. Corresponding share of state credited to CRF/SDRF:
5. Amount received under NDRF/NCCF:
6. Expenditure as on 30<sup>th</sup> September.....
7. Expenditure as on 31<sup>st</sup> March 20.....
8. Amount transferred to investment account:
9. Amount received from investment account:
10. Closing balance (1+2+4+5+9) - (7+8): 31<sup>st</sup> March/30<sup>th</sup> September

**B) 1. Opening balance: 1<sup>st</sup> April/1<sup>st</sup> October**1.1 Total investment made out of SDRF as on 31<sup>st</sup> March 201.....**2. Receipt during the current financial year .....**

- (i) Centre's share:..... (date of receipt from Govt. of India)
- (ii) State's share:.....
- (iii) Assistance under NCCF/NDRF : .....
- (iv) Date of transfer of Centre's and State's share to the SDRF account:
- (v) Interest paid to the SDRF account in case of delay of transfer of funds beyond 15 days:
- (vi) Interest earned (including investment made out of SDRF/CRF) : .....
- (vii) Others : .....
- (viii) Arrears of Centre's/State's share, if any to be credited to CRF/SDRF : .....
- (ix) Total (i) to (viii) : .....
- (x) of which amount credited to SDRF : .....

**3. Total amount available in the SDRF {1+2(x)} : .....****4. Total Expenditure incurred in conformity with items & norms of SDRF during the year out of the Fund:**

- i) As on 31<sup>st</sup> March, 201.... : .....
- ii) As on 30<sup>th</sup> September, 201.... : .....

**5. Balance available in the Fund (3-4) : .....31<sup>st</sup> March/30<sup>th</sup> September****(C) Submission of Annual Report on Natural Calamities.**

- (i) Whether "Annual Report on Natural Calamities" for the previous year ..... has been sent to Ministry of Home Affairs (Yes/No): .....
- (ii) If yes, date on which sent: .....

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Ministry of Home Affairs  
(Disaster Management Division)

**Operational Guidelines for Constitution and Administration of the  
National Disaster Response Fund (NDRF)**

**Introduction**

1.1 These guidelines shall be called 'National Disaster Response Fund' (NDRF) Guidelines. NDRF is a fund constituted under section 46 of the Disaster Management Act, 2005. These Guidelines are issued under section 46(2) of the Disaster Management Act, 2005 (hereinafter DM Act, 2005), to supplement funds from the State Disaster Response Fund (SDRF) of a State, to facilitate immediate relief in case of calamities of a severe nature.

**Period of operation**

2.1 The guidelines shall come into force with effect from the financial year 2015-16 after notification of NDRF and will continue till further orders.

**Calamities covered under NDRF**

3.1 Natural calamities of cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloud burst, pest attack and **cold wave & frost** considered to be of severe nature by Government of India and requiring expenditure by a State Government in excess of the balances available in its own State Disaster Response Fund (SDRF), will qualify for immediate relief assistance from NDRF.

**National Disaster Response Fund**

4.1 The NDRF will be operated by the Government of India for the purpose of providing immediate relief to people affected by the above mentioned calamities which are assessed as being of 'severe nature', following the procedure described in para 7 of these guidelines. NDRF is classified in the Public Account in the sub-section (b) 'Reserve Funds not bearing Interest' of the Government of India under the major head 8235- 'General and other Reserve Funds' – 119- National Disaster Response Fund'.

**Contribution to the NDRF**

5.1 The closing balance of the NDRF at the end of financial year 2014-15 shall be the opening balance of the NDRF in the year 2015-16.

5.2 Funds will be credited into the NDRF in accordance with the provisions of the section 46(a) & (b) of Disaster Management Act, 2005.

5.3 The budget provision for transferring funds to the NDRF as mentioned in para 5.2 above shall be made in the Demand for grants no. - "Transfers to State and UT Governments" (under non-plan provision). Releases to State Governments will be made by the Ministry of Finance from this provision.

5.4 During the years 2015-20 transfers to the NDRF established in the Public Account of India will be made by operating the following heads of account: Major Head "2245-Relief on account of Natural Calamities – 80-General-797-Transfers to Reserve Funds and Deposit Account'-Transfer to National Disaster Response Fund.

#### **Arrangements for Monitoring natural calamities**

6.1 The Ministry of Home Affairs will make appropriate arrangements to monitor the occurrences of natural calamities relating to cyclones, earthquakes, fires, floods, tsunami, landslides, avalanches and cloud bursts. Department of Agriculture and Cooperation will make appropriate arrangements to monitor calamities associated with drought, hailstorms, pest attacks and cold wave/ frost.

#### **Assessment of Relief Assistance from the NDRF**

7.1 Upon a request made by a State not having adequate balance in its State Disaster Response Fund (SDRF), Ministry of Home Affairs or the Ministry of Agriculture, as the case may be, will ascertain that State government has submitted memorandum as per the guidelines/ formats circulated by GOI, showing sector/ item-wise damage with proper justification of requirement of funds, and assess whether a case for additional assistance from NDRF is made out under these guidelines and the approved items and norms of assistance under NDRF/SDRF. The following procedure will be adopted for making such assessment:

- (i) The memorandum of the State Government will be examined to assess the likely requirement of funds as per items and norms of expenditure under SDRF/NDRF. If the preliminary examination reveals that there are adequate funds in SDRF with the State for providing relief as per norms, the State would be advised accordingly.

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- (ii) If the preliminary examination reveals that the State is in need of assistance, a Central Team will be deputed for making an on the spot assessment.
- (iii) The report of the Central Team shall be examined by the Subcommittee of the National Executive Committee (SC-NEC) constituted under section 8 of the DM Act, 2005. The NEC will assess the extent of assistance and expenditure which can be funded from the NDRF, as per the norms of NDRF/SDRF, and make recommendations.
- (iv) Based on the recommendations of SC-NEC, a High Level Committee (HLC) will approve the quantum of immediate relief to be released from NDRF.
- (v) The release of assistance from NDRF will be subject to adjustment of 50% of the balance in the SDRF as on 31<sup>st</sup> March of the preceding financial year.
- (vi) MHA may evolve a mechanism, and share with all stakeholders to have real time information about availability of funds with State Governments, who would be liable to feed and upload data on real time.

#### **High Level Committee (HLC)**

8.1 The High Level Committee will be constituted with Home Minister, Finance Minister, Agriculture Minister, and (Planning Minister/ VC- NITI Aayog) as members. HLC is serviced by the Disaster Management Division of Ministry of Home Affairs.

#### **Ministry of Home Affairs to supervise**

9.1 The Ministry of Home Affairs (MHA) shall oversee the utilisation of releases from NDRF for the purposes for which funds have been released and monitor compliance with the guidelines of NDRF. States will need to provide the required information to MHA as per annexures in this regard.

#### **Inadmissible assistance from NDRF**

10. Expenditure from NDRF is meant to assist a State to provide immediate relief in those cases of severe calamity, where the expenditure required is in excess of the balance in the State's SDRF. Expenditure on disaster preparedness, restoration, reconstruction and mitigation should not be a part of SDRF or NDRF, and is to be met from the **normal budgetary heads/ plan funds**.

(14)

## Releases to States

11.1 Upon the approval of HLC, Ministry of Finance will release assistance from NDRF to States.

11.2 Release of assistance to the State Governments from NDRF shall be made from the head "2245 – Relief on account of Natural Calamities – 80-General – 103 -Assistance to States from NDRF" with equivalent amount shown as recovery from the fund maintained in the Public Account under the head – "8235-General and Other Reserve Funds-119 National Disaster Response Fund". Accordingly, nomenclature of the minor-head 103 under Major Head: 2245 will change from "Assistance to States from National Calamity Contingency Fund" to "Assistance to States from National Disaster Response Fund". The amount recovered from NDRF shall be shown as below the line recovery in the Demand for grants no. 35.

11.3 On receipt of funds from the NDRF, the State Government shall treat them as receipts along with the receipts of Central/State shares of State Disaster Response Fund under the major head "1601" - Grants-in-aid from Central Government -01 Non-Plan Grants- 110 Grants from National Disaster Response Fund. The State Government would make suitable budget provision on the expenditure side of their budget under the relevant minor heads under the major head "2245- Relief on Account of Natural Calamities – 80 General-103 Assistance to States from National Disaster Response Fund". The State's SDRF account should distinctly show the receipt of assistance from NDRF apart from the remaining four sources of receipts into the fund; namely (i) Centre's share of State Disaster Response Fund (ii) State's share of Disaster response Fund (iii) Return on investments and (iv) redemption of investments.

11.4 The actual expenditure out of NDRF should be booked under respective minor heads within major head: 2245. Direct expenditure by State Governments from the Public Account should not be made. If for any administrative reason, expenditure on relief by State Governments has been met under a head of account other than MH: 2245, it should be finally booked under MH: 2245 through an inter-account transfer. Deviations from this accounting practice could lead to releases of assistance from NDRF to States being with-held until the above accounting procedure is adopted/ reverted to.

11.5 The Pay and Accounts Office, Ministry of Finance shall release payments to the State Governments. The detailed account of the Fund shall be maintained by the Controller General of Accounts through the Chief Controller of Accounts, Ministry of Finance.

(15)

### **Oversight by State Executive Committee**

12.1 The State Executive Committee, constituted by the State Government under section 20 of the Disaster Management Act, 2005, shall be responsible for ensuring that the expenditure incurred out of the funds received under the NDRF is in accordance with the items and norms of expenditure of NDRF/SDRF.

### **Unspent balance in NDRF**

13.1 Government of India will communicate the modalities for handling any balances available at the end of 2019-20 in NDRF.

### **Accounts and Audit**

14.1 The detailed accounts of NDRF shall be maintained by the Controller General of Accounts through the Chief Controller of Accounts, Ministry of Finance.

14.2 The accounts of the NDRF shall be audited annually by Comptroller & Auditor General. The State Government shall furnish a copy of the audit Report of CAG to Ministry of Finance and Ministry of Home Affairs.

### **Saving**

15.1 The Ministry of Home Affairs with the concurrence of Ministry of Finance may amend these guidelines, in such manner as may be required to facilitate smooth operation of immediate relief efforts.

