Jammu & Kashmir
Disaster Management Plan
2022-23

CHAPTER 1: INTRODUCTION

Background

The National Disaster Management Act, 2005 (DM Act 2005) lays down institutional and coordination mechanism for effective Disaster Management (DM) at the National, State, District and local levels. As mandated by DM Act 2005, the Government of India (GoI) created a multi-tiered institutional system consisting of the National Disaster Management Authority (NDMA) headed by the Hon'ble Prime Minister, the State Disaster Management Authorities (JKDMAs) headed by the respective Hon'ble Chief Ministers in case of states and UTs with legislative assembly & Hon'ble Lieutenant Governor in case of Union Territory of Delhi and the District Disaster Management Authorities (DDMAs) headed by the District Collectors and co-chaired by Chairpersons of the local bodies. These bodies have been set up to facilitate a paradigm shift from the hitherto relief-centric approach to a more proactive, holistic and integrated approach of strengthening disaster preparedness, mitigation, and emergency response. The institutional arrangements have been set up consistent with the paradigm shift from the relief-centric approach of the past to a proactive, holistic and integrated approach for Disaster Risk Reduction (DRR) by way of strengthening disaster, mitigation, preparedness and response.

The DM Act 2005 defines disaster as;

"Disaster means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area."

The losses and impacts that characterize disasters usually have much to do with the exposure, vulnerability and coping capacity of people and places as they do with the severity of the hazard event. Therefore, there is no such thing as a natural disaster, but disasters often follow natural hazards.

Need for the Plan

As per Section 23 (1) of The Disaster Management Act, 2005, "There shall be a State Plan[1] 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

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[1] "State Plan" means the plan for disaster management for the whole of the State prepared under section 23.

demands for a comprehensive state disaster management plan to be in place for coordinated and streamlined management of disaster in the state.

Disaster Risk Reduction Post-2015

Post 2015, there has been a significant shift from the approach of Managing Disasters to Managing Risk. The three landmark global agreements viz. – the Sendai Framework for Disaster Risk Reduction 2015-30 (SFDRR), Sustainable Development Goals (SDG) and the Paris Agreement (CoP 21) set the stage for future global action on Disaster Risk Reduction (DRR), sustainable development and climate change.

Sendai Framework of Actions for Disaster Risk Reduction 2015-2030

The Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR) was adopted at the Third United Nations World Conference on Disaster Risk Reduction held in Sendai, Japan in March 2015. The SFDRR is document which outlines four priorities for action to achieve 7 targets, which in turn would lead to one outcome that is substantial reduction of disaster risk and losses in lives, livelihoods, health, economy of persons, businesses, communities and countries. India is a signatory to the Sendai Framework for a 15-year, voluntary, non-binding agreement which recognizes that the State has the primary role to reduce disaster risk, but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.

The Four priorities of actions are:-
1. Understanding Disaster Risk
2. Strengthening Disaster Risk Governance to Manage Disaster Risk
3. Investing in Disaster Risk Reduction for Resilience
4. Enhancing Disaster Preparedness for Effective Response and to 'Build Back Better' in Recovery, Rehabilitation and Reconstruction

The seven global targets are:-

A. Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rate in the decade 2020-2030 compared to the period 2005-2015

B. Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020-2030 compared to the period 2005-2015

C. Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030

D. Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030

E. Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020

F. Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030

G. Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030

Sustainable Developmental Goals

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by all United Nations Member States in September 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030.The 17 SDGs are integrated—that is, they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. In order to make the 2030 Agenda a reality, broad ownership of the SDGs must translate into a strong commitment by all stakeholders to implement the global goals.

Paris Agreement on Climate Change Action and Disaster Risk Reduction (CoP 21)

The CoP 21 or the Paris Climate Conference held in December, 2015 led to a new international climate agreement, applicable to all countries, aiming at "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre -industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change". The Paris Agreement recognized the need loss and damage associated with the effects of climate change. The agreement identified areas of cooperation central to DRR and called for

investments to address the underlying risk drivers associated with rising greenhouse gas (GHG) emission levels and to inspire innovation and low-carbon growth

Prime Minister's 10 Point Agenda towards Disaster Risk Reduction

The Prime Minister, Shri Narendra Modi, listed a Ten -Point Agenda in his inaugural speech at the Asian Ministerial Conference on Disaster Risk Reduction 2016, held in New Delhi during November 2016 (AMCDRR), which has also been incorporated in the SDMP.

The ten key elements consist of the following:

1. All development sectors to imbibe principles of Disaster Risk Management
2. Work towards risk coverage for all-starting from poor households to small and medium enterprises to multi-national corporations to nation states.
3. Encourage greater involvement and leadership of women in disaster risk management
4. Invest in risk mapping globally related to hazards such as earthquakes based on widely accepted standards and parameters.
5. Leverage technology to enhance the efficiency of disaster risk management efforts.
6. Develop a network of universities to work on disaster issues.
7. Utilize the opportunities provided by social media and mobile technologies.
8. Build on local capacity and initiative. Response agencies need to interact with the communities and make them familiar with the essential drill of disaster response.
9. Ensuring that disaster learning is well documented.
10. Bring about greater cohesion in international response to disasters.

The description of the Ten Point of Agenda for Disaster Risk Reduction is as below:

S No.	Agenda Point
1	**All development sectors must imbibe the principles of disaster risk management** _**Explanation**_ Development and Disasters are two sides of a coin. While a planned development can reduce the risks of disasters, the absence of proper planning can aggravate them. It is, therefore, essential to imbibe disaster risk reduction approach in all development schemes. Development should focus on reducing disaster risks and not create them.
2	**Risk coverage must include all, starting from poor households to SMEs to multi-national corporations to nation states** _**Explanation**_

Disasters result in loss of lives and damages to properties and assets. Those who survive face the challenges of their rehabilitation. This applies to all from poor households to SMEs to multi-nationals.

It is necessary to think big and innovatively to widen the risk insurance cover. Some bold steps have been taken to ensure financial inclusion and risk insurance for the poorest.

Government has some schemes having risk coverage in consideration which include Jan Dhan Yojana, Suraksha Bima Yojana, Fasal Bima Yojana (crop insurance) etc. There is a need for:

- Development of disaster insurance mechanisms for home-owners in disaster prone area
- Development of parametric insurance for weather and climate related disasters
- Develop insurance products to cover major infrastructure projects

3	**Women's leadership and greater involvement should be central to disaster risk management**
	Explanation
	It is necessary to encourage greater involvement and leadership of women in disaster risk management to support special needs of women affected by disasters. Women are generally seen as vulnerable to disasters. But women can play an important role in disaster risk reduction at the household, society, community and beyond. We need large number of women volunteers, engineers, masons and building artisans to participate in post-disaster reconstruction and promote women self-help groups which can assist in livelihood recovery. There is a need to include women in NDRF and SDRF, and to train elected women representatives at the local level under development.
4	**Invest in risk mapping globally to improve global understanding of Nature and disaster risks**
	Explanation
	Disasters know no boundary. Many natural hazards impact across countries, so there is a need for better understanding of such risks at global level. With a shared understanding of the nature and severity of disaster risks globally, their impacts can be mitigated with better planning and preparedness. This requires undertaking multi-

	hazard risk assessments and developing maps for all major hazards in a standardized format to facilitate disaster risk reduction.
5	**Leverage technology to enhance the efficiency of disaster risk management efforts** *Explanation* Efforts must be made to leverage technology to enhance the efficiency of our disaster risk management efforts. This requires use of technology in resource planning, e.g., India Disaster Resources Network (IDRN), creation of e-platform to map expertise and resources on highly specialized aspects of disaster response and to increase the efficacy of early warning systems for all major hazards through the application of technology.
6	**Develop a network of universities to work on disaster-related issues** *Explanation* It will be helpful to develop a network of universities and academic institutions to work on disaster-related aspects. As part of this network, different universities could specialize in multi-disciplinary research on disaster issues most relevant to them.
7	**Utilise the opportunities provided by social media and mobile technologies for disaster risk reduction** *Explanation* Utilize the opportunities provided by social media and mobile technologies to develop a social media strategy for Disaster Risk Management in the country. Social media is transforming disaster response. It is helping response agencies in quickly organizing themselves and enabling citizens to connect more easily with authorities.
8	**Build on local capacity and initiative to enhance disaster risk reduction** *Explanation* Disaster management must build on local capabilities and initiatives. The task of disaster risk management, particularly in rapidly growing economies, is so huge that formal institutions of the state can at best be instrumental in creating the enabling conditions. Specific actions have to be designed and implemented locally. Such efforts reduce risk and create opportunities for local development and sustainable livelihoods. Localization of disaster risk reduction will also ensure that good use is made of the traditional best practices and indigenous knowledge.
9	**Make use of every opportunity to learn from disasters and, to achieve that,**

		there must be studies on the lessons after every disaster *Explanation* Ensure that the opportunity to learn from a disaster is not wasted. After every disaster there is a need to undertake research studies to understand the best practices and learn lessons to improve the policy and disaster governance.
10		**Bring about greater cohesion in international response to disasters** *Explanation* Disasters' impacts are huge and so are the needs to be prepared for and respond strategically. Across the globe, countries face disasters similar in nature and sometimes across the countries. It requires coordinated and unified response by affected countries. Pre-disaster planning and preparedness can result in effective and timely response, hence it is important to bring about greater cohesion in international response to disasters. International forums and protocols should be used in addressing disaster risks for effective and coordinated response.

Source: NDMA

Vision

Making disaster resilient Jammu & Kashmir by enhancing the capacity of all stakeholders to respond to disasters in a planned way to minimize loss of lives, livelihoods and economic loss in different forms including critical infrastructure, basic services including health and educational facilities along with social, cultural & environmental loss.

Objectives of the Plan

i) To assess various hazard, vulnerability, capacity and risk associated with the state.

ii) To lay down various measures and guidelines for prevention and mitigation.

iii) To lay down preparedness measures for all stakeholders.

iv) To build the capacity of all stakeholders in the state to cope with the disasters and promote community-based disaster management.

v) To provide clarity on roles and responsibilities for all stakeholders concerned with various phases of disaster management.

vi) To ensure co-ordination and promote productive partnership with all other agencies related to disaster management.

vii) To mainstream disaster management concerns into the developmental planning process.

viii) Ensuring DRM is socially inclusive, gender sensitive and empowering.

ix) Strengthen efforts to mainstream DRR into water management and reduce the likely impacts of water-related hazards.

x) To develop efficient, streamlined and rapid disaster response and relief mechanism in the state.

xi) Prevent disasters and achieve substantial reduction of disaster risk and losses in lives, livelihoods, health, and assets (economic, physical, social, cultural and environmental).

xii) Invest in disaster risk reduction for resilience through structural, non-structural and financial measures, as well as comprehensive capacity development.

xiii) To commence recovery programme as an opportunity to build back better in case of a future disaster by incorporating community in the programme.

xiv) Promote the implementation of integrated and inclusive economic, structural, legal, and social, health, cultural, educational, environmental, technological, political and institutional measures to prevent and reduce hazard exposure and vulnerabilities to disaster.

xv) Strengthen disaster risk modeling, assessment, mapping, monitoring and multi-hazard early warning systems.

xvi) Effective use of science, technology and traditional knowledge in all aspects of DRM.

Plan Activation

The disaster response structure will be activated on the receipt of disaster warning/on the occurrence of the disaster. The occurrence of disaster may be reported by the concern monitoring authority to the State Executive Committee (SEC) JKDMA by the fastest means. The State Executive Committee (SEC) JKDMA will activate all departments for emergency response including the State EOC, District EOCs and State Disaster Response Force (SDRF). Also, they will issue instructions to include the following details:

- Exact quantum of resources (in terms of manpower, equipment's and essential items from key departments/stakeholders) that is required.
- The type of assistance to be provided.
- The time limit within which assistance is needed.
- Details of other Task/Response Forces 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. The State Government may publish a

notification in the official gazette declaring such areas to be disaster-affected area under DM Act 2005 (Section 22 (2) (a-q)) Functions of the State Executive Committee.

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

Plan Implementation

The DM Act 2005 makes provisions for the implementation of the disaster management plans. Section 23 (4) states that The State Plan shall include,— (a) the vulnerability of different parts of the State to different forms of disasters; (b) the measures to be adopted for prevention and mitigation of disasters; (c) the manner in which the mitigation measures shall be integrated with the development plans and projects; (d) the capacity-building and preparedness measures to be taken; (e) the roles and responsibilities of each Department of the Government of the State in relation to the measures specified in clauses (b), (c) and (d) above; (f) the roles and responsibilities of different Departments of the Government of the State in responding to any threatening disaster situation or disaster. The Section 18 (2) of DM Act 2005 mandates that every Department of the Government must prepare a departmental Disaster Management Plan in accordance with the SDMP.

CHAPTER 2: PROFILE

Jammu and Kashmir - An Overview

The UT of Jammu and Kashmir covers the northern most extremity of India and lies between latitudes 32º.15' to 37º.05' North and longitudes 72º.35' to 83º.20' East[2]. The UT occupies a strategic position in India with borders touching Pakistan in the west, UT of Ladakh in the north & east and the States of Punjab and Himachal Pradesh in the south. The UT has a geographical area of 42,241 sq. kms.

As per the Census 2011, the UT has a total population of 1,22,67,013, comprising of 64,83,906 males and 57,83,107 females. The UT is divided into 20 Districts, comprising of 49 Sub-divisions, 207 Tehsils, 520 Nayabats, 1632 Patwar Halqa[3]. There are 6860 revenue villages in the State.

The economy is mostly agriculture-based where majority of people are directly or indirectly dependent on it. The people's prosperity or otherwise depends on the success or failure of the agriculture sector.

Figure 2.1 District Map of Jammu and Kashmir

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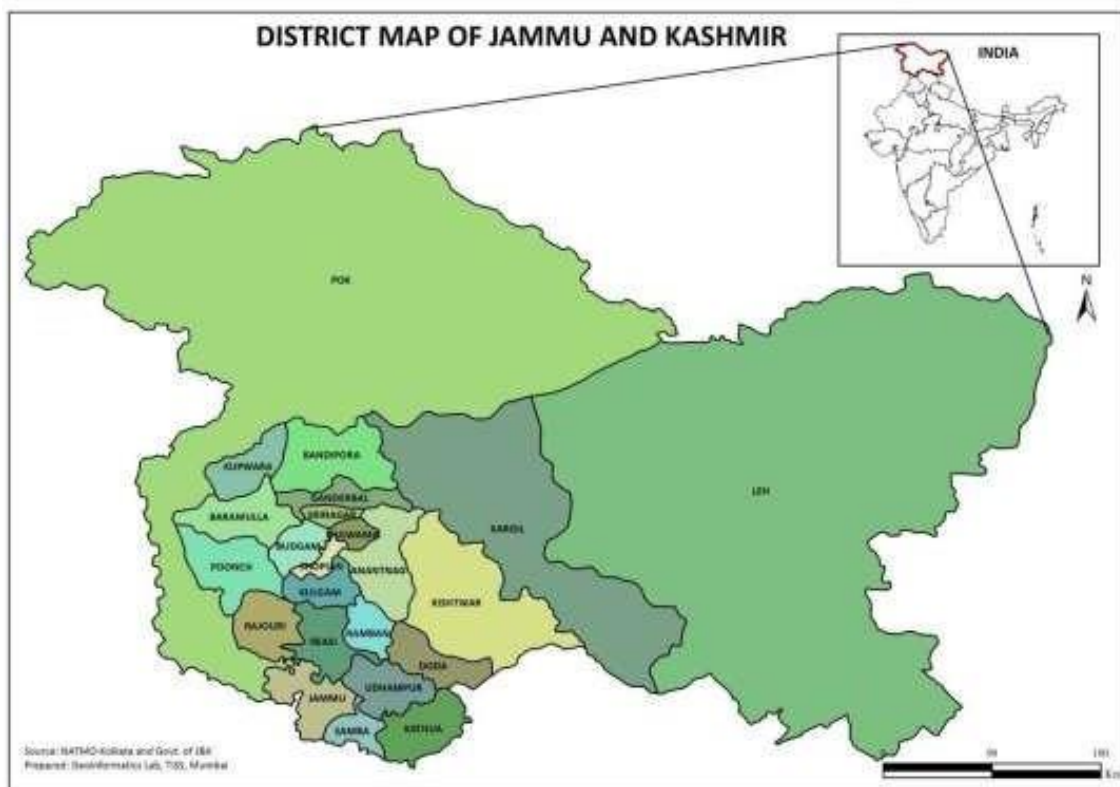
[2] <mark>J&K history by Khaleel Publications</mark>.
[3] http://jkrevenue.nic.in

Topography

Jammu and Kashmir is home to several valleys such as the Kashmir Valley, Tawi Valley, Chenab Valley, Poonch Valley, Sind Valley and Lidder Valley. The Kashmir valley is 100 km (62 mi.) wide and 15,520.3 sq.km. (5,992.4 sq.mi.) in area. The Himalayas divide the Kashmir valley from the Tibetan plateau while the Pir Panjal range, which encloses the valley from the west and the south, separates it from the Great Plains of northern India. Along the northeastern flank of the Valley runs the main range of the Himalayas. This valley has an average height of 1,850 metres (6,070 ft) above sea-level, but the surrounding Pir Panjal range has an average elevation of 10,000 feet (3,000 m). The Jhelum River is the major Himalayan River which flows through the Kashmir valley. The Tawi, Ravi and Chenab are the other important rivers flowing through the region.

Agriculture

Agriculture constitutes an important sector of the state economy as around 70 percent of the population of J&K derives greater part of their income directly or indirectly from this sector. Economy of J&K continues to be predominantly agrarian as 49 percent of the total working force with 42 percent as cultivators and 7 percent as agriculture labourers depend directly on agriculture for their livelihood.

The contribution of Agriculture sector towards Gross State Domestic Product (GSDP) has remained constant which is indication of onset of declining trend of the sector. The production of three major crops paddy, maize and wheat in J&K state is more than 90% of the total food grain production of all crops. The rest is shared by other cereals and pulses.

Irrigation

Irrigation is an essential input of agriculture and is practiced in all parts of the world where rainfall does not provide enough ground moisture. A major constraint to the development of agriculture in Jammu and Kashmir is the fact that only 50 percent of the ultimate irrigation potential of the state has been harnessed. The ultimate irrigation potential in Jammu and Kashmir has been assessed at 1358 thousand hectare, which includes 250 thousand hectare to be developed through major and medium irrigation and 1108 thousand hectare through minor irrigation.

Horticulture

Jammu and Kashmir is well known for its horticulture produce both in India and

abroad. The state offers good scope for cultivation of horticultural crops, covering a variety of temperate fruits like apple, pear, peach, plum, apricot, almond, cherry and subtropical fruits like mango, guava, citrus litchi, phalsa and Ber etc, besides medicinal and aromatic plants, floriculture, mushroom, plantation crops and vegetables. Apart from this, well known spices like saffron and black zeera are also cultivated in some pockets of the state. Its importance is visualized by its contribution to the state's economy which is estimated to be 7-8 per cent. Almost 45 percent economic returns in agriculture sector are accounted for by horticulture produce. 7 lakh families comprising of 33 lakh people are involved in horticulture trade.

Floriculture

Floriculture sector has been identified as the most focused segment of horticulture. There is much more income to farmers from flower cultivation due to growing demand for flowers in domestic and foreign markets. To promote this segment floriculture nurseries have been developed where ornamental and medicinal plants are produced, besides the seed multiplication programmes of flower seeds. Floriculture department helps in produce of more than 5-6 lakh seedlings of different kinds of flowers/ornamental pants not only to meet its own requirements but also sells the seedlings to the flower lovers against cash payment and earns revenue of about 8 lakh on an average, per annum on this account.

Forests

The state has 20230 sq.km. under forest area constituting about 19.95 percent of total geographical area of 101387 sq.km. on this side of actual line of control. Out of this, area under reserved forest is 2551 sq.km. which accounts for 12.61 percent of total forest area, protected forest forms 87.21 percent with an area of 17643 sq.km. and the remaining 36 sq.km. (0.18 per cent) are classified[4]. Looking at division-wise distribution of forest cover 8128 sq.km. are in Kashmir valley, 12066 sq.km. in Jammu division and 36 sq.km. in Ladakh region constituting 50.97 per cent, 45.89 percent and 0.06 percent respectively of the geographical area. Per capita forest area accounts for 0.17 percenthectare as compared to 0.07 hectare at the national level.