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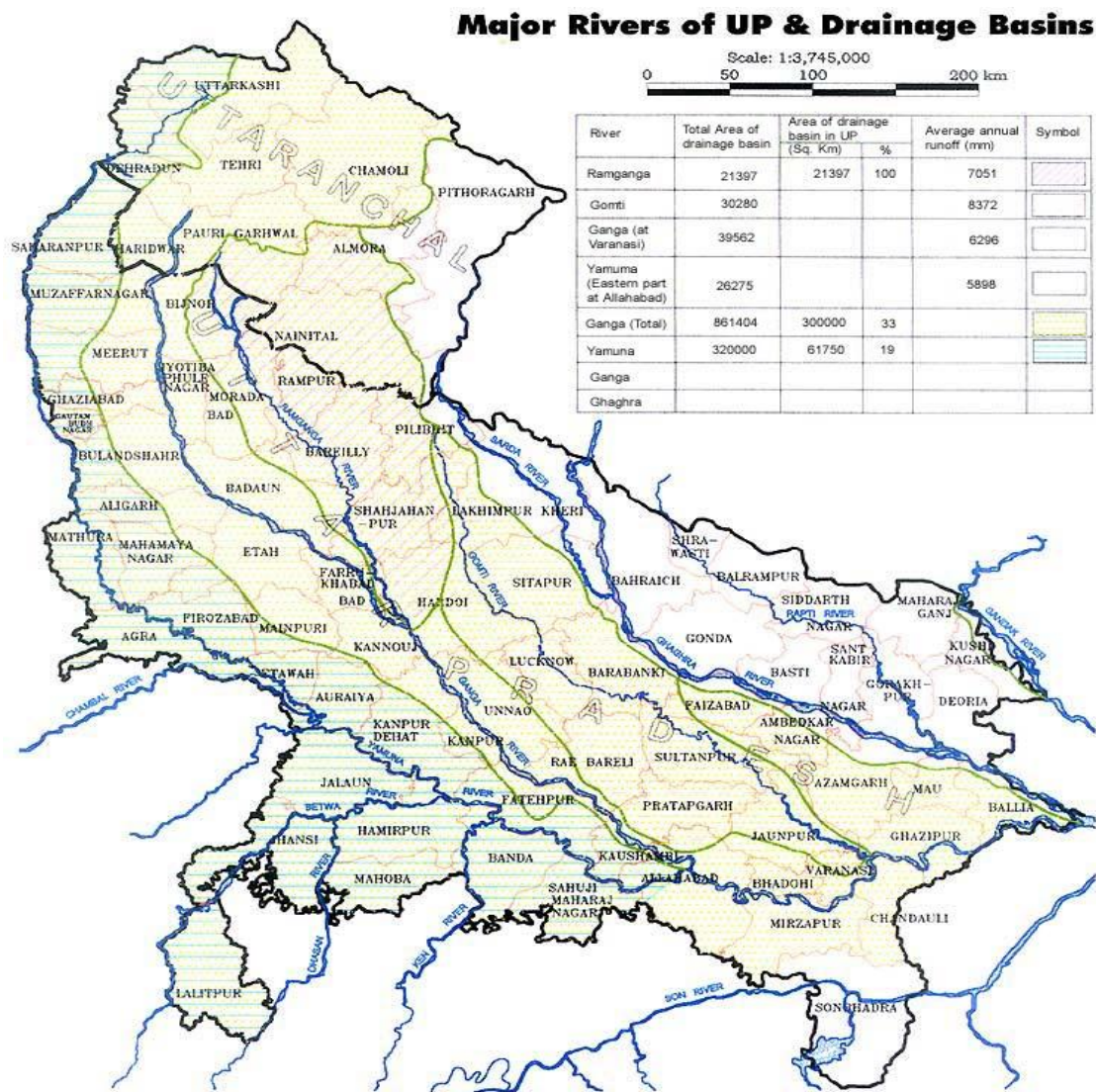
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# **Flood Specific Action Plan**

## Chapter 2 Flood Hazard Map Of Uttar Pradesh



### Floods:

Of the various natural disasters floods are the most common disaster which occur almost every year in Uttar Pradesh and mostly affecting the eastern, central and Tarai regions of the state. Important rivers which create floods in the State are the Ganga, the Yamuna, the Ramganga, the Gomti, the Sharda, the Ghaghra, the Rapti and the Gandak.

### Dams of Uttar Pradesh

- Parichha Dam on Betwa River in Jhansi District
- Matatila Dam on Betwa River in Lalitpur District
- Govind Ballabh Pant Sagar on Rihand River in Sonbhadra
- Jamni Dam on Jamni River in Lalitpur District
- Kalagarh Dam on Ramganga River in Kalagarh

- Rohini Dam on Rohini River in Lalitpur District
- Shahzad Dam on Shahzad River in Lalitpur District
- Govind Sagar Dam on Shahzad River in Lalitpur District
- Sajnam Dam on Sajnam River in Lalitpur District
- Sukma-Dukma Dam a below water construction on Betwa River near Jhansi District
- Jirgo reservoir on Jirgo river in mirzapurUttar Pradesh
- Musa Kahand on Karmnasa river in chaundali, varanasi Uttar Pradesh

### Various Rivers & Highest Flood Level

S.No.	River	Gauge Site	District	Highest Flood Level	Year	Danger Level
1.	Ganga	BhimGaura	Haridwar	296.23	1978	294.00
2.	Ganga	Narora	Bulandsahar	180.01	2010	178.42
3.	Ganga	CHCM Ganga Barrage	Bijnour	220.20	1997	220.00
4.	Ram Ganga	Katghar Railway Bridge	Moradabad	193.94	1924	190.60
5.	Yamuna	Okhala Barrage	Ghaziabad	201.35	1995	200.60
6.	Yamuna	ISBT	Delhi	207.49	1978	204.83
7.	Ken	Biryapur Bandha	Madhya Pradesh	193.40	2005	189.74
8.	Gomti	Hanuman Setu Gomti Barrage	Lucknow	110.85	1971	109.50
9.	Sharada	Banbasa	Champawat	223.30	1934	221.70
10.	Sharada	Sharada Nagar	Lakhimpurkhiri	136.55	1993	135.49
11.	Sharada	Paliakala	Lakhimpurkhiri	155.17	2008	153.62
12.	Ghaghara	Kartania Ghat(Girija Barrage)	Bharaich	137.12	1975	136.78

13.	Ghaghara	Elgin Birdge	Barabanki	107.40	2008	106.07
14.	Ghaghara	Ayodhya	Faizabad	93.84	2008	92.73
15.	Ghaghara	Turtipar	Ballia	66.00	1998	64.01
16.	Rapti	Rapti Barrage	Shrawasti	129.55	2006	127.70
17.	Rapti	Bardghat	Gorakhpur	77.54	1998	74.98
18.	Gandak	Balmikinagar	West Champaran	112.79	1974	109.67
19.	Saryu	Saryu Barrage	Bharaich	134.50	1995	133.50

### Flood Impacts in Uttar Pradesh

Sl. No.	Year	Affected Districts	Affected Population (in lac)	Affected Villages	Total Affected Area (in lac hec.)	Total Affected Agriculture Land (in lac hec.)	Damaged Houses (in lac)	Loss of Living being		Total Estimated Loss (in Crore)
								Human	Livestock	
1	2	3	4	5	6	7	8	9	10	11
1	1973	40	141.50	30004	35	22.23	2.98	163	375	296.84
2	1974	39	73.90	14948	19.86	12.24	2.03	72	160	173.16
3	1975	35	92.14	18629	23.65	14.21	2.01	181	892	192.44
4	1976	36	131.95	32962	33.49	18.49	2.05	240	1434	234.79
5	1977	31	37.00	7536	12.87	6.42	0.51	157	887	77.04
6	1978	55	225.87	48889	72.5	38.82	11.98	739	7430	688.44
7	1979	16	21.05	3913	7.03	5.18	0.23	77	220	57.57
8	1980	46	303.47	44629	58.57	30.94	19.23	1309	5244	790.67
9	1981	33	146.27	20706	29.91	16.35	4.91	427	1356	286.38
10	1982	44	232.91	32459	55.38	33.09	10.18	562	2517	585.65
11	1983	56	155.34	24731	38.6	24.99	5.19	519	2101	754.03
12	1984	39	65.75	11600	16.68	10.31	0.83	209	432	262.15
13	1985	55	195.59	27113	40.28	24.19	6.2	804	3808	1216.26
14	1986	45	59.19	8925	10.34	6.45	0.51	233	725	278.64
15	1987	9	38.24	5807	5.81	3.16	1.8	163	990	186.14
16	1988	46	182.04	24721	31.76	17.14	3.71	765	3102	834.6
17	1989	25	48.62	8281	10.03	6.52	0.78	168	516	---
18	1990	51	85.34	15524	22.03	10.64	1.32	471	2889	---
19	1991	29	24.19	3372	8.1	2.1	0.78	214	369	---
20	1992	20	29.24	4254	5.91	3.34	0.34	140	979	---
21	1993	34	75.05	11765	15.11	7.91	1.37	314	2088	---
22	1994	45	39.07	9627	9.86	5.98	0.66	317	4855	---
23	1995	51	36.91	8874	12.79	7.98	0.88	321	1257	---
24	1996	44	72.20	8827	11.24	6.78	0.09	313	1232	---
25	1997	29	10.21	2284	3.49	1.55	0.03	102	144	---
26	1998	55	121.91	156118	25.23	14.15	3.84	1356	3384	---
27	1999	11	1.83	299000	5.39	4.069	0.005	17	9	---
28	2000	40	63.86	5882	7.84	4.72	0.083	453	977	---
29	2001	21	27.15	3819	4.63	2.89	0.09	201	251	---
30	2002	14	3.86	770	1.1	0.62	0.006	33	36	---
31	2003	54	134.80	17011	23.6	15.03	0.35	964	3201	---
32	2004	2	14.36	865	2.44	---	---	88	217	---
33	2005	35	24.51	3652	3.59	3.835	0.77	203	259	---
34	2006	12	4.53	678	---	---	---	253	588	---
35	2007	20	26.03	2634	5.95	4.33	0.343	272	170	3981.27

41.	2008	25	41-761	6287		4.98	458626	1210	2059	838.73
42.	2010	33	35.06	5845	6.70	7.00	35689	413	324	2174.73
43.	2011	36	23.06	3587	5.26	3.96	22858	692	268	1470.77
44.	2013	40	35.44	5785	797.50	797.50	79602	380	550	3210.21
45.	2016	31	22.34	3078	5.96	4.21	46793	82	287	812.53

***Flood Mitigation Strategy:***

- Maintaining existing drainage channels,
- Anti-erosion works
- Implementation of Flood Protection schemes for all the River basin in Uttar Pradesh
- Embankments of low-lying areas
- Incorporate Disaster Management Plan as part of the Master Plan
- Building stronger database to increase preparedness
- Providing alternative drainage paths
- River trenching
- Emergency response centre
- Emergency plan – Place & training
- On site storage of rainwater,
- Control of solid waste entering the drainage systems,
- Providing raised platforms for flood shelter for men and cattle,
- Raising the public utility installation especially The platforms for drinking water hand pumps and bore wells above flood level
- Providing porous pavements to allow infiltration of rainwater,
- Reserve low-lying areas for playgrounds and parks,
- Using state-of-the-art technologies to address current problems
- The use of flood plains be regulated and a suitable legislation for flood plain zoning be enacted and enforced
- Local governments should use their authority over land use planning, waste-management, energy consumption and transportation to tackle disaster
- Through planning and regulation, local governments should take pro-active role in adaptation of climate change and disaster resilience.
- Building shelters for Disaster management
- Develop appropriate risk assessment
- Building Retrofitting and Strengthening Lifeline Infrastructure
- Relocation and Rehabilitation
- Improve water, sanitation and housing deficiencies in the disadvantaged area.