Species-wise forest area reveals 90.68 percent under coniferous with 5.32 percent Deodar, 9.02 percent Chir, 9.73 percent Kail, 16.81 percent Fir and 49.80 percent others. 9.32 percent forest cover is claimed by non-coniferous non-commercial reserves.

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[4] JK Economic Survey 2017-18

Industry

In order to achieve a self-sustaining economy with continued higher levels of investment, rapid rate of increase on income and employment there is no option but to go for industrialization. The new State Industrial Policy 2016 aims to attract substantial investment in industry for production of goods and services and employment generation through optimal utilization of the available resources including human resources. Concurrently the policy also gives attention to the traditional cottage industries namely handicrafts and handlooms to ensure economic upliftment of the artisans, weavers and traders in this sector in which age old traditions and craftsmanship is available in the State.

The vision of the policy is to achieve sustainable, equitable, environment friendly and balance industrial growth leading to creation of employment opportunities for the local skilled and educated youth, income generation and overall economic development of the state.

Power

The estimated hydro power potential of the State is 20,000 Megawatts (MWs), of which 16475 MWs have been identified. Out of the identified potential, only 3263.46 MWs or 20 percent have been exploited so far, consisting of 1211.96 MWs in State Sector from 20 power projects and 2009 MWs under Central Sector and 42.5 MW in private sector.

Transport

Roads: The state is connected to the rest of the country through just one highway (NH1A), 400km stretch (approx.) maintained by Border Roads Organization (BRO) of India. As Railway network of the State is in infancy stage, this has rendered the State totally dependent on road connectivity which provides links to the remote areas of the State. The Jammu-Srinagar National Highway (NH1A) is considered to be the most expensive road for maintenance in the world.

At the end of March 2010, road length maintained by all the departments in the State was 41873 km, of which 25578 kms were surfaced and remaining 16,295 km un-surfaced. The road density (road length per 100 sq. km of area) of the State thus works out to be 41.30 km against the National Average of 104.6 km. With this road density, J&K is among the States with lowest road density in the country, thus hampering opening up of the economy and adversely affecting delivery of public service to the people. Moreover, there are huge

inter-districts variations in the rural road density.

Railways: Because of the difficult terrain Railway network has not developed as in other parts of the Country. At present Jammu is the Rail head of the J&K and the line has been extended upto District Katra. The work on Katra-Qazigund rail line is under progress and intra rail link between Qazigund to Baramulla is complete. However, the railway link of 119 km from Baramulla to Qazigund has been thrown open and 148 km railway line is under construction.

Aviation: There are two major airports in the UT of J&K providing aerial transport among two regions of the J&K and rest of the country. Out of the two Srinagar airport has been upgraded as international airport named as Sheikh-ul-Alam airport, while the facilities at Jammu airport are among being upgraded.

Tourism

J&K is a premier as well as established tourist destination in the country. Kashmir valley in the lap of Himalayas has many internationally acclaimed tourist destinations. The lush green tourist resorts of Gulmarg, Pahalgam, Yousmarg, Kokernag and golden meadows of Sonamarg have remained an attraction for the centuries. Hospitality and Tourism are in fact part of the valley's tradition, culture, and now more importantly, economy. Jammu region is attracting a large number of pilgrim tourists and the important destination has been the Mata Vaishno Devi Shrine. The other places are Shiv Khori, Sukhrala Mata and Shahdra Sharief. Newly identified and emerging destinations in Jammu are Bhaderwah, Rajouri and Poonch.

The tourist arrivals during the last 6 years are given hereunder:-

Tourists arrival (ending Oct 2017)					
	Kashmir Valley		**Jammu**	**Ladakh**	**Total**
Year	**Amarnath Ji**	**Domestic / Foreign**	**(Mata Vaishno Devi Ji)**	**Domestic / Foreign**	
2012	621000	1308765	10394000	1787750	**12502515**
2013	353969	1171130	9287871	137650	**10950620**
2014	372909	1167618	7803193	181301	**9525021**
2015	352771	927815	7776604	146501	**8434402**
2016	220490	1211230	6823540	179142	**8434402**
2017(end Oct)	260003	1050480	5739632	259170	**7309285**

**Socio-demographic Contexts and Vulnerability**

The total area (42,241 sq. km) of the UT is demarcated into 20 Districts having 207 Tehsils (out of which 10 are entirely rural). There are 320 Rural Development Blocks, which are further delimited into 4128 Panchayats, 86 towns and 6551 villages (Census 2011) (Table 2.1).

Table 2.1 Administrative Structure for Jammu and Kashmir

| Administrative District	2
Total Number of District	20
Jammu Province	10
Kashmir Province	10
Total Tehsil	207
Total Nayabats	520
C.D Blocks	320
Panchayats	4128
Total Villages	6860

As per the Census 2011, the UT has a total population of 1,22,67,013. The Census operation of 2011 has shown an increase of 24,79,009 population over the census conducted in 2001, indicating an average addition of around two lakh people every year. The Population of Jammu and Kashmir stands at about 12 million, making it one of the most populated UTs in India (Census 2011). The UT of Jammu and Kashmir has experienced population growth during 2001 – 2011. Kulgam, Shopian, Budgam, Poonch, Anantnag and Pulwama are the districts that have undergone an increase in population density. Population of these high density districts are susceptible to hazard as they fall under the high risk zone (Figure 2.2).

Figure 2.2 Population Density of Jammu and Kashmir 2011
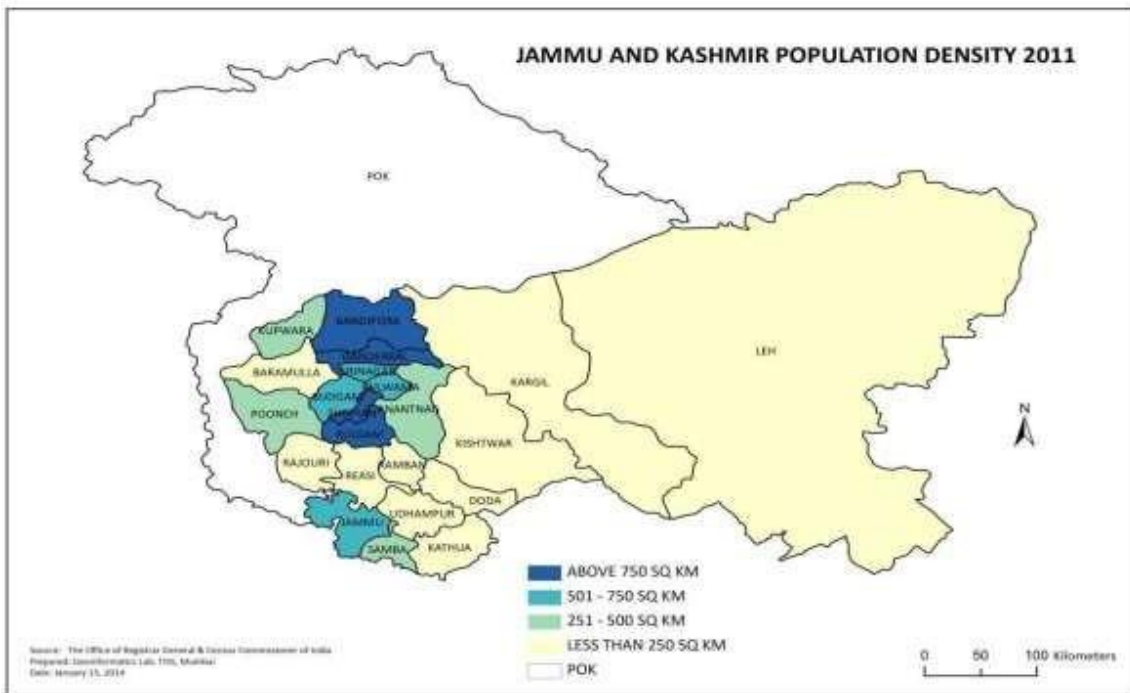
Apart from the social consequences of terrorism and militancy, the UT is facing many issues which are preventing it from prospering as a state with sound human development indicators. For instance, the percentage of population below poverty line 2017 – 18 was 10.35. According to Directorate of Economics and Statistics of Jammu and Kashmir for the year 2017 – 2018, 10-12 % of population was under BPL (Figure 2.3). Srinagar has the least percentage of population under BPL while Bandipora, Kupwara, Poonch Reasi, Ramban and Kishtwar have the highest percentage of population living under BPL. The BPL distribution implies that there is a greater probability that population in these districts are socially vulnerable to disasters.

Figure 2.3 Percentages of People Living below the Poverty Line
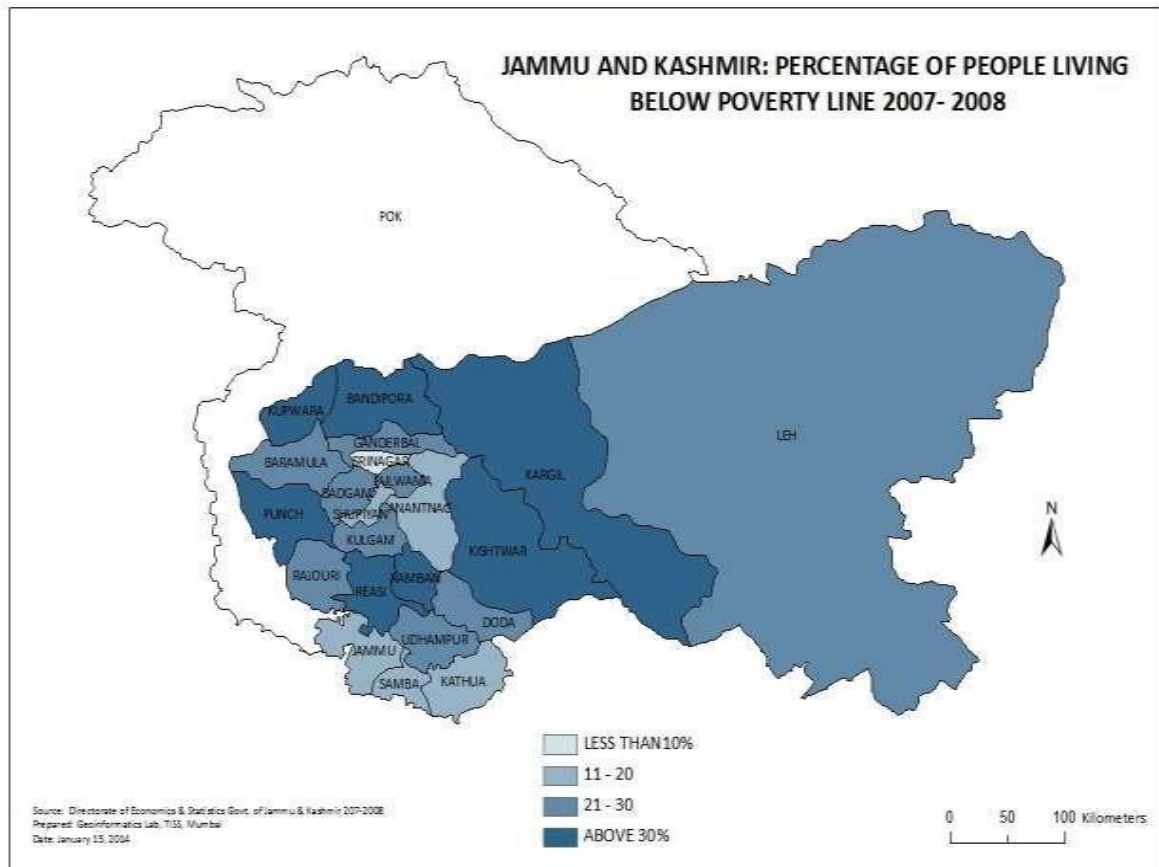
The literacy rate in the UT is about 67.16 % (Census 2011). Literacy Rate in 1961 was only 12.95% which has increased over a period of 50 years to 67.16 % in 2011. However, the corresponding figure as per previous census held in 2001 was 55.52 %. The national literacy rate stands at 74.04% as per census 2011. The literacy rate is one of the lowest (67.16) in the country, with men having a literacy rate of 76.75 %, while female literacy is a meager 49.12 %. Between 2001 and 2008 there has been an improvement in the literacy rate in Kupwara, Baramulla, Rajouri, Kathua, Kulgam and Doda districts (Figure 2.4). Though a few districts showed improvement in literacy rate, district of Shopian and Kishtwar has undergone decrease in literacy rate. Lack of qualified teachers and inadequate school facilities are possible factors explaining this decline.
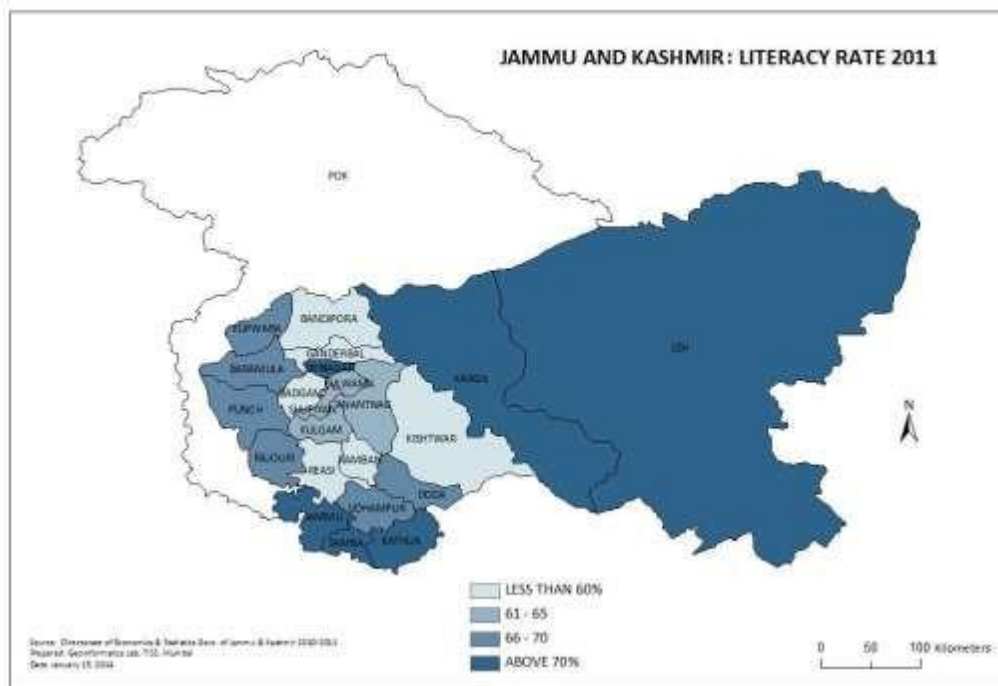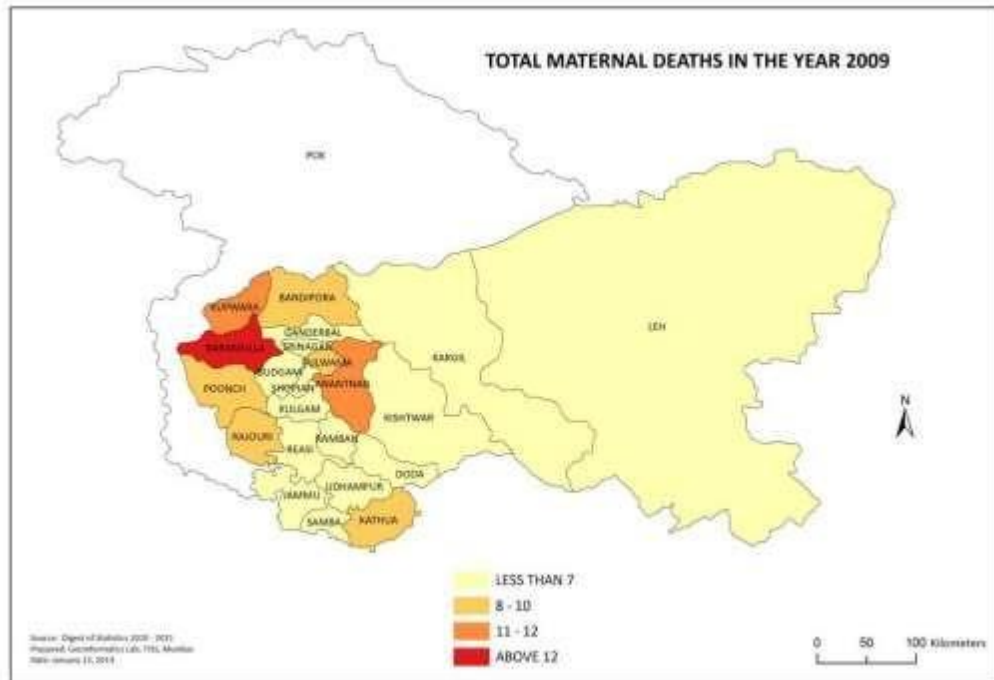
Figure 2.4 Literacy Rate

Some of the crucial statistics that hint at social vulnerabilities (though not exclusive) are described below. Sex Ratio in Jammu and Kashmir is 883 i.e. for each 1000 male, which is below national average of 940 as per the 2011 census (Figure 2.5). Children (aged 0-6) population is 18% of the total population. The child sex ratio was 941 in 2001 have decreased considerably to 859 in the 2011 census.

Figure 2.5 District wise Sex Ratio of Jammu and Kashmir

The maternal mortality rate is also quite high in the UT when compared to the national average. The maternal mortality rate varies across districts every year and is quite consistently high in the district of Baramulla, Kupwara, and Anantnag which is also coincidently are districts with higher potential of natural hazards (Figure 2.6). In a similar vein, the infant mortality rate in the districts requires considerable attention, if we are aiming at developing strong disaster resilience (Figure 2.7).

Figure 2.6 Maternal Mortality at District Level

The Infant Mortality Rate for the year 2020 is 32, while at national level, it is 30. The proportion of births attended by skilled health personnel during the year 2007-08 was 58.6, while at national level it was 52.3.

Figure 2.8 shows the Still Birth in the year 2009. It proves a point that institutional delivery of maternal and neonatal health care needs to be strengthened.