- Possibilities of protecting against submergence Or relocating to safer areas vital installations like Electricity sub-stations/ power houses, Telephone exchanges, The pumping stations meant for drinking water supply etc.

### **Flood Forecasting and Warning**

Flood forecasting is a process whereby the authorities are alerted to impending conditions where floods may be likely. Flood forecasting requires understanding of meteorological and hydrological conditions, and is therefore the responsibility of the appropriate government agencies. National organization is required, but information needs to be made available at a river basin scale. This allows forecasting to integrate with flood warning arrangements.

The main components of a national flood forecasting and warning system are as follows:

- Collection of real-time data and prediction of flood severity and time of onset of particular levels of flooding.
- Preparation of warning messages, describing what is happening, predictions of what will happen and expected impact. Messages can also include what action should be taken.
- The communication and dissemination of such messages
- Interpretation of the predictions and other flood information to determine flood impacts on communities
- Response to the warnings by the agencies involved and communities
- Review of the warning system and improvement in the system after flood event
- If predictions fail, the reasons of prediction failure should be communicated to communities in order to establish trust.

For a flood warning system to work effectively, all these components must be present and they must be integrated with each other rather than operating in isolation.

### **Community based flood forecasting and warning systems**

It is important that the people in each community receive information as early as possible about the possibility of flooding in their area. In addition to the valuable information from the official flood warning system, communities should attempt to develop their own warning systems. At community level, it is important that warnings are received by all individuals. The way in which messages are disseminated in communities will depend on local conditions, but may include some or all of the following:

- Media warnings (print and electronic)
- General warning indicators, for example sirens
- Warnings delivered to areas by community leaders or emergency services
- Dedicated automatic telephone warnings to at-risk properties



- Information about flooding and flood conditions in communities upstream. One approach to dissemination messages is to pass warning messages from village to village as the flood moves downstream
- Keep watch and be regularly informed about the river level and embankment conditions in the local area. The monitoring of the river and embankment should be increased as the water level increases and crosses the critical danger level
- A community-based warning system to pass any information about an approaching flood to every family.

### **Trigger Mechanism: Plan Activation**

The flood response system will be activated on the occurrence of a heavy rain. The Relief commissioner (RC) will activate all the Departments for emergency response including the State EOC. He will issue instructions to include the following details:

- Specify exact resources required
- The type of assistance to be provided
- The time limit within which assistance is needed
- The state, district or other contact persons/agencies for the provision of the assistance
- Other Task Forces what which coordination should take place

The state EOC and other control rooms at the state level as well as district control rooms should be activated with full strength.

Once the situation is totally controlled and normalcy is restored, the RC declares End of Emergency Response and issues instructions to withdraw the staff deployed in emergency duties.

## **Relief**

### **Relief Measures**

- **Food & nutrition**  
In an extreme flood situation, people lose standing crops and stored food grains. In such cases, free distribution of foods shall be made to avoid hunger and malnutrition. Wherever possible, dry rations should be distributed for home cooking.
- **Water**  
Water supply is invariably affected in natural disasters. Availability of safe drinking water is very challenging particularly during floods. It must be ensured that affected people have adequate facilities and supplies to collect, store and use clear and safe water for drinking, cooking and personal hygiene.
- **Health**  
During post disaster phase many factors increase the risk of diseases and epidemics because of overcrowding, inadequate quantity and quality of water,

poor environmental and sanitary conditions, decaying biological matter, water stagnation, inadequate shelter and food supplies. There should be adequate supply of medicines, disinfectants, fumigants etc. To check outbreak of epidemics. It should be ensured that the medicines have not reached expiry date.

- **Clothing & Utensils**

The people affected by the disaster shall be provided with sufficient clothing, blankets etc. to ensure their safety and well-being. Each disaster-affected household shall be provided with cooking and eating utensil.

- **Shelter**

In case of flood, a large number of people are rendered homeless. In such situations shelter becomes a critical factor for survival and safety of the affected population. In view of this, flood affected people who have lost their houses, shall be provided sufficient covered space for shelter. Disaster-affected households shall be provided with necessary tools, equipment and materials for repair, reconstruction and maintenance for safe use of their shelter.

- **Relief camp**

Relief camps also provide good temporary arrangements for people affected by flood. Adequate numbers of buildings or open space should be identified where relief camps can be set up during emergency. The use of premises of educational institutions for setting up relief camps should be encouraged. The requirements for operation of relief camps should be worked out in detail in advance. The temporary relief camps should have adequate provision of drinking water and bathing, sanitation and essential health-care facilities.

- **Sanitation and Hygiene**

Sanitation services are crucial to prevent an outbreak of epidemics in post disaster phase. Therefore a constant monitoring of any such possibilities needs to be carried out. It should be ensured that disaster-affected households have access to sufficient hygiene measures.

### **Assessment of Damage/Loss and Relief needs**

- The Relief Commissioner to issue instructions to the district collectors to provide the 'Need Assessment Report'. The Commissioner of Relief should consolidate the same and to prepare 'State's Need Assessment Report'.
- The Relief Commissioner to issue instructions to the District Collectors to provide the 'Damage and Loss Assessment Report'. The Relief Commissioner to consolidate the same and to prepare 'State's Damage and Loss Assessment Report' which will be useful in planning and implementing the relief operations for disaster victims.
- Adequate manpower, vehicles, stationery etc. should be provided to supplement the efforts for need/loss assessment. (Relief Commissioner & Revenue Dept.)
- The relief need assessment report should be provided by the Collectors. (Relief Commissioner & Collectors)

- Identification and demolition of dangerous structures in the affected areas to minimize further loss of life and injuries. (R & B Dept., Revenue Dept and Local Bodies)
- Arrangements for distribution of gratuitous relief and cash doles. (Revenue Dept., Panchayat & Rural Housing Dept., UD & UHD Dept. and Collectors)
- Arrangements to be made for survey of human loss and distribution of ex-gratia relief to the families of deceased persons. (Revenue Dept.)
- Teams to be formed and dispatched to the affected areas for detailed assessment of houses and property damage assessment. (Revenues Dept. and Local authorities)

### **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.

### **Role and Responsibilities of Health Department in Flood Disaster Management**

#### **Prevention Activities**

- Assess preparedness levels at State, District 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 Centers 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 in 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 specialized care/treatment
- Disinfection of water sources
- Opening up of site operation camps in the affected areas
- Immunization and Quarantine, if necessary
- Early transfer of patients who need specialized care/treatment
- Establishment of public information centers 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 centers and affected areas
- Stock piling of life-saving drugs, de-toxicants, anesthesia, 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 minimize the probable outbreak of epidemics.

### **Role of the Animal husbandry department**

#### **Flood Control**

- Listing of village wise animal population with owner name.
- Stock piling of emergency medicines and equipments.

- Listing and identification of vehicles to be requisitioned for transport of injured animals.
- Vaccination of animal prior to monsoon in disaster prone areas on priority and identification of sites of camps in higher level
- Promotion to animal insurance and tagging of animal for identification
- Arrangement of standby generation for veterinary hospitals at the site of camp.
- Provision in each hospital for receiving large number of livestock at a time.
- Training and awareness of community members in proper disposal of carcasses.
- Stock piling of water, fodder and feed for live stock and poultry.
- Stock piling of surgical and trauma related items.
- Construction of mounds for safe shelter to animals.
- Identification of various water sources to be used by animals in case of prolonged hot and dry spells.
- Compilation of demands of feed fodder and straw and arrangement for wheat straw and coordination with suppliers with liaison to revenue staff.
- Stream live human resource of vetererian and allot the duties with areas to Rapid response team.

### **Role of the Animal husbandry department**

#### **Flood Response activities**

- Ensure adequate availability of personnel and mobile team.
- Prevention and control of animal diseases with vaccination and treatment of injured animals.
- Filling of application for livestock death .
- Supply of medicines and fodder to affected areas.
- Hygiene disposal of carcasses ensuring proper sanitation to avoid outbreak of livestock.
- Establishing of control room with a means of communication to assist in providing an organized source of information .
- Mobilizing community participation fort caresses disposal.

#### **Flood Recovery activities**

- Assess losses of animals assets and needs of persons and communities quickly.
- Play a facilitating role for early approval of soft loans for buying animals and sale of milk products and ensuring insurance coverage and disaster proof of housing or alternative shelter mounds for animals for future emergencies.

### **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 be 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

#### **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 modernizing 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.
- Organize 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 Earthquake 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.

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

### **Preventive Activities**

- Construction and maintenance of storage godowns/warehouses at strategic locations. As Construction and maintenance of storage godowns/warehouses is a very highly-cost oriented task, such godowns/warehouses at strategic location may be outsourced also.
- 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 from the warehouses and capacity in number of bags as this information can be utilized for safely stockpiling the food gains 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 and earthquake.
- Take appropriate preservative measures to ensure that food and other relief stocks are not damaged during storage, especially precaution against moisture, rodent 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

## **Roles and Responsibilities of Civil Defence in Flood Disaster Management Prevention Activities**

- Organize training programmes on first aid, search, rescue and evacuation for its personnel 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.
- Organize 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 Earthquake 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

## **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 nearby 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

## **Role and Responsibilities of Public Works Department in Flood Disaster Management**

### **Prevention Activities**

- UPPWD shall ensure repair of infrastructure under its control. Repair of structures owned by other departments may be entrusted to the concerned department. However technical guidance / supervision can be provided by UPPWD

### **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. Restoration of roads & bridges under other departments (not owned by UPPWD) would be done by the concerned department.
- Facilitate movement of heavy vehicles carrying equipments and materials.
- Identification and telling about the alternative routes to strategic locations to the disaster managers.
- Filling of ditches and cutting of uprooted trees along the road to clear the route.



- 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. These may be procured as per the GO of Chief Secretary regarding DRR mainstreaming & allocating departmental funds for DRR activities.
- Development of checklists and contingency plans.

### **Recovery Activities**

- Strengthening and restoration of infrastructure (which belong to PWD) with an objective to eliminate the factor(s) which caused the damage.
- Review and documentation of departmental experiences of Disaster Management.
- Sharing of experiences and lessons learnt about departmental experiences of Disaster Management.

## **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 organize 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, modernize 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

## **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.

## **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. Taking the vast size of the rural area and the number of Gram Panchayats is to consideration training programmes can be organized at Block level for a cluster of Gram Panchayats with similar disaster risks instead at GP level
- Organize mock drills to respond to the flood disaster. The Participants should also include the members of villages.
- Facilitate the Village Disaster Management Committees of the areas. The administrative committee headed by Gram Panchayat Pradhan with six other members constituted under UPPR act may be assigned the role's of village Disaster Management Committee.
- Support strengthening response mechanisms at the Gram Panchayat level (e.g., better communication, local storage, search & rescue equipments, etc.). Panchayat Bhawans may be equipped with such facilities.
- 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. Gram Panchayat can perform only when they are given adequate funds and resources.
- With the help of Zila Panchayats, Panchayati Raj department will 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 centers and operationalise them into emergency relief centers 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. Counseling
- 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.