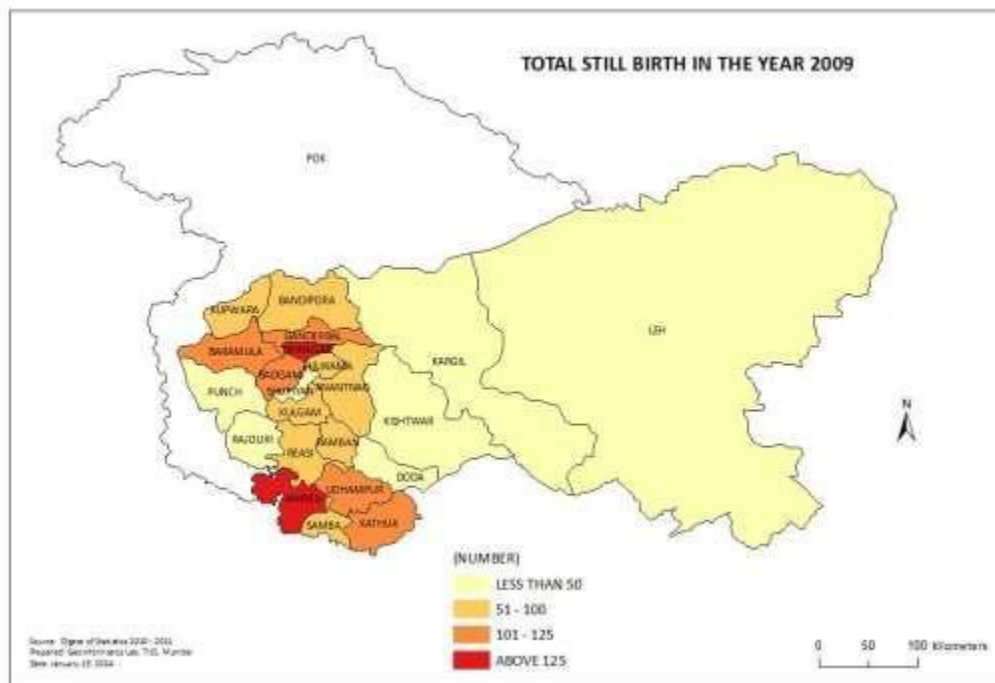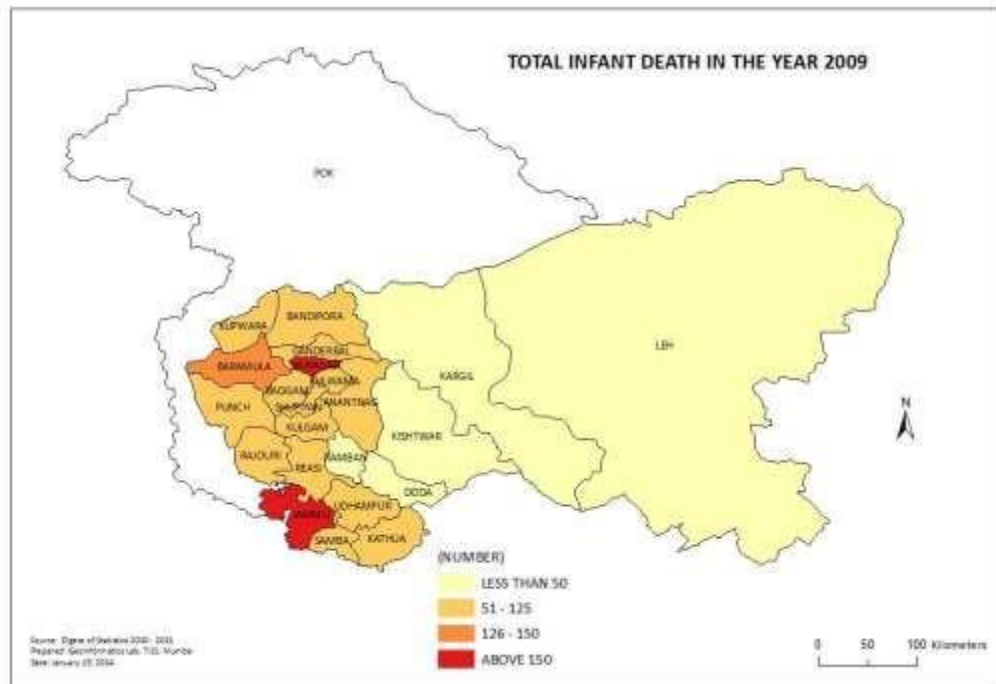Figure 2.7 Infant Mortality at District Level

Figure 2.8 Still Births at District Level

Ethnic communities in Jammu and Kashmir are also vulnerable groups. The state

represents a mixed culture with ethnic composition of Kashmiris, Dongras, Rajputs, Bakarwals and Gujjars. Bakarwals and Gujjars are the nomadic tribes who are predominant in the state (Figure 2.9). They migrate seasonally and lease out land on crop sharing basis to their neighbours. Majority of the communities in the remote regions of Jammu and Kashmir and project affected populations are socially and economically backward (Figure 2.10). The land use pattern and socio-economic standard of the above-mentioned ethnic communities in the remote villages are remarkably different. The villages close to the road side have better access to drinking water, telecommunication, roads, etc. On most occasions their source of income are trade, tea stalls, restaurants, government jobs and casual labour. On the other hand, the interior villages depend on agriculture for their livelihood. There is greater dependency on natural resources and irrigation sources are mostly spring irrigation and nallah irrigation supported by indigenous irrigation canals. These communities are also deprived of basic facilities and amenities such as communications, drinking water, electricity, primary health facilities etc. The quality of educational facilities is poor in these remote villages. Schools are mostly of the primary and middle standard levels, which are poorly equipped and inadequately staffed. Malnutrition, lack of sanitation facilities, poorly equipped health facilities are the most prevalent issues among these backward communities.

As per the 2011 Census, majority of the SC and ST population are settled in Jammu Division (Table 2.2).

Table 2.2 Scheduled Caste and Scheduled Tribe Population in Jammu and Kashmir (2011)

Administrative Division	Scheduled Castes Population Person (2011)	Scheduled Tribes Population Person (2011)
JAMMU	917,724	810,800
KASHMIR	6,761	464,306

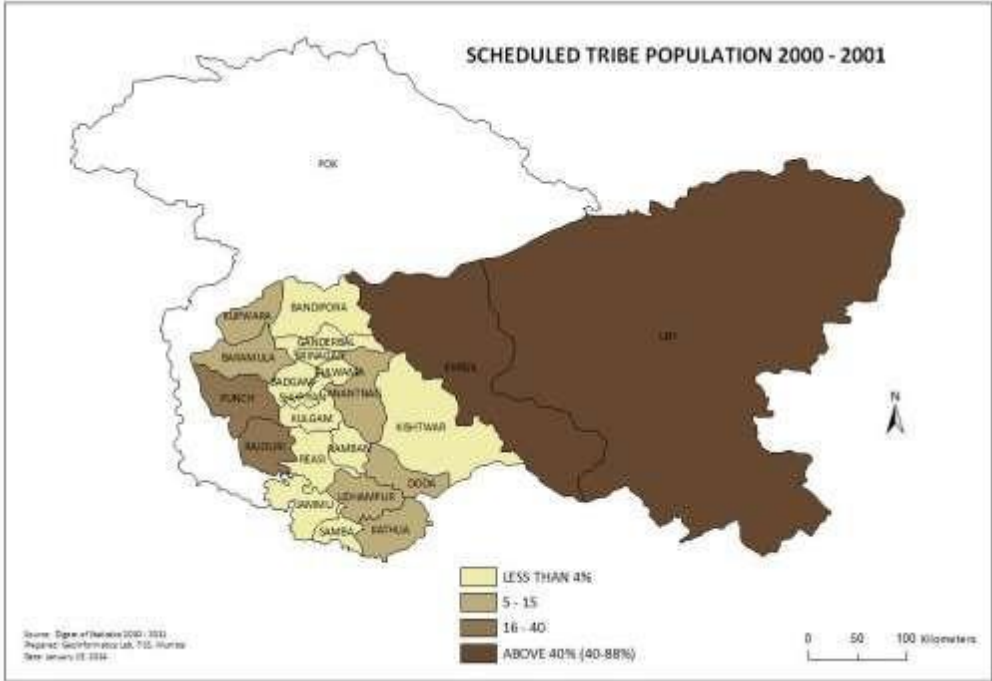Figure 2.9 Distribution of Scheduled Tribe Population in Jammu and Kashmir

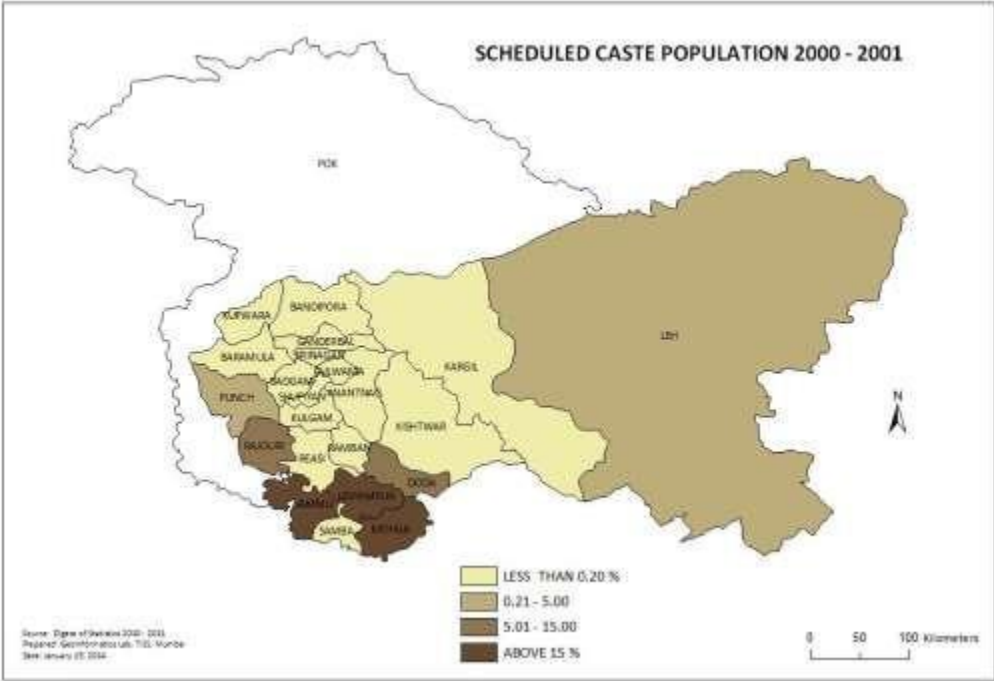Figure 2.10 Distribution of Scheduled Caste Population in

Jammu and Kashmir

The percentage of Rural and Urban population is given in Figure 2.11 and Figure 2.12 respectively. Most of the districts are characterized by a concentrated rural population and economy.
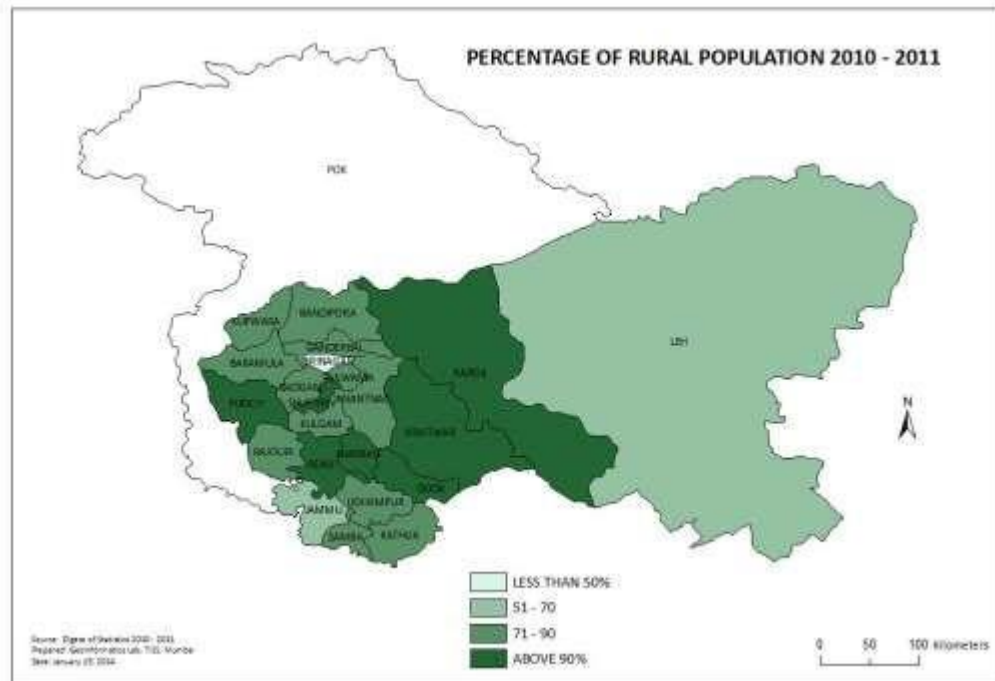

Figure 2.11 Percentage of Rural Population in Jammu and
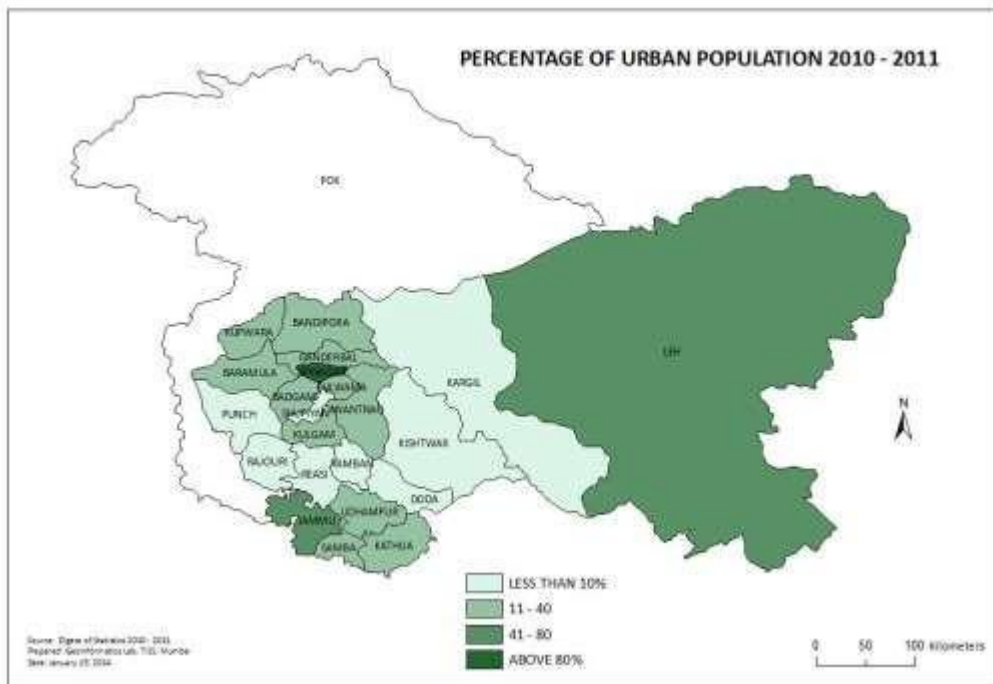
Kashmir

Figure 2.12 Percentage of Urban Population in Jammu and
Kashmir

HAZARDS, RISK AND VULNERABILITY

The UT of Jammu and Kashmir is very distinct from the rest of the country with respect to topography, climate, economy, social setting and strategic location. J&K is a multi-hazard prone region with natural disasters like earthquakes, floods , landslides, avalanches, high velocity winds, snow storms, besides manmade disasters including road accidents etc. occurring in various parts of the state.

Table 2.3 gives the statistical information related to the number of deaths due to natural hazards in the UT.

Table 2.3 Details of Human lives lost due to Natural Hazards during last five years.

S.No.	Cause of Death	No. of Deaths.					
		2016-17	2017-18	2018-19	2019-20	2020-21	Total
1.	Avalanches	5	11	29	32	1	52
2.	Cyclones	0	0	0	1	1	2
3.	Cloud Burst	6	17	8	12	8	25
4.	Flood	7	2	12	10	8	36
5.	Hailstorm	0	0	2	0	0	1
6.	Landslides	7	29	44	29	10	82
7.	Others (notified by States)	7	5	16	23	4	40
	Total	**32**	**64**	**111**	**107**	**32**	**238**

Source: Compiled from the statistics received from Financial Commissioner Revenue, J&K

Some of the major hazards that happen or have the potential to occur can be classified as geological hazards, hydro-meteorological hazards, industrial hazards and biological hazards (Figure 2.13).

Figure 2.13 Major Hazards that affect the UT of Jammu and Kashmir

Hazard Risk

Geological	Hydro-meteorological	Industrial	Biological	Others
Earthquake Landslide	Cloudburst Snow Avalanches Hailstorms Cold waves Drought Floods Windstorm Lightning	Fire Outbreak Gas & Chemical Leakages	Epidemics Pest Attack	Dam Failures Forest Fires Building Collapse Crowd Stampede Terrorist Attack
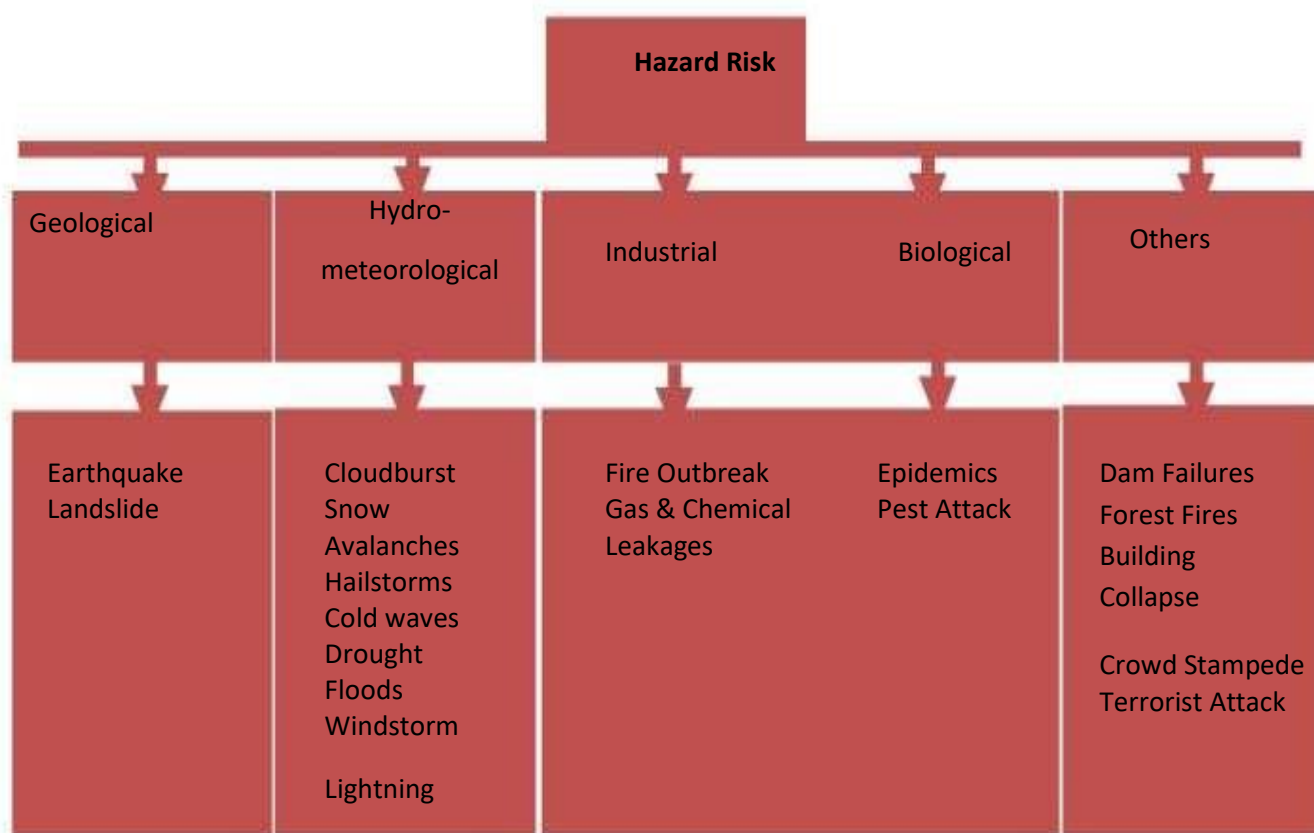
Earthquakes

The UT of Jammu and Kashmir is the western most extension of the Himalayan mountain range in India. It is classified in Seismic Zone IV and V, with intensity MSK of VIII to IX or more. Table 2.4 provides a rough sketch of the earthquakes that have struck the UT.

Table 2.4 History of Earthquakes in the State of Jammu and Kashmir

Year of Incidence	Number of Incidents	Impact
6th June, 1828		Mw 6.0
1863		Mw 7.0
30th May, 1884		Mw 7.3
30th May, 1885		Mw 7.0
1904	1	Mw 4.6
4th April, 1905		Mw 8.0

1933	1	Mw 4.6
1937	1	Mw 4.5
22nd June, 1945		Mw 6.5
1946	1	Mw 4.5
2nd September, 1963		Mw 5.3
1964	1	Mw 4.9
1965	1	Mw 5.2
1966	1	Mw 5.1
20th February, 1967		Mw 5.5
1968	1	Mw 4.6
1969	1	Mw 4.9
1970	6	Mw 4.8 - 4.9
1971	7	Mw 4.8 - 5
3rd September, 1972		Mw 6.2
16th January, 1973		Mw 6.5
1974	3	Mw 4.5 – 4.8
1975	4	Mw 4.7
1976	4	Mw 4.5 - 5.2
1977	9	Mw 4.6 -5.2
1978	9	Mw 4.5 – 4.8
1979	4	Mw 4.5 – 4.8
23rd August, 1980		Mw 5.4
1981	2	Mw 4.5 – 4.6
1992	1	Mw 5.4
2003	4	Mw 4.7
8th October, 2005		Mw 7.6
2008	1	Mw 6.4
2013	1	Mw 5.8
2014	1	Mw 4.9
26th October, 2015		Mw 7.5

Source: Compiled from District Disaster Management Plans

North Kashmir and South Kashmir districts lie in Zone V. Poonch, Reasi, Udhampur,

Jammu, Kathua, and Tribal Territory districts lie in Zone IV. A major portion of districts in Jammu and Kashmir falls under seismic V zone. Regions in the following districts such as Anantnag, Budgam, Bandipora, Baramulla, Ganderbal, Kishtwar, Kulgam, Kupwara, Pulwama, Ramban, Shopian and Srinagar districts occupy seismic V area and the remaining under seismic IV zone (Figure 2.14). Since the earthquake database in India is still incomplete, especially with regards to earthquakes prior to the historical period (before 1800 A.D.), these zones offer a rough guide of the earthquake hazard in any particular region and need to be regularly updated.

Figure 2.14 Earthquake Hazard Map of Jammu and Kashmir
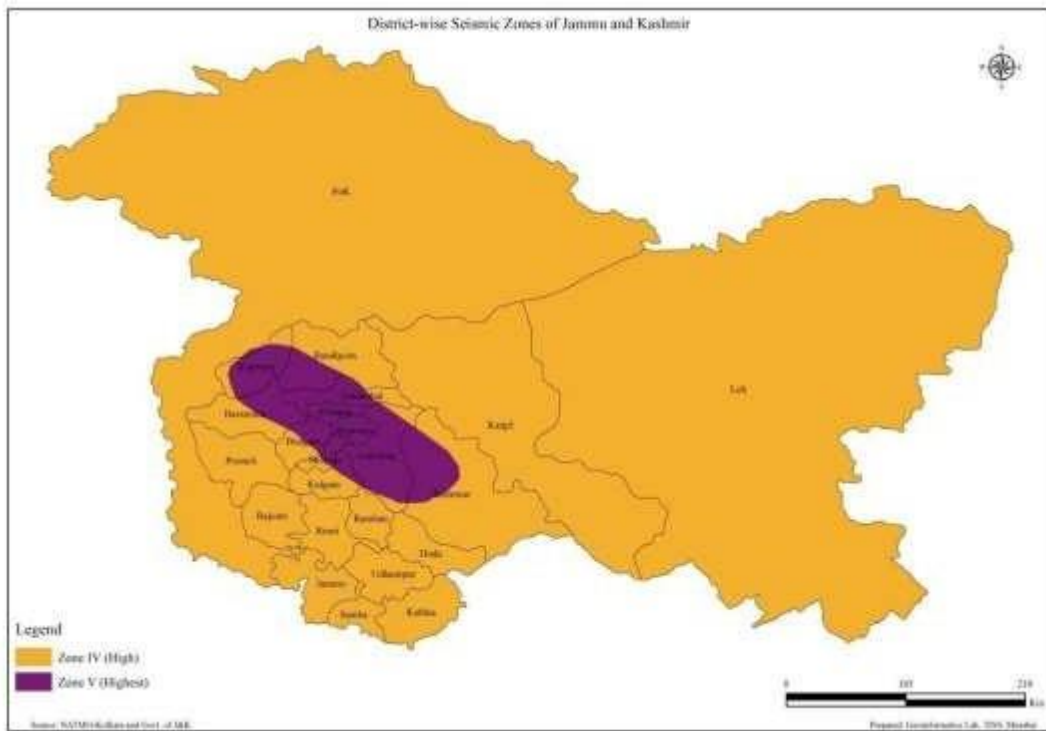
A major earthquake struck the India-Pakistan border on the morning of 8 October 2005. It had a magnitude of Mw 7.6 and was felt strongly in much of Pakistan, northern India and eastern Afghanistan. The earthquake resulted in more than 80,000 deaths in northern Pakistan and adjoining parts of Jammu & Kashmir, India and is by far one of the deadliest in the sub- continent. As per official records of the Ministry of Home Affairs, 385 male and 334 female populations died in the earthquake that struck the state, contributing to 62.1% share to total deaths due to the natural hazards in the country in the year 2005. The tremors that struck the UT in the following December recorded a magnitude of Mw 6.8 and had resulted in damage to lot of houses and buildings.

Landslides

Besides earthquakes, landslides are geological hazards that are common and peculiar to the region. In Jammu and Kashmir, the mass movement varies in magnitude from soil creep to landslides. Solifluction is another type of mass movement that is common on the higher snow covered ranges of the state. Flash floods particularly in narrow river gorges are the cause of some of the major landslides in Jammu and Kashmir. These flash floods trigger landslides in the region eventually jeopardizing the stability of the hill as a whole. The vulnerability of geologically young unstable and fragile rocks of the state has increased many times in the recent past due to various unscientific developmental activities. Deforestation, unscientific road construction and terracing, encroachment on steep hill slopes are anthropogenic activities which have increased the frequency and intensity of landslides. Table 2.5 describes the extent of life casualties due to landslides in the state for the last few years. The table shows that almost every year, parts of the state were affected by one or more major landslide resulting in floods, loss of life and damage to houses, roads, and means of communication, agricultural land.

Table 2.5 Number of Deaths due to Landslides in Jammu and Kashmir

S.No.	Cause of Death	No. of Deaths.					
		2016-17	2017-18	2018-19	2019-20	2020-21	Total
1.	Landslides	7	29	44	29	10	**82**

Figure 2.15 shows the district wise landslide zonation of Jammu and Kashmir.

Map depicts that parts of Bandipora, Anantnag, Kishtwar, Pulwama and Shopian districts are very high hazard risk areas. Whereas parts of Kupwara, Baramulla, Budgam, Shopian, Anantnag, Kulgam, Srinagar and Ganderbal are very low hazard areas.
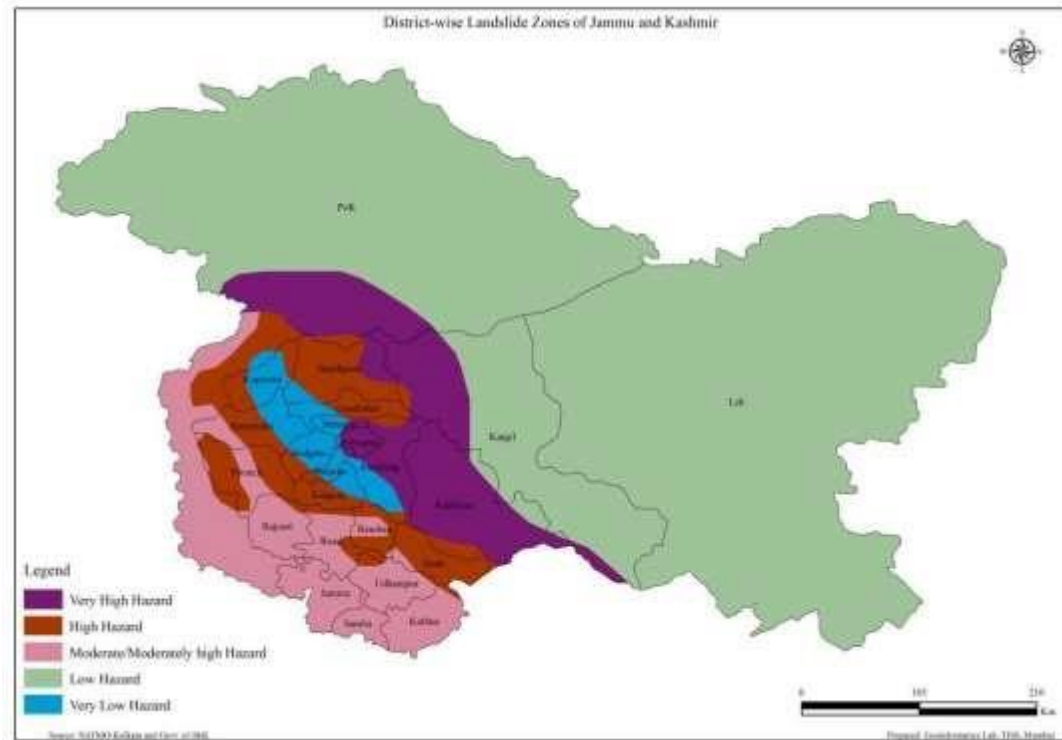

Figure 2.15 Landslide Hazard Map of Jammu and Kashmir

Snow Avalanches, Snow Storm and Snow Fall

Avalanches, river like flow of snow or ice descending from mountain tops are common in the high ranges of Jammu and Kashmir specifically the higher reaches of Kashmir and Gurez valleys. Some of the major roadways are highly vulnerable to avalanches in the state. It is very difficult to predict avalanches as they are rarely observed closely and normally occur during a short time period of one or two minutes. During winter, the valley of Kashmir receives the snow fall and rainfall from the winds arising from Mediterranean Sea. The degree of coolness is determined by the altitude of the zone. Table 2.6 describes the loss of life in numbers due to avalanches in the state for the last few years.

Table 2.6 Number of Deaths due to Avalanches in Jammu and Kashmir

S.No.	Cause of Death	No. of Deaths.					
		2016-17	2017-18	2018-19	2019-20	2020-21	Total
1.	Avalanches	5	11	29	32	1	52

Our preliminary analysis shows that Udhampur, Ramban, Doda, Kishtwar, Reasi, Bandipora, Ganderbal, Srinagar, Budgam, Shopian, Kulgam are high impact avalanche prone districts in Jammu and Kashmir.

Windstorm

Windstorms are high velocity winds that sweep with a wind speed o f more than 55 km per hour. The windstorm occurrence in the state is mostly during spring and summer and often leads negative impact to lives and property. One of the major reasons for the catastrophe is due to the lack of early warning procedures and preparedness measures. Non availability of technical expert to aware the people to construct wind proof roof tops as well as the deficiency in building code standard also put the lives and property of people under risk.

Flash Floods

Flash floods, short lived extreme events, which usually occur under slowly moving or stationary thunderstorms, lasting less than 24 hours are common hazard events in the state. As a result of the high velocity of the current, which can wash away all obstacles in its way, this phenomenon has resulted in enormous loss of life and property in various parts of the region. Floods also occur in the summer when heavy rain is followed by a bright sun, which melts the snow. If an embankment is breached or topped, a district which is dry a few hours back could turn into a lake after a few hours.

S.No.	Cause of Death	No. of Deaths.					
		2016-17	2017-18	2018-19	2019-20	2020-21	Total
1.	Flood	7	2	12	10	8	36

Floods

Specific consideration in the light of extra ordinary flood of September, 2014.

1. The exceptionally heavy rainfall during 4th-6th September, 2014 was the main cause of heavy flooding in Jhelum, Chenab and Tawi basins of J&K. From the detailed analysis of the rainfall, it has been found that the rainfall in Jhelum basin during 3rd to 7th September, 2014 was about 320% more than the monthly normal of August and about 600% more than the monthly normal of September. Similarly, in case of Chenab Basin the average rainfall of 3rd to 7th September, 2014 was about 300% more than the monthly normal of August and about 500% more than the monthly normal

September in Tawi basin the rainfall of 3rd – 7th September, 2014was about 21% more than the monthly normal of August and 200% more than the monthly normal of September.

2. Srinagar Valley is a bowl shaped valley where the elevation varies from about 1600 metres to 5300 meters on three sides of the valley. However, there is a flat plain of Kashmir Valley at EL.1600m which does not allow rapid drainage of rain waters contributed by higher reaches. During the 4th -6th September, 2014 a lot of runoff was contributed from the higher catchment in to the valley. Due to lack of steep slopes the runoff caused severe drainage congestion and inundation in Srinagar and adjoining areas.

3. From the hydrological simulations it has been estimated that the flood peak in Jhelum river at Sangam located about 50Km upstream of Srinagar was of the order of 2500 cumec (88277 cusec). The flood peak at Srinagar was of the order of 3200 cumec (113000 cusec). From the historical records available with Govt. of J&K, it has been found that floods more than 2500 cumec (88277 cusec) has been observed during the years 1950,1957,1959,and 1966 with respective flood peaks as 2617, 2549, 3398, and 2872 cumec. These historical records show that entire Srinagar Valley has been subjected to severe floods during that time also.

4. The flood peak of about 2500 cumec (88000 cusec) at Sangam and 3200 cumec (113000 cusec) at Srinagar sustained for about 6 hours resulting in inundation of large low lying areas and heavy damage in the Jhelum basin especially in Srinagar area due to over overtopping and subsequent breaching of flood embankments. It has been found from the hydrodynamic study that the banks of river Jhelum in almost entire reach between Sangam and Srinagar were over topped due to the occurrence of above flood peaks.

5. The safe carrying capacity of river Jhelum between Sangam and Srinagar is about 900 cumec (31700 cusec). The flood of September, 2014 was about 3 times more of the capacity of river Jhelum. This resulted in water spread beyond the Jhelum river banks and existing flood spill channels and consequent flooding in the entire adjoining areas.

6. Earlier, low lying areas along the course of river Jhelum were functioning as natural flood detention basins during floods and were absorbing flood water spilling over the banks of river Jhelum. Subsequently, the same flood water used to get released slowly. However, during the last three to four decades, maximum urbanization has

taken place in these low lying areas due to which there is no space for water to get stored during flood seasons. The situation in Jhelum Basin has got further aggravated due to the siltation and the encroachments/development of various water ways like rivers, lakes, marshy land etc, resulting in limited carrying capacity of Jhelum water bodies.

7. The flood peak in Chenab basin at Akhnoor was of the order of 23500 cumec (832700 cusec) which is about 76% more than the historical flood of 13300 cumec (469600 cusec) recorded on 10th September, 1992 and caused flooding in adjoining areas.

8. The flood peak in Tawi River at Sidari (Jammu) during September, 2014 was of the order of 11000 cumec (388400 cusec), which exceeded the highest recorded flood of 9124 cumec (322175 cusec) occurred on 7th July, 2005. This flood peak was resulted due to the very high density of rainfall of the order of more than 33mm/hour between 1 am and 3 am of 6th September, 2014 which caused flooding in adjoining areas.

September 2014 episode of extreme flooding and climate change

Jammu and Kashmir UT has a very peculiar geography and climate. Most of the valley regions of the UT are fed by rivers like Jhelum, Indus and Chenab. Low-lying areas of the Kashmir Valley, especially Srinagar, along with parts of Jammu, are prone to floods that occur due to heavy rainfall in upper catchment areas. Recent heavy rains, in September 2014, caused devastating floods that claimed at least 280 lives, and stranded hundreds of thousands of residents.

This recent flood in the state is unprecedented in nature, where the most part of the Southern District has received very high rainfall. Weekly total rainfall for most of the stations for the period Sept 2 to Sept 8, 2014 was more than 200 mm. This is very high for a terrain like Jammu and Kashmir. Figure 1 gives spatial distribution of weekly rainfall for select India Meteorological Department stations.

Figure 2.16 Weekly sum of rainfall for the period Sept 2 to Sept 8, 2014 of IMD stations
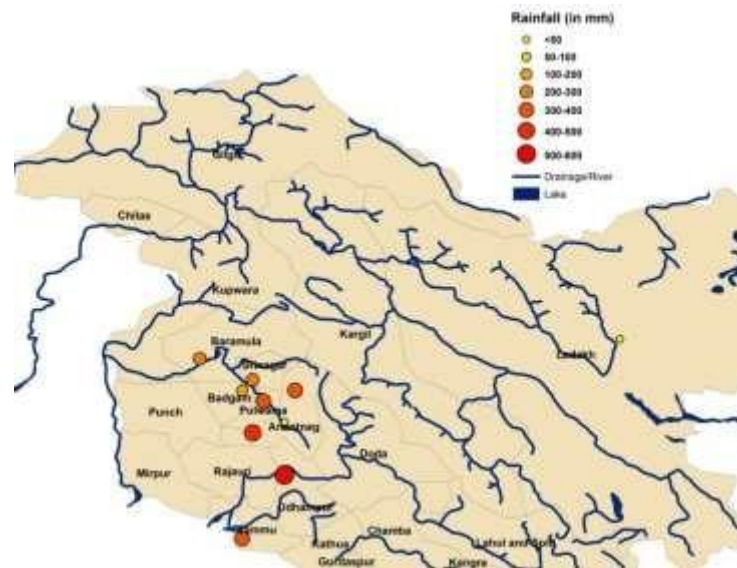
(Data source: IMD Automatic Weather Stations data for Jammu and Kashmir)

Analysis of long term daily rainfall of the region, using 25 km IMD gridded data, for the period 1951 to 2013, suggests that heavy rainfall like that September 2014 has been unprecedented in the past record. Analysis of daily annual maximum rainfall suggests that most of the Southern District of Kashmir valley has around 5 year return period for annual maximum daily rainfall exceeding 64.5 mm (Figure 2). Climate model analysis, using MIROC 4h data (which has a spatial resolution of 50km by 50km), for the period 2006-2035 under RCP 4.5 scenario suggests that the return period of annual daily rainfall exceeding 64.5 mm threshold will further decrease for most regions of the UT (Figure 3). This implies that, according to climate models, in future there is increased possibility that more frequent events of extreme daily rainfall will be witnessed.
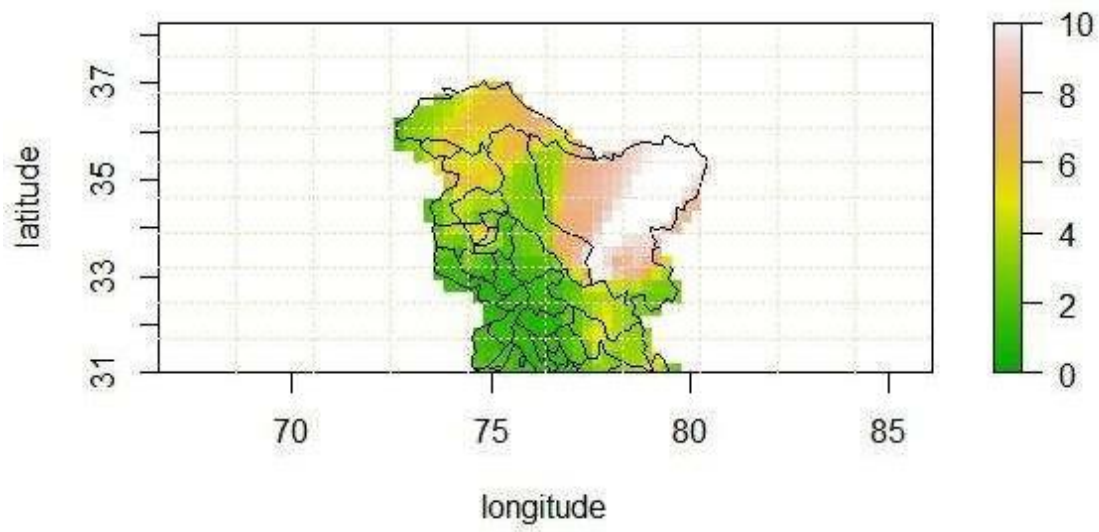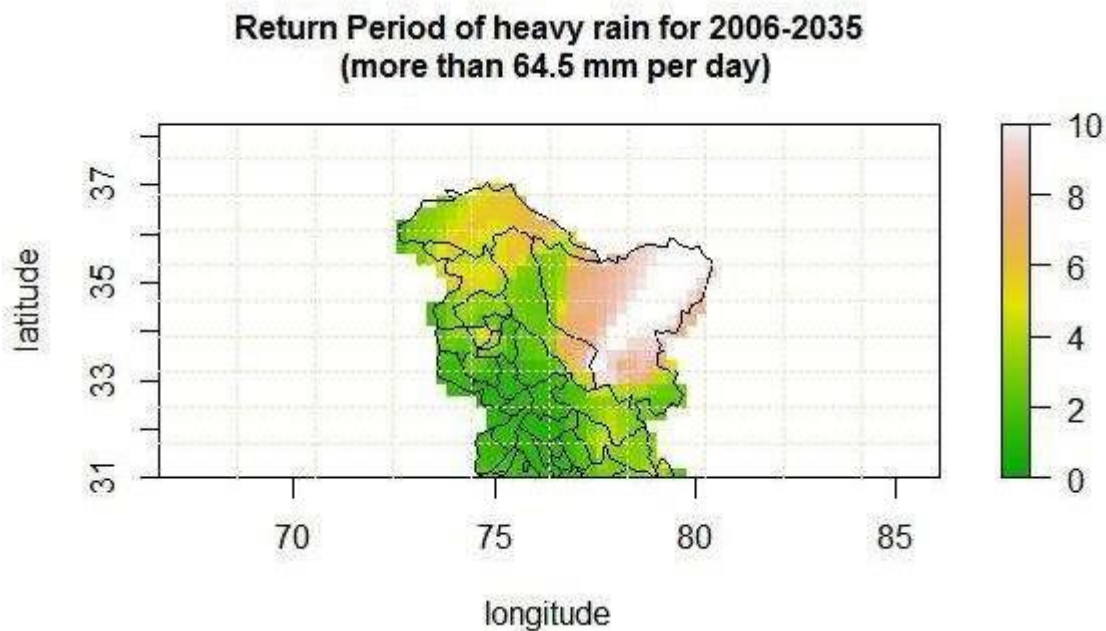
Figure 2.17 Return period of annual maximum daily rainfall exceeding 64.5 mm (in years)

Figure 2.18 Future return period of rainfall exceeding 64.5 m for future of period 2006- 2035, under RCP 4.5 scenario

Similar analysis for 100mm and 150 mm of rainfall suggests that the return period of daily extremes exceeding this threshold, particularly in Southern Districts, is very low compared to the other regions of the state (Figure 4 a and b). Comparison of long term data in the region (Figure 2 to 4) and recent rainfall event in the UT (Figure 1) indicate that the recent event was the rarest of rare and even the long term rainfall record analysis does not show such high variability (Figure 4b).