### **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

### **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

### **Role and Responsibilities of Agriculture Department in Flood Disaster Management**

- Prepare contingency plan for recurring flood prone area : (Department of Agriculture, U.P)
- Encourage farmers to sow the varieties which is tolerant for water logging situation : (Department of Agriculture, U.P)
- Budgetary arrangement for flooded area: (Department of Finance, U.P)
- Arrangement of plant protection chemicals : (Department of Agriculture, U.P)
- Diversification of cropping system and promotion of Farming System: (Diversification of Department)

# **Drought Specific Action Plan**

### **Strategy for integrated Drought management in Uttar Pradesh**

- Crop diversification
- Potential Crop development for Crop diversification in uplands
- Feed & Food crop for drought prone areas
- New Knowledge Integrated farming System
- Water Harvesting & Aquaculture
- Water harvesting through Jalkund / talab: On-Farm small ponds
- Rainwater harvesting small farm pond
- Crops and varietal choice
- Integrated crop management with Targeted yield
- Application of Phosphorus & Nitrogen & Potash, & Lime in acidic soils
- Value addition & marketing for higher profitability
- Development of Knowledge and Demonstration Centers on a agricultural Drought risk reduction strategies and activities.

### **Role of the Animal husbandary department in Drought Control**

- State animal husbandry department should co-ordinate with revenue for depends and rate contract of feed fodder for effected livestock and poultry by disaster.
- The animal husbandry department would check the quantity of feed and fodder supplied through fodder suppliers in animal relief camps. It would ensure and certified that the feed and fodder being provided are ... for livestock consumption. Attempts were made to avoid hydrocyanic acid poisoning through chari.
- The departments would provides essential minerals ,vitamins,life saving medicines and vaccines for control of diseases at door step of the farmers or in relief camp. The departments would animals health camp to ensure that cattle are maintained in sound health.
- The animal husbandry department would depute veterinarians who would examine the health of livestock in or near animal relief camps at regular intervals and under take all precautionary measures to avoid outbreak of diseases. All essential work regarding prevention of infections and contagious diseases in animals at 2009.
- The animal husbandry department would undertake awareness program in drought and flood prone areas under pre-disaster, during disaster and post disaster to counter check the HCN poisoning and various contagious diseases and other animal health related issues.
- Departments should perform vaccination against fatal diseases prior to monsoon season and to undertake vector control and sanitation on issues and may provide technical help in proper disposal of carcass.

### **Role of the Forest Department**

- Forest Department should cut and stock grass available within its area at places where arrangements are available for safe stocking. The cutting of grass should be completed as early as possible. It should be properly dried, converted to hay and stocked. The Forest Department should also make arrangements for the transportation of fodder to places suggested by the Collector. The Government should sanction the necessary expenditure for fodder operations to be undertaken by the Forest Department.
- Forest Department could permit local farmers to take forest produce, such as cutting fodder yielding trees, free of charge or on payment of fees.

### **Roles and Responsibilities of Agriculture Department In Drought**

Drought is when an area gets less than its normal amount of rain over months or even years. Crops and other plants need water to grow, and animals need it to live. It can become dangerous to people and animals; causing famine and even creating deserts. Drought is a natural event, caused by other weather events like El Niño and High pressure systems. Drought can also be triggered by deforestation (people cutting down forests), by global warming, and by diverting rivers or emptying lakes.

Drought is a disaster which usually takes place slowly. It is difficult to decide the time of it started and its end. Its effects often build up slowly over a long period of time and may continue from months to years after the end of the event. Drought is a continuous period of dry weather due to lack of rain.

As a drought persists, the conditions surrounding it gradually worsen and its impact on the local population gradually increases. People tend to define droughts in three main ways.

Metrological drought is brought about when there is a prolonged period with less than average precipitation. Metrological drought usually precedes the other kind of drought.

Agriculture droughts are drought that affects crop production or the ecology of the range. This condition can also arise independently from any change in precipitation levels when soil conditions and erosion triggered by poorly planned agriculture endeavors cause a shortfall in water available to the crops. However, in a traditional drought, it is caused by an extended period of below average precipitation.

Hydrological drought is brought about when the water reserves available in sources such as aquifers, lakes, and reservoirs fall below the statistical average, hydrological drought tends to show up more slowly because it involves stored water that is used but not replenished. Like an agriculture drought, that can be triggered by more than just a loss of rainfall.

- Take into consideration cautiously of Long Range Forecast: By IMD Department.
- Constant monitoring of drought related characteristics especially rainfall condition, region wise forecast and deviation of actual rainfall from normal rainfall and its effect on various Kharif crops by Crop Weather Watch Group (UPCAR-Lucknow)

- Broadcasts the message and recommendation of Crop Weather Watch Group through E-media and Print media (Member Department of Crop whether watch group).
- Prepare Contingency Crop Plan: (Department of Agriculture, U.P)
- Propagation of short term water conservation measures and water budgeting: (Department of Agriculture, U.P)
- Seed Bank: (State Seed Corporation, U.P.)
- Encourage uses of sprinkler set, HD pipe devices for life saving irrigation: (Department of Agriculture, U.P)
- Monitoring over exploitation of ground water for non-agricultural and non-drinking purposes: (Department of Ground Water, U.P)
- Advance Arrangement of seed, fertilizer, Plant Protection, Chemicals as per contingency plan: (Department of Agriculture, U.P)
- To encourage farmers to participate in “National Crop Insurance Program”: (Department of Agriculture Statistics, U .P/Department of Agriculture, U.P)
- There should be banned on summer Paddy cultivation by legislature to save the critical dark situation of ground water of the districts.
- There should be banned on Mentha cultivation in dark critical block because it requires more water.

### **Role of the Irrigation Department**

- The irrigation department should extend all necessary cooperation to the Collector for promoting fodder cultivation by providing water for irrigation on a priority basis. Such water could be provided to the farmers at a cheaper rate.
- The irrigation department should consider allowing reservoir and tank beds under its control to be leased out for cultivating short duration grasses or seasonal fodder crops. The Collector, with the permission of the irrigation department, could lease out the reservoir and tank bed land on short-term lease subject to the condition that the lessees should grow fodder crop therein and agree to sell the grass /fodder to needy farmers at the price to be fixed by the Collector.

### **Role of Health Department & Jal Nigam**

**Lead Agencies:** State Government Public Health department.

An important objective of the Government’s intervention is to provide necessary support for maintaining health and hygiene standards of the drought affected people. In a drought situation, health issues are largely related to contamination of water and spread of infection among the workers participating in public works programmes. People have less immunity in drought situations due to poor levels of nutrition. Necessary precautions need to be taken to prevent the spread of any water-borne epidemic and other infectious diseases. Steps for maintaining health and hygiene in drought-affected areas are as follows:



- The health department should undertake a campaign for disinfecting all drinking water sources with disinfectants such as chlorine. Since water availability is at a shallow level, it is more likely to be contaminated. Necessary care needs to be taken to clean water and disinfect it before using it for the purpose of drinking. It may be necessary to train the community in disinfecting water and checking its quality for the purpose of drinking.
- Jal Nigam should conduct a regular surveillance of all the drinking water sources in the drought-affected areas.
- Jal Nigam should take a special campaign for providing clean drinking water in those areas which are affected by arsenic and fluoride contamination.
- Health department should maintain sufficient stock of chlorine and other disinfectants in the drought-affected areas.
- A public health campaign should be organized for immunizing and inoculating the entire population against likely diseases such as typhoid and cholera.
- Mobile health teams should be organized for visiting all public works. Doctors and Manual medical interns from urban areas need to be organized in teams for visiting these public works programmes for medical check-ups and immunization.
- The Health department should organize medical camps for villages and communities affected by severe droughts. People need to be checked for infections and vitamin deficiencies and treated for night blindness and other ailments.
- The district administration should ask local medical colleges to run medical camps. Medical college teachers and students should participate in these camps.
- The Health department should consider providing doses of vitamins in case of vitamin deficiency, particularly to children and women.
- The district administration should arrange for requisition of vehicles and procurement of necessary drugs and medicines and other facilities for setting up medical camps.

### **Role of Relief Commissioner Organization**

- The Relief Commissioner / Secretary, Disaster Management monitors the drought situation in the State on the basis of information available through various departments and agencies and submits reports to the Government at different levels.
- The Relief Commissioner/Secretary recommends the declaration of drought on the basis of situation on the ground. Once the State Government declares drought, all the necessary orders for concessions and waivers are issued by the Relief Commissioner.
- Relief Commissioner /Secretary, Disaster Management issues various instructions to the Collectors for provision of relief assistance to the people affected by drought.
- Relief Commissioner/Secretary, Disaster Management should take steps communicating all decisions taken at the State level to the district level. Since a

delay in the communication of these decisions may have a very adverse impact on drought management, it is necessary that all decisions taken are communicated to the district administration or other field agencies by e-mail and fax and posted on the web site.

- The Relief Commissioner/Secretary, Disaster Management administers the State disaster Response Fund (SDRF) of the State and issues orders for release of all financial assistance to the district administration and other departments.
- The Relief Commissioner/Secretary, Disaster Management conducts the assessment of losses and relief needs. On the basis of this assessment, the Relief Commissioner submits a Memorandum to Government of India through the State Government for seeking financial assistance from the National Calamity Contingency Fund (NCCF).
- Additional mechanisms should be set up for managing drought.
- State Executive Committee does Drought Management related coordination with departments of agriculture, animal husbandry, water conservation, irrigation and finance etc.

### **Role of the District Administration**

- The district administration under the leadership of the Collector implements all the decisions related to drought management on the ground. The implementation takes place through a number of line departments and field agencies working on the ground. The effectiveness of drought management is very much dependent upon coordination among agencies working at the district level.
- The Collector heads the revenue administration at the district level and is the most important official in respect of drought management. As per the relevant revenue codes, the expression “Collector” includes all the subordinate officials of the Revenue Department such as Additional Collector, Deputy Collector, Sub-divisional Officer and Tehsildar. All the subordinate officers perform their tasks and exercise powers related to drought management on behalf of the Collector.
- The Collectors should monitor all the indicators of drought on the ground collect data on rainfall on a daily basis, important water storages in the district and monitor the progress of sowing operations. The Collector should also monitor all local information related to demand for relief employment, prices of food grains and the availability of fodder.
- The Collector needs to conduct crop-cutting experiments and report annewari / paisewari/Girdewari values for all the Revenue Circles/Tehsil to the Government.
- The Collector must submit periodical reports on all the important indicators of drought to the Government. On the basis of all the indicators, the Collector should recommend declaration of drought to the State Government.
- All administrative and financial powers related to drought management, such as relief employment, distribution of food grains, supply of drinking water and

procurement and sale of fodder, should be delegated to the Collector. The State Government must ensure that the delegation of authority to the Collectors is real and substantive.