Considering recent extreme rainfall episodes as an anomaly, return period analysis suggests that most of the Southern Districts of the valley may experience frequent extreme episodes. Although a detailed exercise is required to model the future more accurately together with scenario based uncertainties, this analysis provides an indication that the UT authorities should plan for extreme rainfall of the region, particularly for the Southern Districts, which are the most populated and also close to the drainage network.

Figure 2.19 Return period of daily rainfall for threshold 100 and 150 mm per day (white region within polygon indicates that there is much higher than 100 years of return period for value exceeding given threshold based on analysis of historical data for the period 1951-2013.
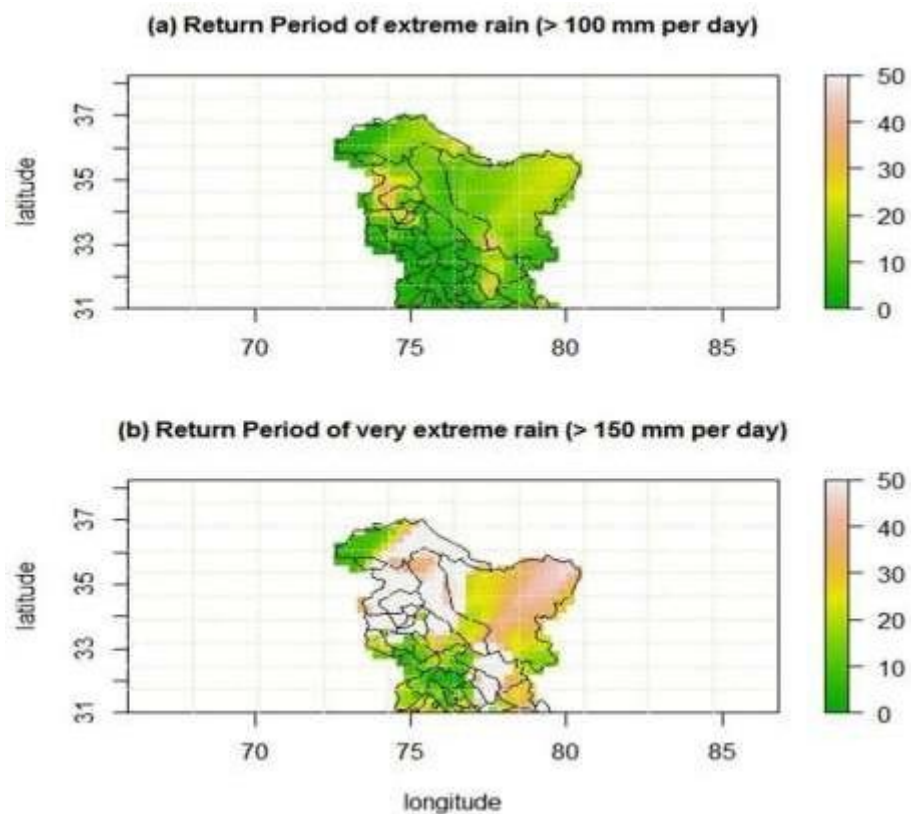
Urban Flood

Urban flood is not an unknown event in India. The uneven distribution of rainfall coupled with mindless urbanisation, encroaching upon and filling up of natural drainage channels and urban lakes to use the high value urban land for buildings are the cause of urban flood. the Kashmir valley is dotted with wet lands which plays a very important role in controlling flood in the region. Apart from natural ponds and lakes, the valley also houses other types of wet lands like rivers, streams, riverine wetlands, manmade ponds and tanks. Dal Lake, Anchar Lake, Manasbal and Wullar Lake are some of the larger wet lands in the area facing a major threat due to urbanisation.

Dal Lake, one of the largest natural lakes, covered an area of 75Sq.km in 1200 A.D. the lake area almost reduced to one –third in the eighties and has further reduced to one-sixth

of its original size in the recent past. The lake has also lost almost 12 meter of depth. Just like Dal, encroachments have also happened on the banks of one of the most prominent rivers in the UT, the Jhelum that passes through Srinagar the Summer Capital of the UT. The water bodies in Jammu are also under threat. The city was once famous for its traditional ponds and tanks which have been erased to houses, commercial complexes and parks in the city. These factors demonstrates how rapid urbanization in and around the city make flood events inevitable in the urban areas.

Cloudburst

Cloudburst is a disastrous weather condition caused by the downpour, over a small geographical area for a relatively short period. A cloudburst is construed by the meteorologist when there is an intense rainfall at a rate of 100 mm per hour. At the event of cloudburst, 20 mm of rain may fall in a few minutes. The heavy down power often leads to landslides, flashflood and pose threat to life and property. Topography of the state plays a crucial role in the formation of cloudburst. The hilly terrain of the state favors the formation of cumulonimbus cloud. This leads to the shedding of larger droplets of water at a higher rate, resulting in higher impact on the ground.

S.No.	Cause of Death	No. of Deaths.					
		2016-17	2017-18	2018-19	2019-20	2020-21	Total
1.	Cloud Burst	6	17	8	12	8	25

Our preliminary analysis shows that the high impact areas in Jammu and Kashmir due to cloudburst are Budgam, Udhampur, Ramban, Doda, Reasi, Bandipora, Kulgam, Rajouri, and Srinagar districts.

Drought

The south-west monsoon plays a significant role in determining the sustenance of agriculture depended population in the UT of Jammu & Kashmir. More than 75 % of the populations in Jammu & Kashmir are directly or indirectly depended on agriculture for livelihood. The deficiency in monsoon rain quite often results in drought, affecting the livelihood of the rural population. The UT is prone to deficient rainfall once in three years, putting lives of the majority of population at stake. Table 2.11 provides the recorded history of drought in the state of Jammu and Kashmir. Shopian, Pulwama, Bandipora, Srinagar, Udhampur, Ramban, Kathua, Kishtwar, Ganderbal and Doda are highly affected where as Samba and Rajouri are relatively less affected.

Hailstorm

Hailstorm creates great devastation to the standing crops in the state. Every year thousand acres of crops are being affected due to the hailstorm resulting in the loss of crop yield. The government of Jammu and Kashmir has imparted crop insurance schemes to support the agrarian population who has been affected by natural disasters such as hailstorm, drought, lightning etc. The insurance schemes are meant to support Rabi crops such as wheat, mustard and potato. Udhampur, Ramban, Doda, Kishtwar, Bandipora, Srinagar, Baramulla, Kupwara, Anantnag, Pulwama, Budgam, Jammu, Kathua, Rajouri , Poonch districts in Jammu and Kashmir are the areas under risk due to hailstorm.

S.No.	Cause of Death	No. of Deaths.					
		2016-17	2017-18	2018-19	2019-20	2020-21	Total
1.	Hailstorm	0	0	2	0	0	1

Other Heat and Cold Weather Events

The population of the UT is also exposed to extreme hot and cold weather events. Table 2.8 and Table 2.9 describe the impact on life of people due to hot and cold weathers respectively.

Table 2.8 Number of Deaths due to Heat in Jammu and Kashmir

Year	2011	2010	2007	2005	2004
Male	1	6	1	2	1
Female	0	0	0	0	1
Total	1	6	1	2	2
% share w.r to total deaths	0.3	1.0	0.4	0.2	1.3

Source: Compiled from the statistics released by Ministry of Home Affairs, Govt. of India

Table 2.9 Number of Deaths due to Cold in Jammu and Kashmir

Year	2011	2010	2009	2008	2007
Male	3	6	4	9	7
Female	0	2	1	0	0
Total	3	8	5	9	7
% share w.r	1.0	1.4	2.2	2.9	2.5

to total deaths					

Lightning

The population is also exposed and vulnerable to lightning and is indicated in Table 2.10 below.

Table 2.10 Number of Deaths due to Lightning in Jammu and Kashmir

Year	2011	2010	2009	2007	2003
Male	2	1	1	3	2
Female	0	0	0	0	0
Total	2	1	1	3	2
% share w.r to total deaths	0.6	0.2	0.4	1.1	1.1

Biological Hazards

Biological hazards with respect to Jammu and Kashmir could be understood in terms of epidemics among humans, livestock and pest and disease with respect to agriculture. Within a time span of January 2012 to June 2013, the following cases were reported in Kashmir division alone: Acute diarrheal disease (18,2392), Malaria (176), Bacillary Dysentery (27,746), Enteric Feer (25,700), Viral Hepatitis (4177).

The prevalence of livestock disease has been recorded in the state of Jammu and Kashmir. Outbreaks normally occur during the post monsoon season. The prominent diseases reported are Black Quarter (BQ), Haemorrhagic Septicemia (HS), SG-POX and Foot and Mouth Disease (FMD). Severe outbreaks were observed in Udhampur, Doda and Kathua districts. Pest related problems are another biological hazard prevalent in the state. Pest attack not only decreases the productivity of the fruits but also the quality of the fruits which in turn affect the livelihood of the people who depend on agriculture. The need to provide effective and ecological sound insect and disease management is very essential.

Forest Fires

The UT of Jammu and Kashmir is well endowed with forest resources that play a significant role in protecting the ecosystem of the region. Forest occupies about 20,230 sq km

of area in the UT. They serves as a catchment for river basin which enhances the soil stability thus prevent soil erosion. Every year in Jammu and Kashmir, there is a high probability of forest fire in the months of May and June. Though forests are prone to fire during the dry season, human activities such as military action, timber smuggling etc holds a huge responsibility for the onset of the fire. Forest cover in the districts of Kishtwar, Ramban, Reasi, Udhampur, Kathua, Samba, Doda, Kupwara and Srinagar are areas that are prone to forest fire.

Industrial Hazards

There has not been any report of industrial hazards in the state. Industrial hazard principally consist of four hazards such as fire, explosion, toxic release and environmental damage. However, the state needs to be cautious of the industrial wastes that are disposed, which could have severe impact on the ecology and health of the citizens in the state. According to National Inventory of Hazardous Wastes Generating Industries and Hazardous Waste Management in India (2009), the following places have been identified as generating hazardous waste.

Table 2.11 Type and Quantity of hazardous waste being generated in Jammu and Kashmir

Location	Type & quantity of hazardous waste being generated MTA (million tons per annum)			
	Land Disposable Waste	Recyclable Waste	Incinerable Waste	Total Waste
Jammu Province				
Ind. Complex Bari Brahmana	7546	3522	18	11086
Ind. Estate Gangyal & Digiana	303	1079	22	1404
Other areas of Jammu	119	52	0	171
Ind. Growth centre Samba	28	440	68	536
Birpur/other areas Of Samba	3	0	2	5
Ind. Estate Kathua	1839	1759	6	3604

Iid centre Udhampur	0	0	25	25
Kashmir Province				
Kashmir	108	15	0	123

Source: National Inventory of Hazardous Wastes Generating Industries & Hazardous Waste Management in India February 2009

Fire

The UT of Jammu and Kashmir is also prone to building Fires. As per a survey following are some major fire incidents in the last decade:

- January, 2007 (39 shops and 09 commercial buildings in the Maiden-e- Keran, Kupwara)
- November,2007 (43 residential houses and 03 shops in Pattan, Baramulla)
- May, 2008(260 Juggies, 08 shops and 1 school in Gandhi Nagar, Jammu)
- August, 2008 (37 shops, 1 residential house and 1 vehicle in Poonch)
- May, 2009 (57 shops and 01 residential houses in Katra)
- November, 2009 (45 shops in M.R Gunj, Srinagar)
- Feburary,2010 (31 residential houses, 11 kitchens, 59 shops in Pattan, Baramulla)
- July, 2010 (20 residential houses, and 46 shops in Chokibal, Kupwara)
- December,2010 (43 residential houses and 01 mosque in Keterpora, Tulail)
- March, 2011 (26 residential houses in BadeeAjab, Tulail)
- October, 2011 (43 residential houses in Khatrota Bandipora)
- June,2012 (Ziyaratee- Pir Dastegeer Sahib Khanyar)
- November, 2012 (37 residential houses in Frislan, Pahalgam)
- January, 2013 (19 shops, 01 hotel,01 commercial building, TRC building, SRTC Office, 5 tes stalls, 01ATM.)
- Jully,2013 (Civil Secretariat Srinagar)
- August,2013 (35 shops, 01 commercial buildings, 36 vehicles in Kashtwar)
- May, 2014 (Neelum Hotel Bus Stand jammu, 04 killed)
- November, 2014 (Uri Hydroelectric power Project).

Mines

The UT has a total of 72 mines. These mines are diverse, rich in minerals such as limestone, gypsum, quartzite, marble, lignite, granite and borax. Some of the mining locations within Srinagar province as recorded by the Geology and Mining are Anantnag,

Pulwama, Bandipora, Ganderbal, Kupwara and Uri. Most of the mining sites are also confined to remote hilly regions and their proximity to seismic activities and landslides are also very high. Safety of the labors in the mines and communities living in the different fault zones of the mining sites should be the top priority. Also, the practice of sand mining and **Quarrying should be checked and must be regulated.**

Tourism / Crowd Management / Stampede

The state of Jammu and Kashmir is vulnerable to crowd related disasters. Pilgrimage tourism that is promoted widely to the Amarnath Cave, Vaishno Devi temple, Hazratbal shrine and monasteries in Ladakh all need to take appropriate crowd management measures. Most often, the situation becomes chaotic due to large movement of people that could result in stampede, damage to limbs, injury and loss of life.

Drowning

The UT of Jammu and Kashmir is very much prone to disaster resulting from drowning related incidents. For instance, it was reported in 2012, that in the roads of Doda and Kishtwar, by the River Chenab, more than 500 people navigating the route lost their lives. It was also reported in April 2014, that in the last four years at least 51 persons died due to drowning in different districts of Kashmir region alone. This necessitates that the state have immense capacities to provide warning as well as human resources in terms of divers, rescue teams and related equipments.

Railway Safety

The Kashmir Railway, officially termed the Jammu Udhampur Srinagar Baramulla Railway link, routes crosses major earthquake zones and is subjected to extreme temperatures of cold and heat. Due to the in hospitable terrain, the railway links is also susceptible to landslide. As the UT plans to expand its railway network within the UT as well as to rest of the country, one needs to judiciously plan appropriate disaster mitigation and response plans pertaining to rail accidents including technical failure, fire and sabotage.

Road Accident

The UT due to its terrain is prone to road accidents. According to the report released by the Traffic Police J&K in 2020, 4860 accidents took place as a result of which 728 persons were killed and 5894 received injuries. Appropriate incident command system to deal with road accidents has to be developed taking into account the nature of the roads, terrain and frequency of accidents happening in the roads of the UT.

CHAPTER 4: DISASTER RISK GOVERNANCE AT THE CENTRE AND UT LEVEL

Disaster risk governance is the system of institutions, mechanisms, policy and legal frameworks and other arrangements to guide, coordinate and oversee disaster risk reduction and related areas of policy. Disaster governance goes beyond governmental settings, powers, processes and tools by encouraging collective actions through the engagement of all stakeholders operating at all scales from village to country.

The legal framework in the country and in Jammu & Kashmir provides direction to government all other stakeholders for Disaster Risk Management (DRM). The role, composition and key decision making bodies for disaster management at national, State/UT, district and below level are described below. The extent of involvement of central agencies will depend on the type, scale, and administrative spread of the disaster. If the situation requires, the state/UT government shall request central government to provide necessary support. Disaster management structure is in place right from the national to local level. This institutional mechanism plays a crucial role in all activities from policy making to implementation across the entire disaster management cycle.

National Level

Agencies	Composition	Roles & Responsibilities
National Disaster Management Authority (NDMA)	• Prime Minister (Chairperson) • Members (not exceeding nine, nominated by the Chairperson)	• Lays down policies, plans and guidelines for disaster management • Coordinates their enforcement and implementation • Lays down guidelines for Disaster Management to be followed by the different Central Ministries and departments and the State Government.
National Executive Committee	• Union Home Secretary (Chairperson)	• Executive committee of the NDMA

(NEC)	• Secretaries to the GOI in the Ministries / Departments of Agriculture, Atomic Energy, Defence, Drinking Water and sanitation, Environment, Forests and Climate Change Finance (Expenditure), Health and Family Welfare, Power, Rural Development, Science and Technology, Space, Telecommunications, Urban Development, Water Resources, River Development and Ganga Rejuvenation, The Chief of the Integrated Defence Staff of the Chiefs of Staff Committee, ex officio as members. • Secretaries in the Ministry of External Affairs, Earth Sciences, Human Resource Development, Mines, Shipping, Road Transport and Highways and Secretary, NDMA are special invitees to the meetings of the NEC.	• Assists the NDMA in the discharge of its functions and also ensure compliance of the directions issued by the Central Government • Coordinates the response in the event of any threatening disaster situation or disaster. • Monitors the implementation of guidelines issued by NDMA • Act as the coordinating and monitoring body for disaster management
National Institute of Disaster Management (NIDM)	• Union Home Minister; Vice Chairman, NDMA; Members including Secretaries of various nodal Ministries and Departments of Government of India and State Governments and heads of national levels scientific, research and technical organizations, besides eminent scholars, scientists and	• Develops and builds capacity through training, research, documentation • Develops national level information base • Functions within the broad policies and guidelines laid down by the NDMA

	practitioners.	• Develop educational materials for disaster management
		• Undertake, organize and facilitate conferences, lectures, seminars.
National Disaster Response Force (NDRF)	• Specially trained force headed by a Director General Structured like para military forces for rapid deployment after the disaster for rescue.	• Provides specialized response and emergency search & rescue to a threatening disaster situation
		• The general superintendence, direction and control of this force is vested in and exercised by the NDMA
		• Command and supervision of the force is vested in the Director General of Civil Defence and National Disaster Response Force
		• Comprises 16 battalions and 4 battalions are equipped and trained to respond to situations arising out of CBRN emergencies
		• Imparts basic training to all the stakeholders identified by the state governments in their respective locations.

Agencies providing Early Warning Information	Sr. No.	Disaster	Nodal Department
	1	Accident – Air (Civil Aviation)	Min. of Civil Aviation (MOCA)
	2	Accident – Rail	Min. of Railways (MOR)

	3	Accident – Road	Min. of Road Transport & Highways (MRTH)
	4	Avalanche	Min. of Defence (MOD)-Border Road organization (BRO)
	5	Biological Emergencies	Min. of Health and Family Welfare (MHFW)
	6	Cold Wave	Min. of Agriculture and Farmers Welfare (MAFW)
	7	Cyclone/Tornado	Min. of Earth Sciences (MOES)
	8	Drought	Min. of Agriculture and Farmers Welfare (MAFW)
	9	Earthquake	Min. of Earth Science (MOES)
	10	Flood	Min. of Jal Sakti
	11	Floods-Urban	Min. of Housing and Urban Affairs (MHUA)
	12	Forest Fire	Min. of Environment, Forests and Climate Change (MEFCC)
	13	Frost	Min. of Agriculture and Farmers Welfare (MAFW)
	14	Hailstorm	Min. of Agriculture and Farmers Welfare (MAFW)
	15	Industrial and Chemical	Min. of Environment, Forests and Climate Change (MEFCC)
	16	Landslides	Min. of Mines (MOM)
	17	Nuclear and Radiological	Dept. of Atomic Energy (DAE)
	18	Oil Spills	Min. of Defence (MOD) – Indian Coast Guard
	19	Pest Attack	Min. of Agriculture & Farmers Welfare (MAFW)
	20	Tsunami	Min. of Earth Sciences

UT Level

The DM structure in the UT is as per the National Disaster Management Act, 2005.