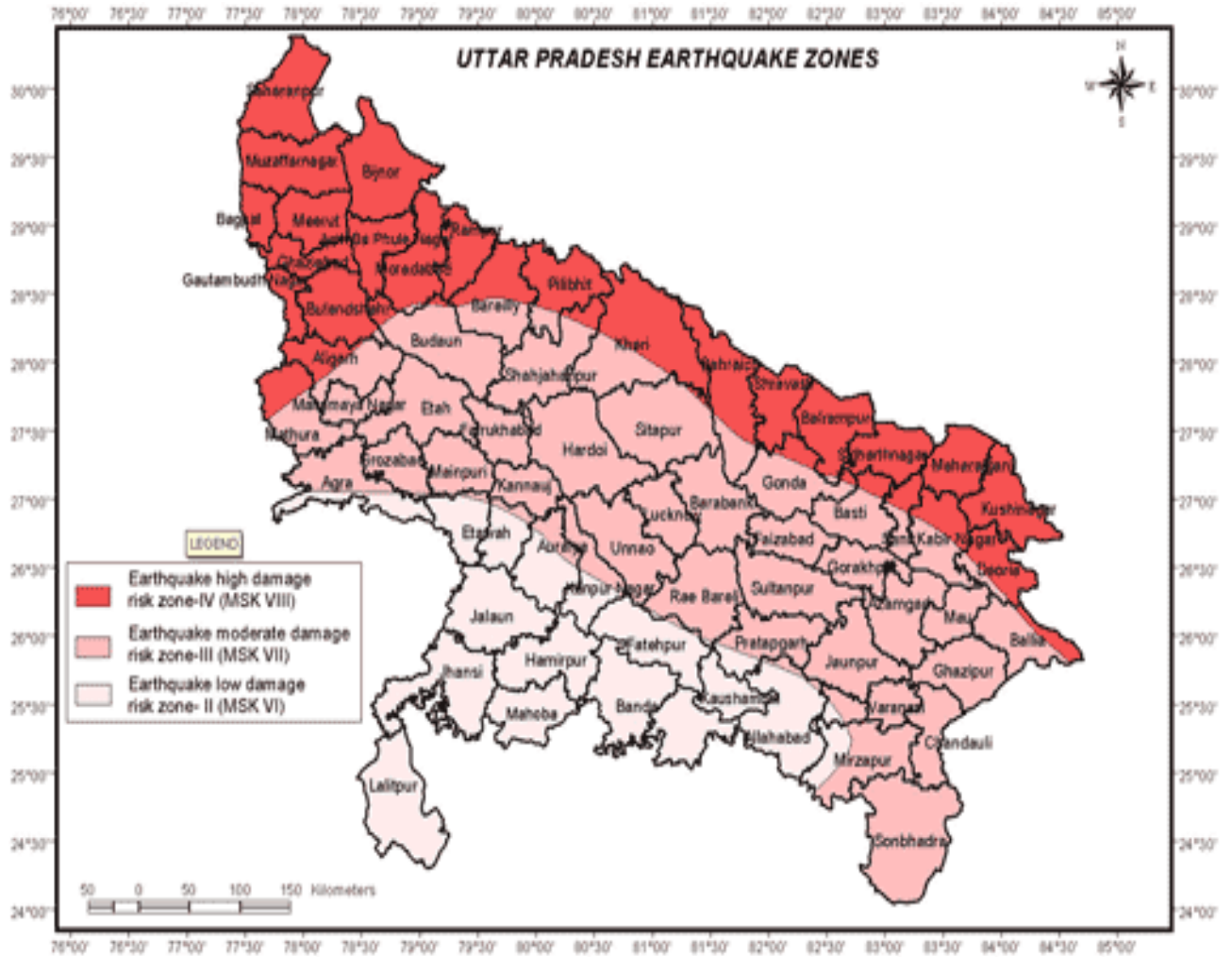
- The Collector must be authorized to direct all the line departments at the district level to participate in drought management, prepare contingency plans and mobilize their staff and resources, as per the relevant sections of this manual. For example, the Collector can ask all the technical departments to identify works and prepare estimates so that there is adequate work on the shelf to provide relief employment in the drought-affected areas. The Collector should requisition vehicles and equipment's on payment basis, for using them in drought situation.
- The Collector needs to assess the situation related to scarcity of drinking water and fodder, and should issue appropriate instructions regarding reservation of drinking water, supply of drinking water through tankers, procurement and sale of fodder, and setting up of fodder depots and cattle camps as mentioned in the relevant sections of the manual. The Collector should exercise similar authority in any other area, which is affected by drought.
- The role of the Collector is that of an effective coordinator of drought management. The Collector must be able to provide a sense of mission and direction to all the line departments and agencies working for drought relief. It is necessary that the Collector provides the necessary help and support to all the agencies for performing their tasks more effectively.
- At the district level, a district drought / disaster management committee should be set up under the chairmanship of the Collector. It should consist of the local members of the Parliament (MP), Members of the Legislative Assembly (MLAs), Panchayati Raj officials, and the district officials. The Committee should meet frequently and review the progress of drought relief measures in the district. District-level committee can become a very effective forum for addressing peoples' concerns and applying correctives in drought management.

### **Role of Panchayati Raj Institutions**

- It is necessary to involve the Panchayati Raj institutions (PRIs)—Zilla Parishads, Panchayat Samitis, and Village Panchayats—in the implementation of drought management programmes.
- PRIs need to provide funds from different sources, particularly the devolution of funds through successive Finance Commissions, for water conservation and maintenance of water supply schemes.
- Almost 50% of the NREGS is implemented through village Panchayats. PRIs need to use funds for starting relief employment programmes as well as building community assets such as percolation tanks, village tanks, wells and canals, which reduce the impact of drought.
- The PRIs need to play an important role in the regulation of water use at the individual household and village level. It should recommend using water resources for the purpose of drinking and fodder cultivation.

# **Earthquake Specific Action Plan**

### Map of UP Earthquake Zones



**Table I: List of districts of Uttar Pradesh falling in Earthquake Damage Risk Zones (on the basis of Vulnerability Atlas of India by BMTPC)**

Districts completely falling in Earthquake Damage Risk Zone IV		Districts partly falling in Earthquake Damage Risk Zones IV & III		Districts completely falling in Earthquake Damage Risk Zone III		Districts partly falling in Earthquake Damage Risk Zone III & II		Districts completely falling in Earthquake Damage Risk Zone II	
Sl. No.	District Name	Sl. No.	District Name	Sl. No.	District Name	Sl. No.	District Name	Sl. No.	District Name
1.	Baghpat	1.	Aligarh	1.	Ambedkar Nagar	1.	Agra	1.	Banda
2.	Bijnor	2.	Bahraich	2.	Azamgarh	2.	Allahabad	2.	Chitrakoot
3.	G.B. Nagar	3.	Ballia	3.	Barabanki	3.	Auriya	3.	Hamirpur
4.	Ghaziabad	4.	Balrampur	4.	Chandauli	4.	Etawah	4.	Jalaun
5.	J.P. Nagar	5.	Bareilly	5.	Etah	5.	Firozabad	5.	Jhansi

6.	Kushinagar	6.	Basti	6.	Faizabad	6.	Fatehpur	6.	Kaushambi
7.	Maharajganj	7.	Budaun	7.	Farrukhabad	7.	Kanpur (Dehat)	7.	Lalitpur
8.	Meerut	8.	Bulandshahar	8.	Kashiram Nagar	8.	Kanpur (Nagar)	8.	Mahoba
9.	Muzaffarnagar	9.	Deoria	9.	Hardoi	9.	Mainpuri		
10.	Rampur	10.	Gonda	10.	Lucknow	10.	Mirzapur		
11.	Saharanpur	11.	Gorakhpur	11.	Ghazipur	11.	Pratapgarh		
12.	SiddharthNaga	12.	Pilibhit	12.	Jaunpur	12.	Raebareli		
		13.	Lakhimpur Khiri	13.	Kannauj	13.	St. Ravi Das Ngr.		
		14.	Mathura	14.	Mahamaya Naga	14.	Unnao		
		15.	Moradabad	15.	Mau				
		16.	Shahjahanpur	16.	Sonbhadra				
		17.	Shravasti	17.	Sultanpur				
		18.	Sitapur	18.	Varanasi				
		19.	St. Kabir Nagar						

**Table II: List of districts of Uttar Pradesh completely falling in Earthquake damage Risk Zones IV and partly falling in Earthquake Damage Risk Zones IV & III**

Districts completely falling in Earthquake Damage Risk Zone IV		Districts partly falling in Earthquake Damage Risk Zones IV & III		Districts completely falling in Earthquake Damage Risk Zone III	
Sl. No.	District Name	Sl. No	District Name	Sl. No.	District Name
1.	Baghpat	1.	Aligarh	1.	Ambedkar Nagar
2.	Bijnor	2.	Bahraich	2.	Azamgarh
3.	G.B. Nagar	3.	Ballia	3.	Barabanki
4.	Ghaziabad	4.	Balrampur	4.	Chandauli
5.	J.P. Nagar	5.	Bareilly	5.	Etah
6.	Kushinagar	6.	Basti	6.	Faizabad
7.	Maharajganj	7.	Budaun	7.	Farrukhabad
8.	Meerut	8.	Bulandshahar	8.	Kashiram Nagar
9.	Muzaffarnagar	9.	Deoria	9.	Hardoi

10.	Rampur	10.	Gonda	10.	Lucknow
11.	Saharanpur	11.	Gorakhpur	11.	Ghazipur
12.	Siddharth Nagar	12.	Pilibhit	12.	Jaunpur
		13.	Lakhimpur Khiri	13.	Kannauj
		14.	Mathura	14.	Mahamaya Nagar
		15.	Moradabad	15.	Mau
		16.	Shahjahanpur	16.	Sonbhadra
		17.	Shravasti	17.	Sultanpur
		18.	Sitapur	18.	Varanasi
		19.	St. Kabir Nagar		

### **Trigger mechanism on occurrence of an earthquake**

An earthquake of magnitude 5 or more is likely to cause deaths and injuries to human beings and damage to all kinds of property, both private and public. Unfortunately, there is very little warning available before the earthquake, therefore planning should cater for a quick response at all levels to reduce the effects of the earthquake to the minimum.

The Revenue department of the State will be the nodal department for formulating, controlling, monitoring and directing measures for earthquakes preparedness, organizing rescue, relief and rehabilitation. All other concerned departments should extend full cooperation in all matters pertaining to the management of the earthquake disaster whenever it occurs.

The occurrence of an earthquake may be reported by the Indian Meteorological Department (IMD)/National Geophysical Research Institute (NGRI)/ Institute of Seismological Research (ISR) to the Relief Commissioner by the fastest means.