Hon'ble Lieutenant Governor	**Government of India** • Ministry of Home Affairs • NDMA • Ministry of Defense • Ministry of IT & Communications • Ministry of Agriculture • Ministry of Environment & Forests& Climate Change • Ministry of Health & Family Welfare • Ministry of Railways • Ministry of Earth Science • Ministry of Water Resources • Ministry of Atomic Energy • Ministry of Civil Aviation • All India Radio

- IMD
- CWC
- INCOIS
- ISR

Crisis Management Group (Chief Secretary)

Govt. of J&K Line Departments

Revenue Dept

JKDMA

FCR

Municipal Commissioner

NGOs, CBOs International Agencies Public & Private Sector Undertakings

State EOC

ERCs

Deputy Commissioners (DEOC) District Level Officer

District DM Committee

SDM Sub Division Level Officer Chief Officer (Municipality)
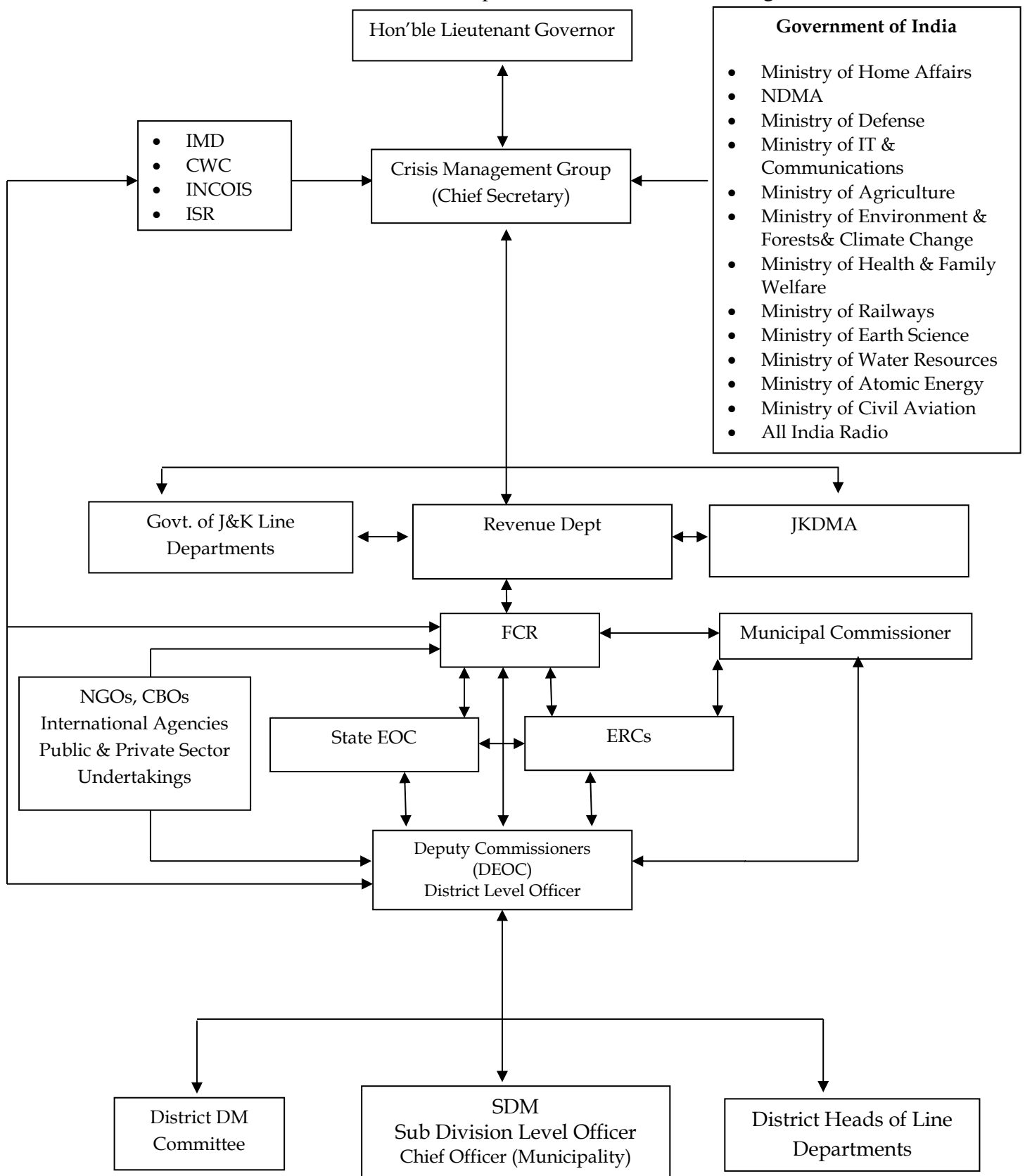
District Heads of Line Departments

Figure 4.1: Institutional Mechanism at UT Level

The State Disaster Management Authority and the Office of the Financial Commissioner Revenue Department are the major institutions in the UT that deal with all the phases of disaster management. All the major line departments of the UT Government the Deputy Commissioners, other technical institutions, community at large, local self-governments, NGOs, CBOs, etc. are the stakeholders of the JKDMA.

The role of the stakeholders has been prepared with an objective of making the concerned organizations understand their duties and responsibilities regarding disaster management at all levels, and accomplishing them.

Agencies	Roles & Responsibilities
JK State Disaster Management Authority (JKDMA)	• On the recommendation of Deputy Commissioners, State Authority may declare disaster. • Promotes an integrated and coordinated system of disaster management including prevention or mitigation of disaster by the UT, local authorities, stakeholders and communities. • Collect/cause to be collected data on all aspects of disasters and 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. • Acts as a repository of information concerning disasters and disaster management • Lays down the policies and plans for disaster management in the State. • Promotes or causes to promote awareness and preparedness, advices and trains the community and stakeholders • Co-ordinating Rehabilitation and Reconstruction activities by different government departments.
Financial Commissioner Revenue	• Primary responsibility of co-ordinating an effective emergency response and relief on the occurrence of a disaster. • Prepare, review and update State level emergency plans and guidelines and ensure that the district level plans are prepared, revised and updated

	• Develop an appropriate relief implementation strategy for the State in consultation with the Authority, considering the unique circumstances of each district and deficiency in institutional capacity and resources of the State.
	• Provide directions to the Deputy Commissioners 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.
State Crisis Group (SCG)	• Develop a strategic policy framework for disaster management for the State. • Ensure that the disaster operations in the state are consistent with the State Disaster Management Authority and in line with the policy framework for disaster management for the state. • Identify resources in and outside the State that may be used for disaster operations. • Provide reports and make recommendations about matters relating to disaster management and disaster operations. • Develop a thorough approach to disaster management - Prevention / Preparation / Response and Recovery. • Establish District and Local Crisis Group
State Institute of Disaster Management (SIDM)	• To serve as the apex institute in the State for Disaster Management Capacity Building. • To provide disaster management related training to all the stakeholders. • To act as a resource centre and clearing house of information on disaster management by documentation of field experiences including case studies, lessons learnt and best practices. • To undertake quality research projects on Disaster Management and mitigation covering both natural and human induced disasters. • To facilitate partnership with reputed national and international organizations, universities, institutions, bodies and individuals

	specialized in Disaster Management.
	• To run and award degree/diploma/certificate courses on Disaster Management on its own or with the affiliation to any other institute/ universities, local/ national/ international.
Fire & Emergency Services (F&ES)	• Provides crucial immediate response during any disaster • Provides regular training to the fire staff and all in using and maintaining the equipment and containing fire in the state.
State Disaster Response Force (SDRF)	• 2 battalions of SDRF have been created for the rescue of the disasters in the Jammu & Kashmir. • The SDRF teams are deployed at various locations based on the severity of the disaster. • Provides specialized response and emergency search & rescue to a threatening disaster situation • Imparts basic training to all the stakeholders identified by the state governments in their respective locations.
Local Authorities	• Help JKDMA, FCR and Deputy Commissioners in disaster management activities. • Ensure training of its officers and employees and maintenance of resources to be readily available for use in the event of a disaster. • Ensure that all construction projects under it conform to the standards and specifications lay down. • Each department of the Government in a district shall prepare a disaster management plan for the district. Carry out relief, rehabilitation and reconstruction activities in the affected area within its jurisdiction.

Table 4.2: Institutional Mechanism at UT Level

Agencies competent for issuing Disaster Specific Early Warnings:

Early warnings will be published/ issued by the respective agencies during different disaster which are as follows:

Disaster	Agencies
Earthquakes	IMD
Floods	IMD, Flood & Irrigation Dept.
Drought	Agriculture Dept.
Epidemics	Health & Family Welfare Dept.
Industrial & Chemical Accidents	Labour & Employment Dept.,
Fire	Director, State Fire Prevention Services

District Level

All the districts in the UT have District Emergency Operation Centre (DEOC) headed by the Deputy Commissioner. Further, every DEOCs act as the planning, coordinating and implementing body for disaster management at the district and below level and take all necessary measures for the purposes of disaster management in accordance with the guidelines laid down by the NDMA and JKDMA.

Agencies	Roles & Responsibilities
Deputy Commissioner	- Facilitate and, coordinate with, local Government bodies to ensure that pre and post - disaster management activities in the district are carried out. - Assist community 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 State Authority / UT Government for declaration of disaster.

District Crisis Group (DCG)	• Ensure that disaster management and disaster operations in the district are consistent with the State.
	• Develop effective disaster management for the district, including a district disaster management plan and regularly review and assess the disaster management arrangements in the disaster district.
	• Provide reports and make recommendations to the State group about matters relating to disaster management and disaster operations in the district.
	• Regularly review and assess the disaster management of Local Groups in the district.
	• Ensure that any relevant decisions made by the State group are incorporated in its disaster management arrangements, and the disaster management arrangements of Local Groups in the district.
	• To ensure the community is aware of ways of mitigating the adverse effects of an event, and preparing for, responding to and recovering from a disaster.
	• Coordinate the provision of State resources and services provided to support Local Groups in the district.
	• Identify resources that may be used for disaster operations in the district.
	• To make plans for the allocation of resources that may be used for disaster operations within the district and the coordination of their use.
	• Establish and review communications systems in the group, and also with Local Groups in the district for use when a disaster happens.
	• Ensure information about an event of a disaster in the district is promptly given to the State group and each Local Group in the district;
	• To assist the district administration in the preparation of a district disaster management plan.

Local Crisis Group (LCG)	• Ensure that disaster management and disaster operations in the area are consistent with the State and in line with the policy framework for disaster management for the state.
	• Develop effective disaster management, and regularly review and assess the disaster management activities.
	• Help the local administration for its area to prepare a local disaster management plan.
	• Identify, and provide advice to the relevant district group about, support services required by the local group to facilitate disaster management and disaster operations in the area.
	• Ensure the community is aware of ways of mitigating the adverse effects of an event, and preparing for, responding to and recovering from a disaster.
	• Manage disaster operations in the area under procedures decided by the state group.
	• Provide reports and make recommendations to the relevant district group about matters relating to disaster operations.
	• Identify, and co-ordinate the use of resources that may be used for disaster operations in the area.
	• Establish and review communications systems in the group with the relevant district group and other local groups when a disaster happens.
	• Ensure information about a disaster in the area is promptly given to the relevant district group.

Other Stakeholders in Disaster Management

Agencies	Roles & Responsibilities
Private Sector	• The private sector should ensure their active participation in the pre-disaster activities in alignment with the plan developed by the JKDMA or the Deputy Commissioners.
	• They should also adhere to the relevant building codes and other specifications, as may be stipulated by relevant local authorities.

Community Groups and Voluntary agencies	• Local community groups, "**Aapda Mitra**" and voluntary agencies including NGOs should actively assist in prevention and mitigation activities under the overall direction and supervision of the JKDMA or the Collector. • They should actively participate in all training activities as may be organised and should familiarize themselves with their role in disaster management.
Citizen	• It is a duty of every citizen to assist the administration or such other person entrusted with or engaged in disaster management whenever his aid is demanded generally for the purpose of disaster management.

Other than these, there are various agencies, organizations, departments and authorities that constitute a core network for implementing various disaster management related functions and activities. It also includes academic, scientific and technical organizations, media, community, etc. which play important role in various facets of disaster management.

CHAPTER 5: MAINSTREAMING DISASTER RISK REDUCTION

Disaster risk affects the health, safety and security of the people for which they are vulnerable. Disasters risk drivers such as inadequate development planning, poverty, unchecked urban expansion, environmental degradation and weak risk governance have led to increased risk which in turn pose a threat to the community. The disaster risk continues to increase as the growing exposure of people and assets to hazards outpaces risk reduction capacities. Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) efforts share the immediate common aim of building resilience of people, economies and natural resources towards the impacts of extreme weather and climate change.

Mainstreaming DRR is a process of integrating DRR and CCA at all levels of decision-making including state, district and village government & community levels and creating direct linkages with international and regional commitments like SFDRR, SDG, Paris Agreement (COP 21), and PM 10 Point Agenda etc. With escalating disaster risks, there is a growing consensus that the key to sustained risk reduction lies in 'mainstreaming' the reduction of risks into development. This could be done by incorporating the key principles of DRR and CCA.

The mainstreaming needs to be integrated in all phases of planning, programming, budgeting, implementation, monitoring etc. into development goals, governance arrangements, policies and practice. Mainstreaming requires the analysis of how potential hazard events could affect the performance of policies, programs and projects, and on the other hand, it needs to look at the impact of the same policies, programs, and projects on vulnerability to hazards.

As per the provisions of NDM Act, 2005, all government departments local authorities, must prepare their own DM Plans. The plans will be prepared after considering the types of disaster hazards that may occurs and their possible effects, the property at risk, provision for prevention and mitigation strategies, promote capacity building and contingency plans etc.

Disasters and development are closely linked. Disasters can both destroy development initiatives and create development opportunities. Development schemes can both increase and decrease vulnerability. It has four separate but interrelated dimensions:

i. Disasters set back development programming, destroying years of development initiatives.

ii. Rebuilding after a disaster provides significant opportunities to initiate development programmes.

iii. Development programmes can increase an area's susceptibility to disasters.

iv. Development programmes can be designed to decrease the susceptibility to disasters and their negative consequences.

Thus, it is desirable that development initiatives and DRR are dealt with concurrently in a seamless manner, into all the relevant policies, planning and implementation. All development initiatives must factor in the likelihood of greater risk and decrease in climate change induced vulnerabilities.

The second and third priorities of the Sendai Framework namely risk governance and investing in disaster risk reduction for resilience, recognize the importance of DRR within and across all sectors of development. Sectors of focus include Agriculture, Building and Construction, Education, Energy, Environment, Finance, Health, Planning, Telecommunications, Tourism, Transportation, Urban and rural development, Water and Sanitation. Mainstreaming DRR and CCA into development planning has been a priority concern for the State Government. It should ensure that development plans and programs do not create new forms of vulnerabilities.

**Planning based on Hazard, Exposure, Vulnerability and capacity assessment**

JKDMA has done a risk assessment for integrating disaster risk management into development planning. Each line department, Municipal Corporation, Deputy Commissioners and District Development Commissioners of the UT is required to use it for initiating all the projects depending on the vulnerability of the project area.

In addition, line departments and even some private industries do seek the advice of JKDMA on vulnerability of the region before finalizing projects that require major investment.

Based on the same, each line department and other relevant UT agencies should carry out and ensure the following:

1. Ensure that the DRR policies and practices must be based on improved understanding of disaster and climate risk in all its dimensions and communities made aware of various aspects of disaster and climate risk so that they are able to proactively take preventive measures.

2. Ensure adequate and appropriate legislative arrangements for disaster risk management, including the mainstreaming of DRR and CCA into development.

3. Plan land use of the UT in view of hazard, risk and vulnerability of the project.

4. Ensure all the development schemes of the UT are undertaken in view of hazard, risk, vulnerability and micro-zonation and climate risk attached with it and facilitated with the provision for adequate funds.

5. Undertake revision of land-use regulations and building codes and introduction of judicial and other measures to ensure enforcement.

6. Integrate various risk financing instruments within an overall DRR strategy, enabling policies and supporting legal framework.

7. Provide engineering inputs to improve infrastructures including dams and reservoirs, building design, construction, etc.

8. Ensure financing and budgeting for investment in resilience.

9. Investing in capacity building, organization, and mobilization of community members (especially of women) at local level, to access resources, to take leadership in the community and to engage with local authorities.

10. Strengthen inter agency coordination and integration involved in development initiatives at state and district level.

11. Ensuring social inclusiveness in disaster risk management.
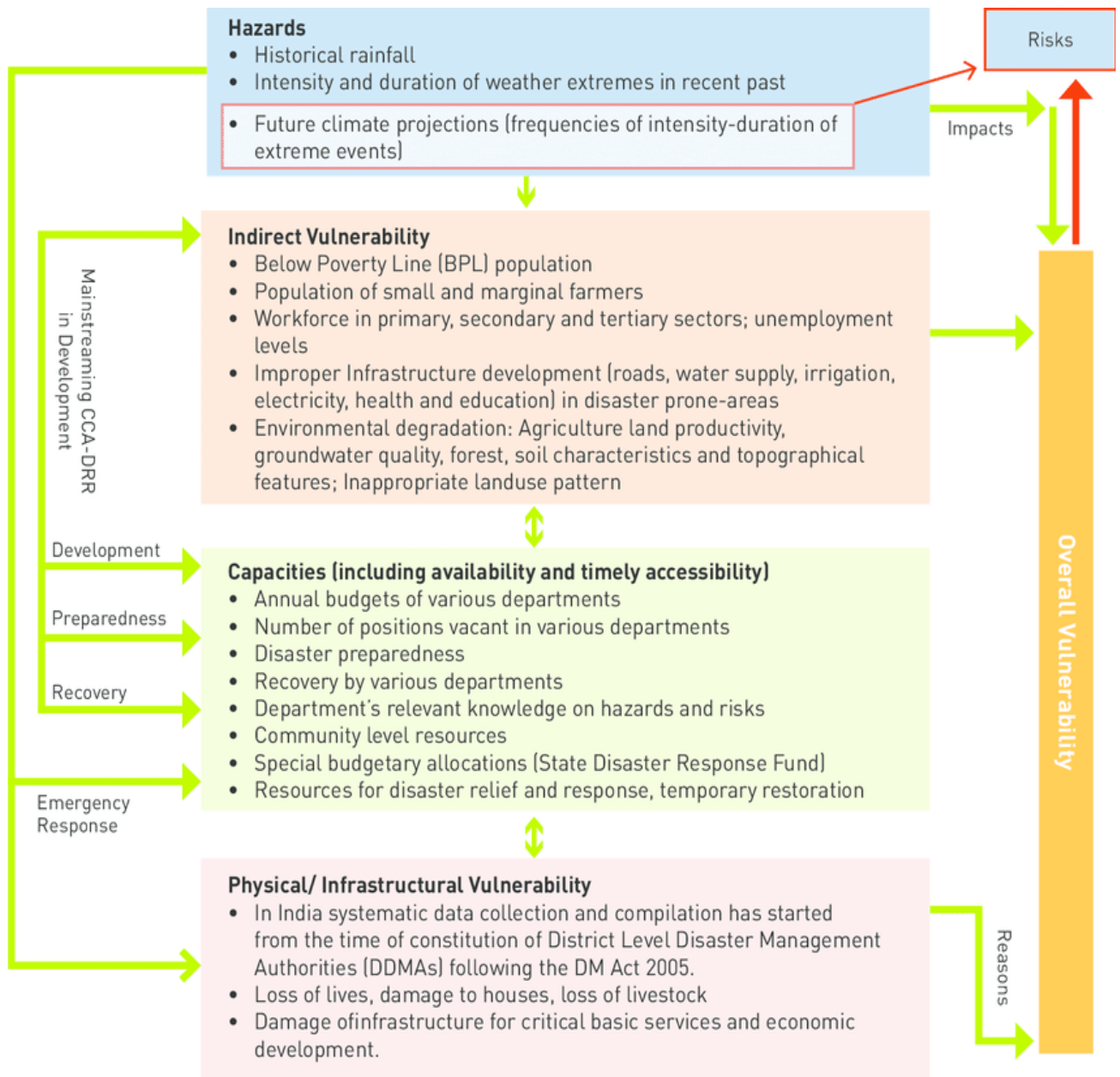
Source: https://www.researchgate.net/figure/key-elements-of-mainstreaming-cca-Drr-in-Development-planning_fig3_311608070

Roles and Responsibilities to Departments

Activity	Responsibility

1. To ascertain whether project involve any creation/ modification of structural/ engineering assets
 	
2. To ascertain the possible risks, likelihood and impact from disasters and climate change due to the location of project sites
 	
3. To ascertain whether probable risks both structural and non-structural measures have been prioritized and the prevention and mitigation measures being contemplated.
 	