### **Response mechanism of the concerned line departments along with the roles and responsibilities of each one of them**

- The SEOC should be activated for emergency response on the occurrence of any major earthquake in the State are as shown below:
  - i. State EOC should report the occurrence of a major earthquake to the following:
    - Relief Commissioner
    - Principal Secretary (Revenue)

- Chief Executive Officer, State Disaster Management Authority
- Chief Secretary of the State
- Chief Minister
- Revenue & Disaster Management Minister
- National Disaster Management EOC at MHA, Gol
- Vice Chairman, National Disaster Management Authority (NDMA)
- Secretary, MHA
- ii. State EOC to alert state search and rescue machinery for emergency response as also fire brigade personnel
- iii. State EOC to verify the authenticity of the information from authorized scientific agencies as well as district and Tehshil control rooms.
- iv. State EOC to contact its regular and emergency staff to report immediately.
- v. All Secretaries of the State Departments to be contacted to be available in the EOC immediately.
- vi. State EOC to remain in constant touch with control rooms at national district and Tehshil level.
- vii. Overall management of state EOC shall be taken over by the Relief commissioner.
- On receipt of information, Relief Commissioner to:
  - Contact all member of Crisis Management Group to inform them about the venue and time of first meeting (chaired by Chief Secretary) to assess the situation and decide the course of action to be adopted by the State government.
  - Issue instructions to all departments to ensure that all state government employees to report for duty immediately in order to execute their responsibilities as mentioned in their departmental Earthquake Management Plan.
  - Instruct all line departments to ensure their duty officers to remain available round the clock in the state EOC with full updated information of the activities of their departments.
  - Prepare and submit daily situation report to Government of India, Chief Secretary, Principal Secretary (Revenue), Chief Executive Officer, State Disaster Management Authority etc.
  - If necessary depute senior state level officers to worst affected Tehshil for effective implementation and supervision of Relief operation.
  - Mobilize additional manpower from the departments to the affected district/ Tehshil for supporting the Relief Operation. They should be provided task force action Plans of the concerned Tehshil/district prepared earlier.



- Management of Media (Press/TV Channels/Governments Press Notes) to be carried out by the Director (information) with special emphasis on rumor control. He shall maintain control. He shall maintain constant liaison with Relief Commissioner.

**Restoration of lines communications and essential services of facilitate emergency response**

- Establishment of Emergency Communication
- Restoration of Communication Link (Rail, Road & Air)
- Restoration of power and electricity
- Supply of safe drinking water
- Restoration of essential lifeline infrastructure.

**Search, rescue and medical assistance**

- Identification of areas where SAR Teams to be deployed
- Coordination of SAR teams for their quick deployment in allotted areas.
- Provision of quick transport of SAR teams to affected areas.

The department of Roads and Buildings to evolve a mechanism for clearing access routes and debris in order to facilitate search and rescue operation

- Mobilization of specialized equipment and machinery to affected areas.
- Cordoning of affected areas with control of entry and exit.
- Traffic Management by establishment of traffic points and check-points.
- The Home Department to evolve a mechanism for providing security of properties of government and public in the affected areas.
- Setting up of field hospitals in the affected areas and deployment of mobile hospitals.
- Arrangements to be made for quick transportation of injured victims to the hospitals.
- Secretary (Health) to evolve a mechanism for speedy treatment of casualties.

**Emergency relief (shelter, food, clothing, etc.)**

- a) Establishment of Temporary shelters for evacuees
- b) Ensuring provision of essential services as under:
  - Arrangement of food, clothing, blanket/bedding, drinking water, sanitation and hygiene, lighting arrangements and essential medicines.
  - Development of mobile hospitals in affected areas for treatment of victims
  - Providing counseling services to the earthquake victims and their relatives.
- c) Arrangement for providing transport facility to send dead bodies of non-locals to their natives. The administration should also ensure Law and order during shifting of the dead bodies

- d) Ensure establishment of communication link between the affected people and their relatives outside.

### **Immediate relief to be provided to the affected population**

#### **Short- Term Relief Measures**

- 1) Provide temporary shelter to affected people
- 2) Evacuation site should be safe, and easily accessible
- 3) Continue to provide essential services to the affected people i.e. food, water, clothing, sanitation and medical assistance

The Relief Commissioner to ensure the following in the relief camps:

- Special emphasis on Hygiene and sanitation aspects should be given in relief camp sites.
- Separate area should be earmarked within the relief camp for storage of relief materials.
- Adequate manpower and transport facilities for the camp site.
- Arrangement to be made for trauma management.
- Mobile medical units to be sent to remote areas with a view to provide medical assistance to the victims/injured.
- Information centre should be established by the administration

#### **Assessment of Damage/Loss and Relief**

- The Relief Commissioner to issue instructions to the district collectors provide 'the need and loss assessment'
- Adequate manpower, vehicles, stationery etc should be provided to supplement the efforts for need/loss assessment.
- Identification and demolition of dangerous structures in the affected areas to minimize further loss of life/loss assessment
- Arrangements for debris removal and its appropriate disposal.
- Arrangements for distribution of gratuitous relief and cash doles.
- Arrangements to be made for survey of human loss and distribution of excreta relief to the families of deceased persons.
- Teams to be formed and dispatched to the affected areas for detailed assessment of houses and property assessment.
- As reconstruction of houses will take a long period, arrangements to make to provide interim shelters to the affected.
- Identification of the site for interim shelter.
- Allocation of areas to the affected families.
- Providing essential services at the interim sites such as water, power, drainage/sanitation. PDS shops, etc.

- Distribution of shelter materials to individual families.

### **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 who 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 organization
- Work under the overall supervision of the State Relief Commissioner / the District Magistrate during emergencies.

### **Role and Responsibilities of Fire Services in Earthquake Disaster Management Preparedness Activities**

- Modernization of fire-fighting equipments and strengthening infrastructure.
- Procurement of search and rescue equipments viz. gas cutters, drillers and human sensors etc.
- Development /enforcement of relevant legislations and regulations to enhance adoption of fire safety measures.
- Identification of pockets of industrial, commercial or residential area which are highly susceptible to fire accidents in the event of building collapse due to earthquake.
- Educate people to adopt fire safety measures in the immediate aftermath of earthquakes.
- Conduct training and drills for use of various fire protection and preventive systems in order to ensure higher level preparedness in the community.
- Training the communities to handle fire emergencies more effectively.

#### **Response Activities:**

- Rescue of persons trapped in burning, collapsed or damaged buildings, damaged vehicles, including motor vehicles, trains and industries, boilers, trenches and tunnels
- Control fires and minimize the resultant damages.
- Protection of property and the environment from fire damage.
- Support to other agencies in the response to emergencies.
- Investigation into the causes of fire and assist in damage assessment

### **Role and Responsibilities of Police Department in Earthquake Disaster Management**

#### **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 modernizing 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.
- Organize 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 Earthquake 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.

**Role and Responsibilities of Health Department in Earthquake Disaster Management**

**Preparedness Activities**

- Assess preparedness levels at State, District 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
- Strengthening of Primary Health Centers with network of para-professionals to improve the capacity of surveillance and control of epidemics.
- Identification of areas prone to endemic and epidemics in the aftermath of earthquakes.
- Awareness generation about do's and don'ts regarding first aid to earthquake victims in the immediate aftermath of an earthquake
- Training of members of Village Disaster Management Committees (VDMCs) and NGOs of the villages (falling in Earthquake Damage Risk Zone IV & III) on first aid of earthquake victims.
- 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 hospital.
- 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 at disaster site
- Planning for making prior arrangement for early transfer of patients who need specialized care/treatment
- Opening up of site operation camps in the affected areas

- Immunization and Quarantine, if necessary
- Early transfer of patients who need specialized care/treatment
- Establishment of public information centers with appropriate and modern means of communication, to assist the 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 centers and affected areas
- Stock piling of life-saving drugs, de-toxicants, anesthesia, Halogen tablets in vulnerable areas
- Situational assessment and reviewing the status of response mechanisms in known vulnerable pockets
- Regular reporting to control rooms
- Review and update precautionary measures and procedures, and apprise the personnel who will be implementing those.
- Disinfection 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 of disaster affected population to diseases..
- 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 minimize the probable outbreak of epidemics.

#### **Role and Responsibilities of Animal Husbandry Department in Earthquake Disaster Management**

##### **Preparedness 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 teams
- 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 organized source of information.
- Mobilizing 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

### **Role and Responsibilities of Jal Sansthan (Jal Sansthan, Nagar Nigam/ Municipality, Gram Panchayat) in Earthquake Disaster Management**

#### **Preparedness Activities**

- Provision of safe 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 be 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 tube wells, 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

**Role and Responsibilities of Food & Civil Supplies Department in Earthquake Disaster Management.****Preparedness 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 warehouse 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 including 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 grains received from various sources in the immediate aftermath of a disaster e. g. earthquake.
- Take appropriate preservative measures to ensure that food and other relief stocks are not damaged during storage, especial 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

**Roles and Responsibilities of Civil Defence in Earthquake Preparedness Disaster Management.****Prevention Activities**

- Organize training programmes on first aid, search, rescue and evacuation for its personnel to improve their skills.
- Preparation and demonstration of first aid, search and rescue service plans for major disasters e.g. earthquakes.
- Remain fit and prepared through regular drills and exercises at all times.
- Organize 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 Earthquake Damage Risk Zone IV & III.

**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 items

- Provide first aid for injured
- Triage of casualties
- Work in coordination with medical assistance team
- Help the Police for traffic management and law and order

## **Role and Responsibilities of Public Works Department in Earthquake Disaster Management**

### **Preparedness Activities**

- UPPWD may ensure repair of infrastructure under its control. Repair of structures owned by other departments may be entrusted to the concerned department. However technical guidance / supervision can be provided by UPPWD
- UPPWD would prepare the inventory of equipments available with registered class-I contractors of UPPWD but acquisition and mobilization of equipments in case of any disaster may be done by District Administration.

### **Response Activities**

- Restoration of roads & bridges owned by UPPWD.
- Facilitate movement of heavy vehicles carrying equipments and materials.
- Identification of alternative routes to strategic locations. In case it is needed, Notification of alternative routes to strategic locations should be done by the Transport Department in consultation with district administration.
- Filling of ditches.

### **Recovery Activities**

- Strengthening and restoration of infrastructure with an objective to eliminate the factor (s) which caused the damage

## **Role and Responsibilities of Energy Department in Earthquake Disaster Management**

### **Preparedness Activities**

- Identification of materials/tool kits required for emergency response
- Ensure the minimum safety standards to be adopted for electrical installation and equipments and organize training of electricians.
- Develop and administer regulations to ensure safety of electrical accessories and electrical installations.
- Preparation of a contingency plan to ensure early electricity supply to essential services during emergencies and restoration of electric supply at an earliest.
- Develop and administer code of practice for power line clearance to avoid electrocution due to broken / fallen wires.
- Strengthen high-tension cable towers, modernize electric installation, strengthen electric distribution system to ensure minimum damages during an earthquake



- Conduct public/industry awareness campaigns to prevent electrical 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
- Replacement/restoration of damaged poles/ salvaging of conductors and insulators

**Role and Responsibilities of Irrigation Department in Earthquake Disaster Management**

**Preparedness Activities**

- Identify flood prone rivers and segments of embankments along them which can witness cracks or seepage in the event of an earthquake. 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 in the event of an earthquake.
- 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 earthquake.
- Monitoring and protection of irrigation infrastructures
- Monitoring flood situation in the immediate aftermath of an earthquake and dissemination of flood warning
- Inspection and repair of pumps, generators, motor equipments and station buildings
- Community mobilization in breach closure

**Recovery Activities**

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

*Role and Responsibilities of Transport Department in Earthquake Disaster Management*

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

## **Role and Responsibilities of Panchayati Raj in Earthquake Disaster Management**

### **Preparedness Activities**

Develop 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 earthquake do's and dont's.
- Organize mock drills to respond to the earthquake disaster in the areas of Earthquake Damage Risk Zone IV & III.
- Facilitate the Village Disaster Management Committees of the areas falling in the (Earthquake Damage Risk Zone IV & III) in preparing their community disaster management plan.
- Support strengthening response mechanisms at the Gram Panchayat level (e.g. better communication, local storage, search & rescue equipments, etc.). It is suggested that there should be a policy through which Gram Panchayats may be authorized to use funds at their disposal from any source for the emergency purposes.
- 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 facilitate 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 if Gram Panchayats are given funds or they are given the authority to use existing funds without obtaining the sanction.
- Identify the school building, community centers and operationalise them into emergency relief centers and emergency shelters.

- Make necessary arrangements 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. counseling
- Repair/ restoration of infrastructure e.g. roads, bridges, public amenities however adequate funds, manpower and resources should be provided. Gram panchayats should have powers to use funds in such emergent situations available with them from any sources, including government schemes.
- 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.

## **Role and Responsibilities of Information & Public Relations Department in Earthquake Disaster Management**

### ***Preparedness Activities***

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

### ***Response Activities***

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

## **Role and Responsibilities of Forest Department in Earthquake Disaster Management**

### ***Preparedness 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.

- Information, Education and communication (IEC) activities for greater awareness regarding the role of trees and forests for protection during emergencies and eco-friendly utilization of trees for rehabilitation activities in the aftermath of an earthquake.
- 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 repair the damage caused to tree cover and provide employment to the members of affected families.

# **Fire Specific Action Plan**

Every year a large number of houses and other establishments are affected by fire in the state. In the rural areas, fires destroy thousands of houses and a sizeable part of agriculture crop every summer. Similarly, fire accidents are a common occurrence in the urban and industrial areas also.

The Fire Department in the state has planned to modernize the department and equip itself with required number of Rescue Tenders and Advanced Rescue Tenders, which are in shortage right now. Necessary resources are being made available to Fire Department for purchase of the same. The Fire Services Training Institute, Unnao, has been made the Nodal Institute for the training in the area of Search & Rescue Operations and the institute is being strengthened by dovetailing resources of SCRF and the fund available with the departmental. All the field level fire stations are being provided with the facility of the 'Closed User Group' mobile phone network in order to have a better co-ordination and faster communication by the civil administration in times of emergencies/accidents.

**As a part of mitigation strategy, efforts should be made to:**

- Make firefighting services available to rural areas outside the local municipal limits.
- Assisting municipal authorities not having fire brigade to establish such a service.
- Encourage agricultural marketing committees and cooperatives in rural areas to establish their fire services.
- Evolving methods of coordination between municipal fire services and industrial safety departments.
- Undertake community education and preparedness for firefighting in areas where fire services will not easily available.
- In industrial towns, fire services should be equipped with protective clothing and firefighting devices including masks, gloves etc. for dealing with chemicals and toxic materials.
- Special burns wards should be established in every civil hospital and in the hospitals near the industrial estates.
- Equipping fire services with communication facilities like wireless etc. and wherever such facilities exist, these should be upgraded.
- Computerized data management system should be introduced to keep the record of all fires including frequency, extent, fatality, economic losses etc.
- The roles and responsibilities of district administration, police, fire services and medical services should be clearly laid down.

# **Epidemics Specific Action Plan**

## **Vulnerability of the State to Epidemics:**

The Department of Health and Family Welfare is the nodal agency responsible for monitoring and control of epidemics. Local governments and municipal authorities also have a responsibility for taking appropriate steps in this context. Therefore, success of mitigation strategy for control of epidemics will depend on the type of coordination that exists between the Department and local authorities.

Many regions are susceptible for occurrence of epidemics in the state; moreover epidemic outbreaks risk is significantly increased in all type of disasters like flood, drought and earthquakes.

The health department is responsible for prevention, monitoring and control of epidemics. The occurrence of epidemics can be prevented by proper training and education of the health personals and the general population to recognize early warning signals of various types of epidemics. It is important to enlist epidemic prone regions in the state as per the past records. Over the years the state has developed a vast health infrastructure in terms of facilities and manpower to deal with all types of epidemics. Early diagnosis and prompt treatment of confirmed cases can reduce morbidity and mortality to a greater extent and can save lives.

The prevention and control of all types of epidemics basically requires the provision of safe drinking water and basic environmental sanitation to the population. This shall prevent and control occurrences of Water-borne diseases, vector-borne diseases as well as other communicable diseases.

### **Mitigation efforts for control of epidemics include**

1. Surveillance and recognition of early warning signal concerned to epidemic.
2. Rapid response after recognition of early warning signal
3. Preventive, control and health Promotion measures.
4. Strengthening institutional infrastructure.

### **Surveillance and Warning**

- Situation analysis indicates the need for strengthening surveillance programs and early warning system. Inadequacy of testing laboratories and access to existing labs make the surveillance of epidemics a difficult task. As a part of mitigation, this would require sustained efforts at the district level where the District Collector coordinates the activities related to epidemic prevention and control.
- There should be Identification of areas endemic to certain epidemics and the epidemic prone areas must be routinely updated to access various field requirements.



- Identification of appropriate locations for testing laboratories is essential. Routine investigations can be done at PHC/CHC level, while specific and specialized tests can be done at the pathology lab identified at district hospitals.
- To ensure continuous flow of field data from both government establishments and private medical personnel, all the PHC/CHC should have functional telephonic and electronic communication and Information technology equipments with trained personals.
- The data should be regularly processed and analyzed by trained and technically sound public health staff at the district level and at the state headquarter at regular intervals to assess epidemiological and monitoring requirements.

In addition to the surveillance it is necessary to keep the general population informed about the health situation in and around the state, which would encourage communities to take necessary health promotive and preventive steps in controlling epidemics. As a part of mitigation strategy, therefore, the Public Health Department should develop a system of issuing health bulletins through mass media, particularly television on the lines of weather bulletin.

### **Preventive and Health Promotive Measures**

In order to mitigate the possibilities of the outbreak of epidemics, the public health department should encourage the local authorities and the communities to undertake certain preventive and health promotive measures. The mitigation strategy would include

- Piped drinking water supply and water quality monitoring
- Vector Control programmes as a part of overall community sanitation activities
- Promotion of use of personal and community latrines.
- Introduction of proper sewage and drainage systems.
- Solid waste management system.
- Surveillance of water bodies and canal distribution network for control of Vector Borne Diseases.

### **Strengthening Institutional Infrastructure**

- Promoting and strengthening community hospitals with adequate communication and coordination with private practitioner and para-professionals will improve the capacity of the Health Department for surveillance and control of epidemics.
- Establishing testing laboratories at appropriate locations in different divisions within the state will reduce the time taken for diagnosis and delay in recognition of subsequent warning signals.
- Establishing procedures and methods of coordination between Health Dept and local authorities.

### **Vulnerability of the state to Biological Hazards:**

All natural disasters are usually followed by epidemics of communicable diseases and resulting in psychological trauma, malnutrition, etc.

- Uttar Pradesh is prone to many water and vector borne communicable diseases, which get compounded by poor health knowledge, poor sanitation and scarcity of safe drinking water.
- Ecological changes and regular impact of different kinds of natural disasters like floods, droughts and climatic disorders like heat and cold wave create a favorable climate for emergence of new types of pathogenic agents.
- JE & other vector born disease is a matter of great concern to the State.
- Industrial/chemical health hazards are potential dangers to many industrial belts of Uttar Pradesh.
- Increase in urbanization leading to a rise in the number of slum dwellers with extremely poor sanitation and drinking water facilities, very poor health awareness. This increases the risk of waterborne diseases and transportation of vector born diseases from endemic to non-endemic areas due to in and out migration of population.
- The possibility of induction of new types of diseases in coming international travelers and tourists.
- Large numbers of people from Uttar Pradesh migrate to other parts of the country in search of livelihood, which increases the threats of STD, AIDS and other such diseases. The possibility of the use of biological and chemical weapons by terrorists cannot be ruled out in any corner of the globe.

# **Industrial Hazards specific Action Plan**

## **Industrial (Chemical) Hazards**

In the State of Uttar Pradesh there are approximately **2,456** factories of hazardous nature, wherein hazardous substances are being handled, used and stored and there is a possibility of impairment to the health of workers employed therein as well as pollution of the general environment. The regional officers of Factory Directorate keeps vigilant eye on such units through inspections once in a year, so that necessary and adequate safety arrangements are ensured in view of industrial activities and use of hazardous substances.

Out of these **2,456** hazardous factories, there are **118** factories, which are major accident hazard prone and wherein the use or storage of hazardous substance is equal to or more than the quantity specified in above cited rules. All the Major Accident Hazardous Factories are advised to, as per the provisions of MSIHC Rules, 1989 (amended 2000), to conduct the rehearsal of their On Site Emergency Plan twice in a year, in the month of June to December Presently these **118** major accident hazard factories are situated in **38** districts. Districts Crisis Groups in all the 38 districts have been constituted under the chairmanship of District Magistrate of respective districts. The list of major factories in the state is annexed.

Industries, since the time of Industrialization, has been an inevitable part of the Economy; and the industries of Uttar Pradesh are no exception to it! Industries in Uttar Pradesh form the basis for the development of the Economy of Uttar Pradesh. In today's world, industries are the means for the resurgence in the socio-economic system. It is the industries that help the government to meet the internal and external demands, as far as the industrial output is considered. Some of the major industries of Uttar Pradesh are:

- Cement plants,
- Pharmaceuticals,
- Textile,
- Tannery,
- Paper,
- Arms and Ammunition,
- Dairy,
- Food Processing,
- Sugar,
- Distillery,
- Craft Paper,
- Electroplating,
- Thermal Power, etc.