4. To ascertain whether the design and engineering of the structure has taken into consideration the National Building Code 2016, the appropriate BIS Codes, BMTPC Hazard Atlas 2019 other applicable sources as per the type of the project and the NDMA guidelines.
 	
5. To ascertain whether the cost of disaster prevention/ 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
	• Line Depts.
	  - Irrigation & Flood
	  - PDD
	  - Jal Shakti Dept.
	  - Health
	  - Roads & Buildings
	  - Education
	  - Others
	• Dept. approving the project
	  o Administratively
	  o Financially
	  o Technically
	• Urban Development Authorities
	• Concerned Dept.
	• JKDMA
	• Local Bodies

Table 6.2: Checklist for EFC Form

Detailed Project Report (DPR) Format

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

Activity	Responsibility

1. Impact Assessment of project (damage that can be caused to the project by natural & Man-made hazards, design of the project that could accentuate the vulnerability of the area to hazards and / or lead to rise in damage / loss of lives, property, livelihood and surrounding environment) and ensure creation	• Line Depts. preparing the project
	  - Irrigation & Flood
	  - PDD
	  - Jal Shakti

of new risk.	- Health
	- Roads & Buildings
2. Disaster & Climate Risk assessment of project Evaluation of site with regards to parameters such as probable maximum seismicity, probable maximum storm surge, probable maximum wind speed, probable maximum precipitation, probable maximum flood discharge and level, soil liquefaction proneness under probable earthquake intensities	- Education
	- Others
	• Dept. approving the project
	o Administratively
3. Compliance of	o Financially
o Land Use Management	o Technically
o Building Code	
o Building Use Regulation	
o Directives and Legislation	
o Maintenance Requirement	
4. Details about the location of the project, proneness of the project area to various hazards and analysis of impact on safety of the project	• R & B Dept.
5. Impact of the project on the environment and the surrounding population with respect to the type of the project and adoption of prevention and mitigation measures to prevent and mitigate the impact.	
	• JKDMA
	• Local Bodies

Table 6.3: Checklist for DPR Format

Relevant Government Schemes and Projects

Many government schemes targeted at different vulnerable groups could be used in pre-disaster phase as a tool for minimizing their vulnerability and empowering them to better respond to any disaster. Some of the schemes/ subsidies could also be used in post-disaster

phase to rebuild their lost infrastructure, housing, to avail basic amenities/ facilities like education, health, to restore livelihood, etc. by availing the entitlement of these schemes.

These schemes include Agri-Implements Subsidiary, Animal Husbandry Aid Scheme, Rastriya Madhyamik Shiksha Abhiyan (RMSA), Annapurna Scheme, Janani Shishu Suraksha Karyakram (JSSK), Rashtriya Swasthya Bima Yojana (RSBY), Pradhan Mantri Awas Yojna, Indira Gandhi National Disability Pension Scheme, Assistance to Disabled Widows for House Construction, etc.

To ensure that the entitlement of these schemes reach the targeted population, it is necessary that population is aware of such schemes/ projects and their entitlement. Inter department coordination is very crucial for this entitlement to reach the affected population especially in a post-disaster scenario.

Budget Allocation

It should be ensured that the expenditure on risk reduction is sufficient and there are adequate financial arrangements to manage the residual risks. While there are certain budgeting allocations to partially address requirements of relief through NDRF/SDRF each department must make adequate provision for DRR.

Mainstreaming is the internalisation of risk awareness and incorporation of risk reduction measures into the main or the overall policies and programmes within and outside government. The SDMP provides broad perspective on mainstreaming DRR and CCA. Each department and agency must review current programmes to include DRR and CCA to the extent possible cost effectively within their main budget and ensure comprehensive appraisal of all new initiatives (policies, plans, programmes, projects, etc.) based on the perspectives provided in the SDMP.

CHAPTER 6: DISASTER PREPAREDNESS & CAPACITY BUILDING: STRENGTHENING INSTITUTIONAL CAPACITY FOR RESILIENCE

All institutions relevant to a state's resilience must have the capabilities they need to discharge their roles. It is critical to involve all stakeholders right from the pre-disaster phase and to work together in a risk-informed and integrated approach. For this, all stakeholders should be aware and informed of the existing and imminent risks, incorporate disaster risk reduction as part of their policy and routine functioning and should allocate resources and develop capacities to increase the level of commitment to disaster risk reduction for resilience.

Preparedness Measures

Preparedness for any probable disaster is an essential and proactive step to deal with any emergency. It is a peacetime phase and provides opportunity to develop and build capacity of the system and society.

Each stakeholder needs to develop and enhance his/her skills and resources so as to be able to perform the respective role and responsibility at the onset of the disaster. The key stakeholders at state level and the respective preparedness measures to be undertaken are discussed below.

UT Government

The UT Government shall:

1. Ensure that appropriate policies and guidelines are developed

2. Ensure that the State Administration and local authorities take into consideration the guidelines laid down by JKDMA while planning its activities

3. Ensure that State Government, JKDMA, Heads of Government Departments, FCR, District Magistrates and local authorities take necessary steps to be prepared for all probable disasters.

4. Facilitate timely procurement related to disaster management of materials, equipment and services in connection with the disaster management and ensure their quality

5. Ensure preparation, implementation and timely updation of disaster management plans by respective state departments, local authorities, communities and stakeholders.

Departments of the UT Government

a. Revenue Department

1. Revenue Department is the nodal department for controlling, monitoring and directing measures for organizing rescue, relief and rehabilitation. All other concerned line departments shall extend full cooperation in all matters pertaining to the management of the disaster whenever it occurs.

2. The department will develop socially inclusive relief norms and packages.

3. Arrange with service provider companies for multiple warning messages to community, officials, etc as per need.

4. Develop and promote insurance, disaster bonds, tax rebate, etc. against the disaster.

5. Arrange for relevant resources in coordination with districts officials for disaster management.

b. Agriculture Production and Farmers Welfare Department

1. Identify areas prone to various hazards i.e. droughts, heavy rain, floods, cyclones / heavy wind, pest attack, etc. and monitor them during vulnerable seasons and promote risk sharing and risk transfer mechanisms

2. Strengthening institutional and technical capacities and Mainstreaming Disaster Risk Reduction (DRR), Climate Change Adaptation (CCA), and Sustainable Land Management (SLM) within agriculture related policies, strategies and plans.

3. Spread awareness amongst farmers regarding various crop diseases, water conservation and Management, prescribed use of fertilisers and pesticides, crop insurance, crop diversification, adaption of improved technology, alternate cropping pattern in disaster prone areas, proper seed and fodder management, etc. to build resilience of agriculture communities to disaster impacts.

4. Ensure a proper mechanism for communicating early warning to farmers regarding rainfall, flood, droughts, cyclone, etc.

5. Formulate a trained team for assessing damage to crops, soil and other agricultural damage

6. Enhance preparedness measures to improve effectiveness of emergency response and recovery actions in agriculture

7. Ensure that the relief is extended to the farmers and agriculture labourer in case of disaster.

8. Ensure integration and mainstreaming of gender priorities in all activities of the plan of action to enhance overall long term resilience.

c.   Animal/Sheep Husbandry Department

1. Ensure proper mechanism for disease surveillance among animals

2. Prepare a database of veterinary hospitals, clinics and agencies working for welfare of animals

3. Identify source for procurement of fodder for livestock in scarcity hit areas.

4. Identify safe locations for cattle camps

5. Ensure proper administration of de-worming and vaccinations for cattle, sheep, goats, pigs and other relevant measures for disease management

6. To spread awareness among rural population regarding management of sick or diseased animals

7. Ensure proper transportation facilities for sick or critically injured animals

8. Identify space for disposal of animal carcasses

9. Requirement of proper and clean shelter for milch animals like cows and buffalos

10. To take preventive measures to ensure animal to human disease transfer and vice versa.

d.   Civil Aviation Department

1. Ensure that sites for helipads are identified across the state as per the laid guidelines
2. Ensure that the helicopters are available in ready condition during any emergency
3. Ensure that the human resources and technical team is available to deal with any emergency

e.   Department of Ecology, Environment & Remote Sensing

1. Undertake studies and assist state government in understanding impacts of climate change on the risk of natural hazards

2. Establish linkages with national and international experts/ agencies on climate research to address better hazard trends.

3. Establish environmental and economic benefits on use of renewable energy and promote the same

4. Promote use of green technology, CNG usage, use of solar energy, etc.

5. To make citizens aware regarding ways to preserve ground water, **saving energy** and reducing carbon footprint in day-to-day life

6. Increase and protect flora and fauna

7. Prepare a comprehensive policy on Climate Change for the state and guidelines to be followed for the same

8. Ensure that the Air and Water pollution is contained as per the existing norms.

9. Use of Science   and technology for better understanding the climate and weather change.

10. Integrate climate change measures into national policies, strategies and planning.

11. Improve education, awareness-raising and human and institutional capacity on climate change mitigation and adaptation.

12. Monitor climate change activities, help mitigate its consequences, and reduce the uncertainties that surround projections.

13. To study the Earth's climate system and support decision-making about climate change adaptation, prediction and mitigation.

14. Promote use of Space-based technologies as they play a key role in climate knowledge, science, monitoring and early warning.

f.   **Education Department**

1. Advocate for inclusion of vulnerability and capacity assessment, disaster risk reduction measures and corresponding budget in disaster preparedness & response at school level

2. Develop a policy framework for school safety to be integrated into existing education policy and processes,

3. Organise camps in school and colleges for awareness of do's and don'ts of possible hazards in the state, hygiene and other issues of public health

4. To include aspects of disaster risk management in the school and college curriculum

5. Engage students, parents and communities in school management/maintenance to prevent future risks and in reinforce messages about disaster risk reduction.

6. Ensure preparation of disaster management plans and first aid kits in all schools and colleges

7. Maintain all the equipment like fire extinguishers, fire-fighting systems, etc. and keep in up-to-date condition

8. Identify safe sites near the schools/ in the villages to set up temporary learning spaces Updating and refilling of equipments like fire extinguishers

9. To include and ensure implementation of school safety programme in each school at the primary level.

10. Identify safe schools and colleges which can be used as relief shelters for short duration of time, aftermath of any disaster

g. **Fire & Emergency Services Department**

1. Carry out a systematic, critical appraisal of all potential Fire hazards involving personnel, premises, services & operation method

2. Improve outreach of the fire services right up to the village level

3. Develop and implement fire hazards mitigation and response plan

4. Ensure proper operation, maintenance and functioning of all fire fighting vehicles, equipment and personal protection equipments

5. Ensure adequate training of human resource to deal with disaster situation

6. Prepare a database of private fire fighting agencies and their resources

7. Keep vigil regarding MAH units and other hazardous installations in the state and prepare for possible emergency situation

8. To take adequate steps for institutional reforms, modernisation and organisational restructuring of fire and emergency services.

h. **Department of Food, Civil Supplies and Consumer Affairs**

1. Prepare for safety of stored food grains in god owns against inundation and water logging, fire and other possible hazards

2. Ensure that food grains and cereals are available in stock for emergency purpose

3. Prepare for transportation of stored food grains to a pre-identified safer location

4. Enlist god owns and cold storage facilities, refrigerated transportation vehicles present in the state along with their storage capacities and facilities available

5. Enlist private retailers and wholesale dealers of food items and packaged drinking water

6. Enlist available kerosene depots, petrol pumps, CNG pumps, diesel depots, LPG agencies, etc.

7. Availability of adequate/ready to eat meals and appropriate food supplies to the disaster affected areas.

i.   Forest Department

1. Formulate a team to catch wild animals in case they enter inhabited areas

2. Pollution Control Board should ensure that all industries are following proper guidelines for hazardous waste management.

3. Ensure implementation of policies and programmes for conservation of the ecosystem, natural resources, welfare of animals and prevention of air pollution etc.

4. To ensure preservation of biodiversity by spreading awareness

5. Ensure restoration of mangroves

6. Ensure effective wetland management, preservation, and restoration

j.   Health & Medical Education Department

1. Organize frequent awareness camps for hygiene and other public health issue

2. Develop a comprehensive and workable plan for hospital preparedness and mass casualty management

3. Establish paramedic cadre through training programmes and accredit / license them

4. Recognize and accredit trauma centers

5. Establish statewide medical emergency access number and make public awareness

6. Ensure authentic medical care database enlisting public and private facilities available in the state. This includes details of human resources, logistics, medical equipments, medicines, antidotes, personal protective equipments, disinfectant, vaccines, diagnostic labs, blood banks, etc.

7. Standardize and license ambulance services for smooth operation

8. Ensure availability of adequate supply of life saving equipment and drugs, portable supplies like portable oxygen cylinders, portable x-ray machines, triage tags, etc.

9. Formulate trained medical first responder, Quick Response Team, stationary and mobile decontamination facilities, identification of poison centers, mobile hospital, and antidotes plan.

10. An updated Disaster / emergency management plan at hospitals for chemical, biological, epidemiological, toxicological, nuclear and radiological for or any public health emergencies.

11. Prepare trained psychological and psychosocial care teams

12. Ensure proper and safe management of medical waste

13. Keep at disposal list of various hazardous chemicals present in the state and their antidotes

14. Promote studies on vulnerabilities and capacity development for inclusion

15. Disaster data collection and management

16. Risk transfer arrangements including multi hazard insurance for life and property.

17. Ensure facemasks, hand gloves, ventilators, oxygen concentrators, biomedical equipments, Personal Protective Equipments, diagnostic test kits and relevant accessories etc and other relevant kits for biological hazards are available

18. To ensure proper training of human resources viz doctors, nurses, paramedics and other relevant stakeholders

19. Use of high end technologies like data analytics should be used for better understanding of problems of diseases and its effects and to take relevant mitigation measures

k.   Industries and Commerce Department

1. Create awareness for health & safety for workers and factory management

2. Conduct health & hygiene survey and inspection in various industrial sectors

3. Make a database of MAH, A, B and C types of units and hazardous installations in the state and their safety officers

4. Ensure preparation of onsite emergency management plan by all industrial units and off-site plan for MAH unites. Ensure updation of the same on regular basis.

5. Prepare a database of suppliers/ manufactures of antidotes for hazardous chemicals

6. Ensure availability of emergency human resources, vehicles, equipments and antidotes to address the emergency.

7. Enlist nearby hospitals and medical care facilities in case of any chemical emergency.

l.   Information Technology Department

1. Display verified Information Education and Communication (IEC) materials for mass dissemination and awareness among the public and all stakeholders for response and relief

2. Prepare a database of popular media channels and media persons (both print and electronic)

3. Ensure proper mechanism/ channels for addressing public so as to avoid and manage rumours with help of various media

4. Prepare a plan for providing / broadcasting warnings, dos and don'ts to media and ensure its dissemination to public before, during and after the disaster

5. Ethical guidelines for coverage of disaster is prepared and shared with media

6. Develop a media management plan for media briefings (depending on the severity of the disaster) and designate nodal officer(s) for interacting with media.

m.   Home Department

1. Ensure proper functioning of all equipment and vehicles
2. Develop a communication protocols for effective response
3. Prepare for quick deployment of SDRF, Civil Defence, Home Guards and volunteers for providing safety to affected population and evacuated structures/ houses
4. Prepare plan for management of terrorist attack, bomb blast, stampede, etc.
5. Train police personnel and staff of PCR van in first aid and basic life support
6. Prepare communication plan for uninterrupted communication to all police posts and various control room and emergency centres across the state
7. Availability of police/SDRF personnel 24*7 for any untoward emergency
8. Ensure law and order in times of emergency.

o.   Transport Department

1. Ensure proper functioning of filling station, vehicles and equipment

2. Prepare for prompt deployment of vehicles at short notice for various purposes like mass evacuation, transportation of response teams, relief items, health team to deal with emergency and victims, etc.

3. Prepare mechanical team for prompt repair of equipment and vehicles

4. Train drivers, conductors, crew members, port officials in first aid and basic life saving techniques

p.   Public Works Department

1. Ensure availability and functioning of all equipments like cranes, earthmovers, JCBs etc. Prepare a data base of availability of the same with private agencies also

2. Prepare for prompt clearance of debris post disaster

3. Prepare the demolishing squad for prompt demolition of unsafe buildings post disaster

4. Prepare for prompt clearing and repairing of damaged roads, culverts, bridges and flyovers

5. Ensure prompt construction of new temporary roads for diverting traffic from the affected area

6. Prepare for construction of temporary facilities like that of medical post, temporary shelters, etc. at short notice.

7. Prepare for prompt establishment of helipad near the affected site for responding teams

8. Prepare for restoration of government buildings damaged during disaster

q.   Science & Technology Department

1. Ensure proper mechanism to issue alert/ warning through SMS through service providers

2. Prepare for providing safety and serviceability of critical communication towers through respective service providers

3. Prepare for prompt establishment of alternate communication links like HF, VHF, HAM, Satellite Phones, etc., in case of failure of primary communication channels during disaster

4. Ensure restoration of emergency communication in disaster affected areas.

5. Emergency response teams with detailed technical plan to restore communication in disaster affected areas.

6. Contingency plan including pre disaster contacts with suppliers government and private for easy availability of resources at the time of emergency.

r. Social Welfare Department

1. Prepare and regularly update database of scheduled castes, developing castes, social and economically backward classes, minorities communities, physically and mentally challenged persons, orphans, destitute, beggars, old aged persons and ensure that they are able to avail benefits under respective welfare schemes so as to reduce their vulnerability to disasters

2. Address peoples' underlying vulnerabilities, increase their capacities to cope with the effects of natural hazards and facilitate empowerment processes.

s. J&K Youth Services & Sports Department

1. Organise training and awareness camps for youth for first aid, relief and camp management, psycho social care, search and rescue for small incidents, fire fighting

2. Creation of database of trained volunteers in case of emergencies

3. Build awareness of Youth and mobilise them to play key roles on practical community based actions for Disaster Risk Reduction and climate change adaptation.

t. Tribal Affairs Department

1. Prepare a database of tribal groups in the state, their population and habitats

2. Ensure they are well covered under all government schemes targeted to them with special focus on the five particularly Vulnerable Tribal Groups

3. Conduct a specific study on indigenous knowledge on various coping mechanisms and early warning systems and build upon the same.

u. Social Welfare Department

1. Prepare for prompt action in aftermath of any disaster so as to prevent human trafficking particularly that of women, girls and young children

2. Ensure women and children in vulnerable circumstances are well covered under

3. various government schemes targeted to them. Prepare a database of authentic NGOs working for women and child empowerment/ rights

4. Update database of pregnant women/ women with disabilities.

5. Identification of separate shelter homes for the pregnant women / children and person with disabilities with all necessary primary requirements

J&K State Disaster Management Authority (J&KJKDMA)

1. Assist the State Government in formulation of policy for relief, rehabilitation, reconstruction and recovery.

2. Monitor preparation, updation and implementation of disaster management plans

3. Promote disaster management capacity building and training awareness and preparedness among all stakeholders regarding potential disasters

4. Assist in development of methodologies for reduction of vulnerability of disasters

5. Publish various guidelines to be followed for various phases of disaster management

6. Inspect existing development plans made by various authorities and recommend measures to be incorporated for disaster management

7. Develop database of key experts, consultants, organisations, agencies, etc working in the field of disaster management.

8. Policy related to mechanisms for risks transfer including insurance

The State Relief Commissioner (COR)/Financial Commissioner Revenue

1. Prepare, review and update State level emergency plans and guidelines and ensure that the district level plans are prepared, revised and updated

2. Develop an appropriate relief implementation strategy for the State in consultation with the Authority, taking into account the unique circumstances of each district and deficiency in institutional capacity and resources of the State.