In fact, the Uttar Pradesh government, in order to strengthen the industries even further, has set up an Industrial Development Department. The Industrial Development Department in Uttar Pradesh consists of the following departments:

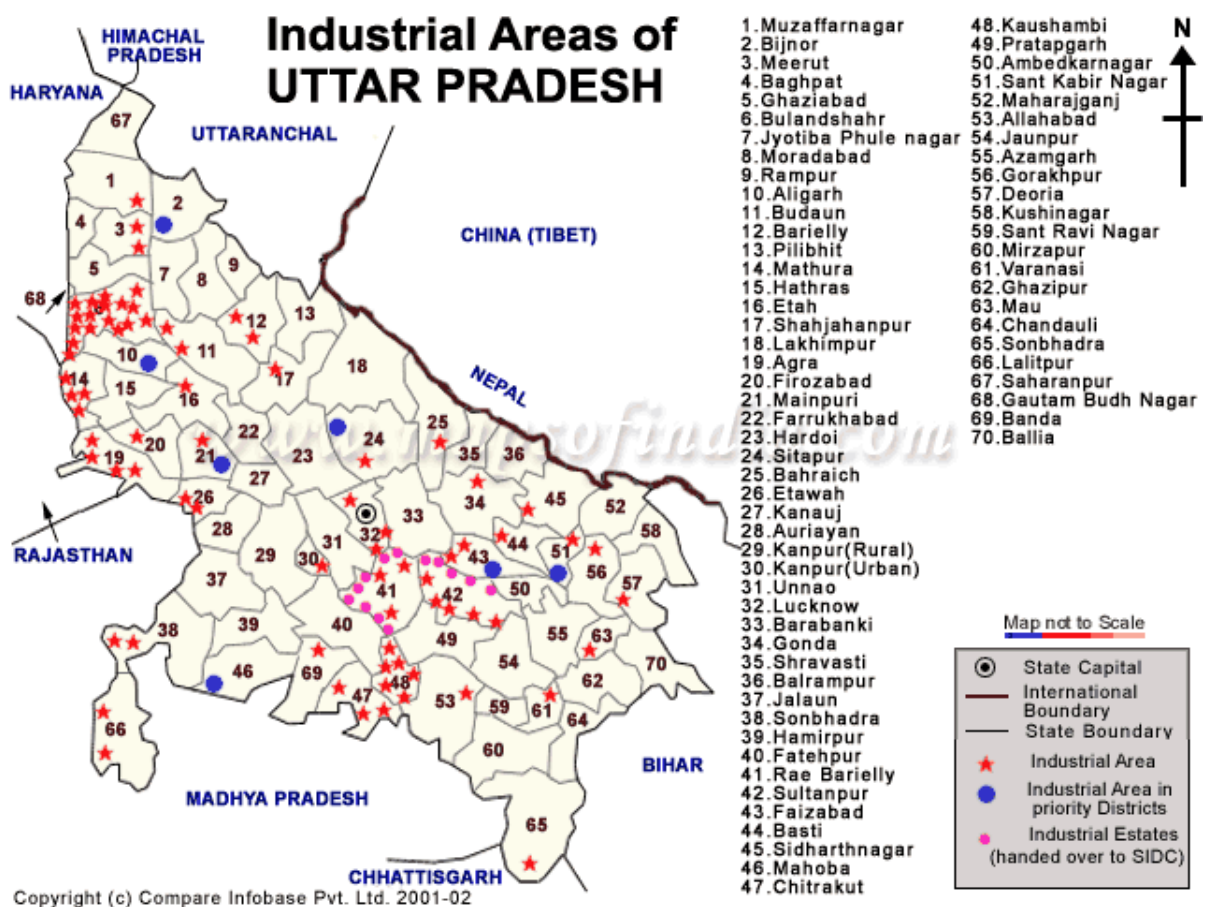
- Industrial Development,

- Small Scale Industries and Export Promotion,
- Khadi and Gramodyog,
- Handloom/Textile,
- Information Technology and Electronics,
- Geology and Mining Directorate,
- Government Printing Press.

Further, the terrain of Uttar Pradesh provides a wide range of minerals. As a result, a number of industries have cropped Uttar Pradesh based on these mineral reserves. To mention a few are:

- Cement plants in the Vindhya region,
- A bauxite based aluminium plant in Banda region,
- Copper based industries in Pithora Garh, Almora Chamboli, and Tehri Grhwal.
- Coal based industries like printing establishment units engaged in manufacturing of scales, locks, letter boxes, furniture, badges, belts, leather goods, scissors, etc.

Thus, as it is evident, Uttar Pradesh houses a large number of industries which is helping it to keep pace with progressing nation.



## **Plan for Industrial Disaster Management in Uttar Pradesh:-**

Disaster Management forms an integral part of any Industrial Activity. Disaster Management in dealing with the hazards and risks which may have impact on environment, human lives, health and safety and business interests. It is the means by which an industry manages itself in order to mitigate these risks.

There are various steps involved in the Management of Industrial Disaster. First step is Risk Assessment which consists of Hazard identification, Hazard quantification and Consequence analysis. After the evaluation of risks and hazards which may affect the nearby community in emergency situation a comprehensive resource based response plan has to be prepared or updation in the existing plan has to be done. Community should also be educated on integrated plan. State Crisis management group has been formed in the chairmanship of Chief Secretary. Offsite Emergency/DM plan” begins beyond the premises of the plant. The following are the important features of “off Site Plan”.

- The offsite emergency plan will be under the control of local administration.
- The plant authorities need to extend their cooperation to the local administration.
- The Plant authorities should make available their ‘on site emergency plan’ so that the nature of risks and hazards involved in the plant will be known to all the concerned people.
- The copies of emergency plans should be with the government authorities (e.g. Administrator/ Fire station officer/ Factory Inspectorate/ Environment Authorities etc).
- The people living in the immediate vicinity of the plant should be made fully aware of the plant activities and the possible risks associated with the processes.
- The plant authorities should immediately contact the local administrator in case hazard is likely to spread beyond the factory.
- The concerned Police Officers along with civic officials should make arrangements for evacuation of the people from the vicinity to safe areas.
- The plant authorities should extend all technical support in controlling the damage.
- Most importantly, it is the responsibility of the industry management that the people do not get panicky.
- After all the hazard is totally eliminated, people may be brought back to their respective places of working and living.
- Industries involved in the production or transportation of inflammable, hazardous and toxic materials should have a mandatory responsibility for preparing an off-site plan and communicating the same to district collector. Simulation exercises should be undertaken in the adjoining communities.

- Poison centres should be established in every civil hospital and in the hospitals near the industrial estates with facilities for detoxication. All transport of hazardous and toxic materials should be communicated to the RTO.
- All pipelines carrying hazardous and toxic materials should be equipped with devices to check any leakage or metal fatigue.
- Small scale industries releasing toxic waste in water should be encouraged to set up common effluent treatment facility.
- A common format for chemical data sheets should be devised to collect information from all industries in the state and the same should be available with both fire brigade and police.

State is prone to chemical and industrial hazards. There are over factories handling a large numbers of chemicals as raw materials, in processes, products, and wasters, with flammable, explosive, corrosive, toxic and noxious properties. Any accident involving these may have an adverse on both the community and the environment.

### **Sources of Chemical Disasters**

Chemical accidents may originate in:

1. Manufacturing and formulation installations including during commissioning and process operations; maintenance and disposal.
2. Material handling and storage in manufacturing faculties, and isolated storages; warehouses and godowns including tank farms in ports and docks and fuel depots.
3. Transportation (road, rail, air, water, and pipelines)

### **Causative Factors Leading to Chemical Disaster**

Chemical disasters, in general, may result from:

1. Fire
2. Explosion
3. Toxic release
4. Poisoning
5. Combinations of the above

### **Initiators of Chemical Accidents**

A number of factors including human errors could spark off chemical accidents with the potential to become chemical disasters. These are:

1. Technical errors: design defects, fatigue, metal failure, corrosion etc.
2. Human error: neglecting safety instructions, deviating from specified procedures etc.

3. Lack of information: absence of emergency warning procedures, nondisclosure of line of treatment etc.

Organizational errors: poor emergency planning and coordination, poor communication with public, noncompliance with mock drills/ exercise etc., which are required for ensuring a state of quick response and preparedness.

### **Response for Industrial (Chemical) Disasters**

Response measures are those which are taken instantly prior to, and following, a Industrial (Chemical) emergency/attack aimed at limiting injuries, loss of life and damage to property and the environment and rescuing those who are affected or likely to be affected by it.

SCG will ensure that the functions and responsibilities of the chemical facility operators and response organizations are clearly defined and understood by all stakeholders. The CCG and the SCG/DISH will also determine the actions that need to be performed by each organization during an emergency and whether it has the necessary resources and capabilities needed for the purposes.

For the fastest response, it is very important that the person who is receiving the information shall immediately pass on to the first responders, Dist. Collector, Sub Div. Magistrate (Chairman for LCG) and other members of DCG. If he receives, further information after making the first call, he will convey that also in same order, alternatively, if the information is more relevant to any particular department, he will first pass that information to its head.



# **Nuclear and Radiological Hazard Specific Action Plan**

## **Nuclear and Radiological Disaster**

An accident taking place in any nuclear facility of the nuclear fuel cycle including the nuclear reactor, or in a facility using radioactive sources, leading to a large-scale release of radioactivity in the environment.

- A ‘criticality’ accident in a nuclear fuel cycle facility where an uncontrolled nuclear chain reaction takes place inadvertently leading to bursts of neutrons and gamma radiation (as had happened at Tokaimura, Japan).
- An accident during the transportation of radioactive material.
- The malevolent use of radioactive material as Radiological Dispersal Device (RDD) by terrorists for dispersing radioactive material in the environment.
- A large-scale nuclear disaster resulting from a nuclear weapon attack (as had happened at Hiroshima and Nagasaki in Japan) which would lead to mass casualties and destruction of large areas and properties.

## **Authority**

- The Department of Atomic Energy (DAE) has been identified as the nodal agency in the country for providing the necessary technical inputs to the national or local authorities for responding to any nuclear or radiological emergency in the public domain.
- The Ministry of Home Affairs (MHA) is the nodal ministry in such emergencies. For this purpose, a Crisis Management Group (CMG) has been functioning since 1987 at DAE.
- In the event of any radiological or nuclear emergency in the public domain, the CMG is immediately activated and will co-ordinate between the local authority in the affected area and the National Crisis Management Committee (NCMC). The CMG comprises of senior officials drawn from various units of DAE like the Nuclear Power Corporation of India Ltd. (NPCIL), Bhabha Atomic Research Centre (BARC), Heavy Water Board (HWB) and the Directorate of Purchase and Stores (DP&S). It also includes a senior official from the regulatory authority, the Atomic Energy Regulatory Board (AERB). Each member is backed by an alternate member, so that the CMG can be activated at a very short notice. Several Resource Agencies from BARC also back up the CMG. They can provide advice and assistance in the areas of radiation measurement and protection and medical assistance to radiation affected personnel.
- For an effective response to any major nuclear emergency, an immediate communication 18 Emergency Response Centers (ERCs) have been established across the country, by BARC and DAE which is shown in Annexure. For Uttar Pradesh Narora is the ERC.

## Response Mechanism

Response measures are those which are taken instantly prior to, and following, a Nuclear & Radiological emergency aimed at limiting injuries, loss of life and damage to property and the environment and rescuing those who are affected or likely to be affected by it.

National Executive Committee (NEC) will ensure that the functions and responsibilities of the nuclear facility operators and response organization are clearly defined and understood by all stakeholders. The MHA and the NEC will also determine the action that needs to be performed by each organization during an emergency and whether it has the necessary resource and capabilities needed for the purpose. The advice of NCMC will also be sought in this matter.

### Location of the Emergency Response Centres (ERCs) established by BARC

1. Mumbai BARC (Nodal ERC)
2. Tarapur
3. Kakrapar
4. Indore
5. Kota
6. Jaipur
7. Delhi
8. Narora
9. Shillong
10. Kolkata
11. Jaduguda
12. Nagpur
13. Hyderabad
14. Kaiga
15. Bangalore
16. Kalpakkam
17. Alwaye
18. Kudankulam