3. Strengthen relief distribution and accounting system at state and district level through identification of centralized system for receipt, storage and distribution of relief and by ensuring rate contract, procurement and stockpile of relief material

4. Ensure that Disaster Management mock exercises are carried out regularly.

5. Ensure that communication system is in order and contingency plans provide for maximum involvement of local agencies.

Deputy Commissioners/ Municipal Commissioners

1. Ensure an updated database of critical resources (equipments, life saving facilities, trained personnel, etc.) and its availability in the District/ Corporation

2. Ensure that all critical life saving equipments are maintained and ready to use

3. Ensure that District/ Disaster Management Plans are prepared and are timely updated

4. Ensure that local authorities in the District/ Corporation are involved in developing their own mitigation plans

5. Ensure that disaster management drills are carried out periodically

6. Ensure that District Emergency Operation Centre/ Control Room is fully functional and communication systems is in order

7. Ensure that open and safe places for mass evacuation are identified

8. Ensure that safe buildings are identified for purpose of relief camps

9. Ensure that site for helipad is identified at key locations

10. Coordinate the activities of reconstruction and rehabilitation in the districts

Local Authority

1. Help JKDMA, COR and Deputy Commissioners in disaster management activities

2. Ensure training of its officers and employees and maintenance of resources so as to be readily available for use in the event of a disaster

3. Ensure that all construction projects under it conform to the standards and laid down specifications

4. Each department of the Government in a district shall prepare a disaster management plan for the district. Carry out relief, rehabilitation and reconstruction activities in the affected area within its jurisdiction

5. Prepare database of vulnerable community and most vulnerable groups at risk

6. Advice and issue direction wherever necessary for community disaster prevention, mitigation and preparedness through local resources and participatory approach

7. Take appropriate actions to enhance community preparedness

8. Conduct Disaster Management drills periodically.

Indian Railways

1. Ensure proper security and safety measures at each railway station in the state

2. Ensure that Do's and Don'ts about relevant hazards are properly displayed at each railway station

3. Ensure proper mechanism for crowd control at each major railway station particularly during festival seasons

4. Ensure that disaster management plan is in place for the railways

5. Ensure proper mechanism for transportation of mass community and proper handling and distribution of relief material

Private Sector

1. The private sector should ensure their active participation in the pre-disaster activities in alignment with the plan developed by the JKDMA / Deputy Commissioner.

2. They should also adhere to the relevant building codes and other safety guidelines prescribed by relevant authorities.

3. Participate in capacity building vulnerability reduction programme and training activities.

Community Groups and Voluntary agencies

1. Local community groups and voluntary agencies including NGOs should actively assist in prevention and mitigation activities under the overall direction and supervision of the JKDMA or the Deputy Commissioner.

2. They should actively participate in all training activities as may be organised and should familiarise themselves with their role in disaster management.

Citizen

It is a duty of every citizen to assist the Commissioner, the Deputy Commissioner or such other person entrusted with or engaged in disaster management whenever his aid is demanded generally for the purpose of disaster management. All citizens should also ensure preparedness at family and individual level by being aware and proactive.

Capacity Building Measures

Various stakeholders should engage in building their respective coping capacities by conducting regular trainings to upgrade their skills, by developing techno- legal regime to better deal with different aspects of disaster management and by taking other proactive measures for the same. Some of the suggestive measures are discussed below.

Techno-legal Regime

1. Review and revise building by-laws
2. Review and revise town planning Act & Rules
3. Fire Prevention and Life safety Measures Act
4. Ensure strict implementation of Code and Rules
5. Monitoring of quality construction
6. Construction/Strengthening of SEOC/ DEOC.

Training

Training is one of the essential processes to build and enhance capacity to deal with disasters. Training the community ensures skilled and trained first responders during any emergency without panic. Secondly, training the officials and responders ensures rapid and appropriate response from various stakeholders, thus minimising the loss.

Training	Responsibility
Training to civil defence personnel in various aspect of disaster management	Home Dept. Commandant General Home Guards
Training to Home Guards personnel in various aspect of disaster management including search and rescue	Director Civil Defence JKDMA

	SIDM
Training of NCC and NSS personnel in various aspect of disaster management	Education Department Director, NCC SIDM
Training to educational and training institutions personnel in various aspect of disaster management	Education Department JKDMA SIDM
Training to civil society, CBOs and corporate entities in various aspect of disaster management	JKDMA SIDM NGOs
Training to fire and emergency service personal in various aspect of disaster management	UDD Municipal Corporation JKDMA SIDM
Training to police and traffic personal in various aspect of disaster management	JKDMA SIDM Home Dept. Police training Institute
Training to State Disaster Response Force (SDRF) Teams in various aspect of disaster management	NIDM/NDRF Home Dept. Addl. DGP (Arms) Addl. DGP (Training) JKDMA/SIDM
Training to media in various aspect of disaster management	NIDM Information Dept. Information Training Centre JKDMA/SIDM
Training to govt. officials in various aspect of disaster management	NIDM JKDMA/SIDM Departmental Training

	Institutes
Training to engineers, architects, structural engineers, builders and masons in various aspect of disaster management	Departmental Training Institutes under R & B and Irrigation Dept. NIDM JKDMA/SIDM
Incorporation of DRM curriculum in all the government training institute	All Department JKDMA, SIDM
Training to all the newly appointed government officials on the various aspects of DRM	GAD, IMPA, JKDMA, SIDM

(Table 7.1 Training of various stakeholders)

Awareness

Awareness in the masses regarding dos and don'ts, vulnerable areas and emergency numbers empower them to do the needful proactively as and when the situation arises. Awareness of community also reduces the chances of chaos and panic.

JKDMA regularly undertakes media campaigns through radio, television and newspapers. These include audio-visual campaigns through jingles, pamphlets, videos, etc. The campaigns cover probable hazards and other safety measures as per seasonality of hazards in the State like heat wave, cold wave, Diwali safety, etc.

Similarly, following measures can be taken by respective department towards generating awareness:

1. Mass awareness through advertisement, hoarding, booklets, leaflets, banners through print media etc.

2. Organize awareness camps for children and make use of folk dance and music, plays, painting competition, debate competition, etc. and to disseminate the information

3. Organize disaster management exhibition and use scientific tools like shake-table demonstration, etc to disseminate awareness about various hazards and ways to deal with them

4. Arrange for TV Spot, radio spot, audio-visual and documentary, etc. to reach out to masses at large

5. Media can play a vital role in public awareness and preparedness through educating the public about disasters; warning of hazards; gathering and transmitting information about affected areas; alerting government officials, helping relief organizations and the public towards specific needs; and even in facilitating discussions about disaster preparedness and response

Developing Technical and Computer Aided Databases

1. Update the disaster risk assessment based on new districts created and any change in risk profile of population over the years

2. Develop GIS based information system for quick decision making at the time of disaster

3. Develop comprehensive decision support system with real-time data access and management

4. 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.

Knowledge Management

1. Document disasters, their impacts, lessons learnt and make it available in easily accessible format in the public domain.

2. Undertake research studies and apply the outcomes in disaster management practices

3. Document field data, experience and indigenous technological knowledge from local community

4. Share data/ information/ reports/ proceeding of consultation meeting/seminars etc.

5. Use information and communication technology at disaster management centres, state, district, taluka, village EOCs

6. Each department should have in place departmental disaster management plan and hazard wise SOPs

7. Each department should also conduct mock drill at regular interval and update the plan based on gaps identified in the mock drill

Capacity Development Themes:

   The capacity development is applicable to all aspects of disaster management. The State government and its institutions will take actions for capacity development of different stakeholders. The capacity development themes for DRR and related responsibilities are summarized in the below given table.

Table: Capacity Development for DRR Themes - State

S. No.	Thematic Area	Sub Thematic Area
1.	Deploying advanced technology and equipment	• Adopting the best global technologies • Identifying technology needs based on hazard risk and vulnerability and experiences • Procurements of best and most appropriate equipment
2.	Disaster Information System	• Maintaining the resource network • Monitoring and maintaining the resource data • Regular updating the resource data • Developing fail-safe communications with advance technology • National and state level disaster information system • Improve data flows across Central Ministries/ Dept./ States and other authorised users • Integration of HRVCA data with disaster information systems • Ensuring reliable and credible database on disaster losses (direct and indirect) and post-disaster reconstruction
3.	Disaster Risk Governance	• Mainstream and integrate DRR and strengthen institutional mechanisms for DRR • Promote participatory approaches, partnerships and networks • Promote quality standards, certifications, and incentives
4.	Disaster Risk Management	• Promote, encourage and facilitate appropriate risk transfer instruments by collaborating with insurance companies and

		Financial institutions.
		• Design and implement social safety-net mechanisms, including community-based systems
		• Disaster resilience of health care systems by integrating disaster risk management into primary, secondary and tertiary health care
		• Business resilience, and protection of livelihoods and productive assets throughout the supply chains, ensure continuity of services and integrate disaster risk management into business models and practices.
5.	DM and DRR capacities at local levels	• Trainings in DRR at different levels of local governance
		• Improve awareness and preparedness of stakeholders at all levels
		• Preparing DM plans, regular updating, and mock drills
6.	DRR– in education, research and professional disciplines	• Incorporate subjects of relevance to DRR in curriculum
		• Introduced specialized programs, degrees, courses and diplomas
		• Promote relevant research projects, programs within institutes and through research grants
		• Technical and professional programs relevant to various specialized aspects of DRR
		• Develop ToTs
		• Research in diverse areas of DRR
7.	Early Warning	• Deploy the state of art methods and technologies
		• Up-grade technical infrastructure and systems
		• Improve EW dissemination and ensure the last mile

		connectivity to the most remote parts • Improve the alerts system to make it more relevant to different regions and sections
8.	Emergency Operation Centres - Strengthening	• Enhance emergency response capabilities • Strengthen EOCs, improve infrastructure, upgrade equipment, adopt best available technologies • Improve capabilities based on experience after each disaster event • Deploy best of ICT • Conduct capacity audits of EOCs • Set up State and District level EOCs with adequately trained manpower • Regular reviews and improvement of SOPs, protocols, etc. • Mobile control rooms
9.	Global Anthropogenic Climate Change Risks	• Recognise and address climate change risks in DRR • Strengthen adaptations to GACC
10.	Mainstreaming DRR	• Incorporating DRR into development plans and programs • Incorporating PM's Ten Point Agenda for DRR into development plans • Making DRR as an inherent part of all ministry, department, state development plans • Extending convergence to the domain of DRR
11.	Non-Structural Measures for	• Incorporating DRR into development plans and programs • Incorporating PM's Ten Point Agenda for DRR into

	DRR	development plans
		• Making DRR as an inherent part of all ministry, department, state development plans
		• Extending convergence to the domain of DRR
12.	Post-2015 Global Frameworks – coherence and mutual reinforcement across DRR themes	• Understanding post 2015 global frameworks and their implementation for DRR
		• Understanding Sendai Framework and its integration into the implementation of DMP at different levels
		• Understanding DRR aspects of SDG and its implementation for DRR
		• Understanding COP21 (Paris Agreement on Climate Change) and the integration of climate-related concerns into various DMPs
13.	Preparedness and Response	• Institutional reforms, modernization, and changes in legal framework
		• Strengthening of Fire and Emergency Services
		• Strengthening of the Fire and Emergency Service through revamping, institutional reforms, and modernization
		• Comprehensive revamping of Fire and Emergency Services with institutional reforms and modernization
		• Adoption and adaptation of emerging global good practices
		• Rigorous training and HRD of first responders
		• Table-top exercises, simulations, and mock drills to improve operational readiness of the plans
		• Rescue equipment at all levels
		• Systems to provide basic services in emergencies

		• Preparedness and response plans at all levels • Community-based DRR and DM
14.	Recovery and Build Back Better	• Post-Disaster Needs Assessment (PDNA) systems and expertise • Credible damage assessment mechanisms and expertise • Planning capabilities to ensuring coherence of BBB with overall development efforts and goals • Studies and research for incorporating resilience into BBB models • Studies on past disasters and recovery to draw useful lessons
15.	Skill Development for Disaster Resilience	• Training and skill development for masons and other artisans • Promoting community-based DM considering specific needs, regional diversities and multi-hazard vulnerabilities • Training on CBDR and preparedness at local levels • Address gender issues, and special needs of children, disabled, aged, etc. holistically in the DM context • Promote private sector and civil society involvement • Promote PPPs
16.	Social Inclusion in DRR	• Gender-based vulnerabilities • Scheduled Castes and Scheduled Tribes • Elderly • Children • Persons with Disabilities
17.	Understanding Risk	• Observation Networks, • Information Systems, • Research

		• Forecasting
		• Zoning/ Mapping
		• Monitoring
		• Hazard Risk Vulnerability and Capacity Assessment (HVCA)

The National Institute Disaster Management (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. The NIDM will play an important role in developing and facilitating the implementation of a National training schedule for Disaster Management. NDRF can also support capacity development and training needs of SDRF, Civil Defense, community and volunteers in preparedness and response. At the state level the major responsibility of the training in disaster management lies with the JKDMA and SIDM. Also, the training would be conducted in all other state level training institutions.

CHAPTER 7: DISASTER RESPONSE & RELIEF

Level of Disasters

L concept has been developed to define different levels of disasters in order to facilitate the responses and assistances to states and districts.

Level	Description	Activities
L0	Normal time	Prevention, preparation and capacity building activities like trainings, preparation and updation of plans, mock drills, procurements of equipments, etc
L1	Can be managed at district level	State and Centre remain ready to assist if need arises
L2	Beyond the capacity of district	Require active participation and mobilisation of resources from State Government
L3	Resources of District and State Government have been overwhelmed	Require Central Government for reinstating the State and District machinery as well as for rescue, relief, and other response and recovery measures

Emergency Operations Centres

EOC is an offsite facility which functions from the State / District/ Tehsil headquarters. It includes the space, facilities and protection necessary for communication, collaboration, coordination and emergency information management. It is a combination of various line departments of Government and other agencies whose services are generally required during incident response.

There is a comprehensive network for effective disaster management which includes emergency communication, operation and response management. It includes the State Emergency Operation Centre (SEOC) at Hari-niwas, an upcoming SEOC at Ompora Budgam Gupkar Gandhinagar with 20 District Emergency Operation Centers (DEOCs).

The existing State Emergency Control Centre (SEOC) is a parallel SEOC and a State-of-the-art infrastructure comprising of main control room, conference room, exhibition area, media briefing room, offices/meeting rooms for senior officers, rest rooms, etc is being constructed at Ompora. The whole facility will be equipped with all the latest amenities /facilities.

Security of SEOC

State Emergency Operation Centre (SEOC) being the nerve centre during occurrence of any disaster needs to be secured properly. Presence of important data, information, technical support and human resource makes security of SEOC of utmost importance. Along with this, frequent visits of Hon'ble Ministers and Senior Officials in SEOC makes it necessary to secure the centre.

In order to avoid any untoward incident at this point of juncture vigilance by Poice is must. Hence, when the SEOC is activated due to any imminent disaster services of police should be activated for the safety and security of SEOC. Hence, Police shall take over security operations of SEOC apart from services rendered by local security agencies for SEOC.

Communication:

Our present SEOC comprises of State of art Conference Room with video conferencing facilities, along with facilities of internet and connection to all desktops so that easy communication can prevail. SEOC is a secure centralized location, with adequate communications for planning, decision support and coordination during a disaster or emergency. To ease the process of communication a permanent helpline number 1070 is installed. For communication with other stakeholder's number like 104 as health helpline number, 100 for police are also provided.

On the spot information dissemination on the current natural disaster is also part of SEOC. Briefing to press and media on the imminent disaster is also carried out. Warning dissemination is an integral part of disaster management practices and SEOC is the key organisation of Early warning dissemination. The Common Alerting Protocol(CAP) is used for warning dissemination to common massed along with that DSS portal is also used for early warning dissemination and alert generation to all the IRS functions to ease out the process of Decision support system and disaster management.

Activation of EOC

The EOC is a nodal point for the overall coordination and control of response and relief work. In case of an L1 Disaster the DEOC will be activated, in case of an L2 disaster SEOC will be activated along with the DEOC. Working of EOC can further be understood by following states:

i. **Normalcy (Steady State)-** When full activation of the EOC is not warranted

ii. **Emergency / Disaster Alerts**- When the EOC is brought into full or partial activation to preemptively reduce the impact of impending incidents and respond to the impact of the incident when it transpires

iii. **Emergency/ Disaster-** When an incident occurs with or without prior warning requiring full activation of the EOC in response to the incident

Command & Control of EOCs

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

The EOC in normal circumstances works under the supervision of Commissioner secretary to Department of DMRR&R at the State level and under the District Deputy Commissioner at the district level. 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.

Functions of EOC

1. Receive, monitor, and assess disaster information
2. Monitor, assess, and track response units and resource requests
3. Manage resource deployment for optimal usage
4. Make policy decisions and proclaim local emergencies as needed
5. Provide direction and management for EOC operations through set priorities and establish strategies
6. Coordinate operations of all responding units, including law enforcement, fire, medical, transport, shelter, food, water etc
7. Augment comprehensive emergency communication from EOC to any field operation when needed or appropriate
8. Maintain EOC security and access control
9. Keep Senior, subordinate and relevant officials informed

10. Keep local jurisdictions (Village/town/City, district and State) informed

11. Operate a message centre to log and post all key disaster information and keep media informed about the current situation of the disaster.

12. Develop and disseminate public information warnings and instructions through media and CAP.

Emergency Response Centres (ERCs)

In order to have speedy response in search, Rescue and relief, JKDMA shall establish ERCs at strategic locations of the UT .The ERCs shall be equipped with trained manpower, State-of-art vehicle and equipment's to provide support to the District EOCs to fight the local emergency, if any. ERC performs response related activities and increase the preparedness through capacity building.

Activation

ERC shall get activated in case of:

- An event is or has the potential to becoming an L2 disaster or

- Specialist rescue operation is required or

- There are insufficient local emergency rescue resources

Command & Control

The ERCs work under the direct control of Commissioner secretary of department of DMRR&R during response time and under representative, Municipal Corporation/ District Administration during peace time. The ERC is the instrument to provide multi-hazard emergency response to L2 events.

District Deputy Commissioners/ Municipal Commissioners request the assistance from the ERC team as soon as it is established that district resources are insufficient to deal with the emergency situation at hand.

They issue instructions regarding exact quantum of resources (in terms of manpower, equipments and essential items from key departments/ stakeholders) that is required, type of assistance to be provided the time limit within which assistance is needed, details of other task/response forces through which coordination should take place.

Trigger Mechanism

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. Response is triggered on receiving any early warning or at occurrence of disaster as the case may be. On receipt of alert/ early warning or information about onset of disaster, District Deputy Commissioner or Commissioner secretary to department of DMRR&R assumes the role of the Incident Commander (IC) for L1 or L2 level disaster respectively, as the case may be.

Immediate access to the disaster site through various means of communications such as mobiles, VSAT, wireless communication and hotline contact is also made. Depending on level of disaster, the required and relevant Incident Response Teams (IRTs) shall be activated. The UT Government may publish a notification in the official gazette, declaring such area to be disaster-affected area.

The EOCs and ERCs shall be put on full alert and shall continue to operate as long as the need for emergency relief and operations continues and the longer term plans for rehabilitation are finalised.

Early warnings will be published/ issued by the respective agencies during different disaster which is as follows:

Disaster	Agencies
Earthquakes	ISR, IMD
Floods	IMD, Irrigation Dept.
Drought	Agriculture Dept.
Epidemics	Health & Family Welfare Dept.
Industrial & Chemical Accidents	DISH, Labour & Employment Dept.,
Fire	Fire & Emergency Services

Table 7.2: Agencies Competent for Issuing Disaster Specific Early Warning
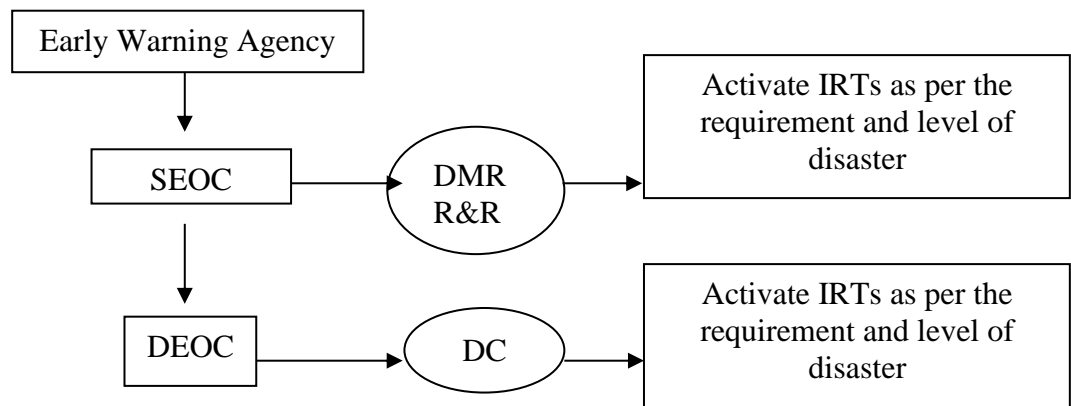
In case of Early Warning

Figure 7.1: Trigger Mechanism in Case of Early Warning
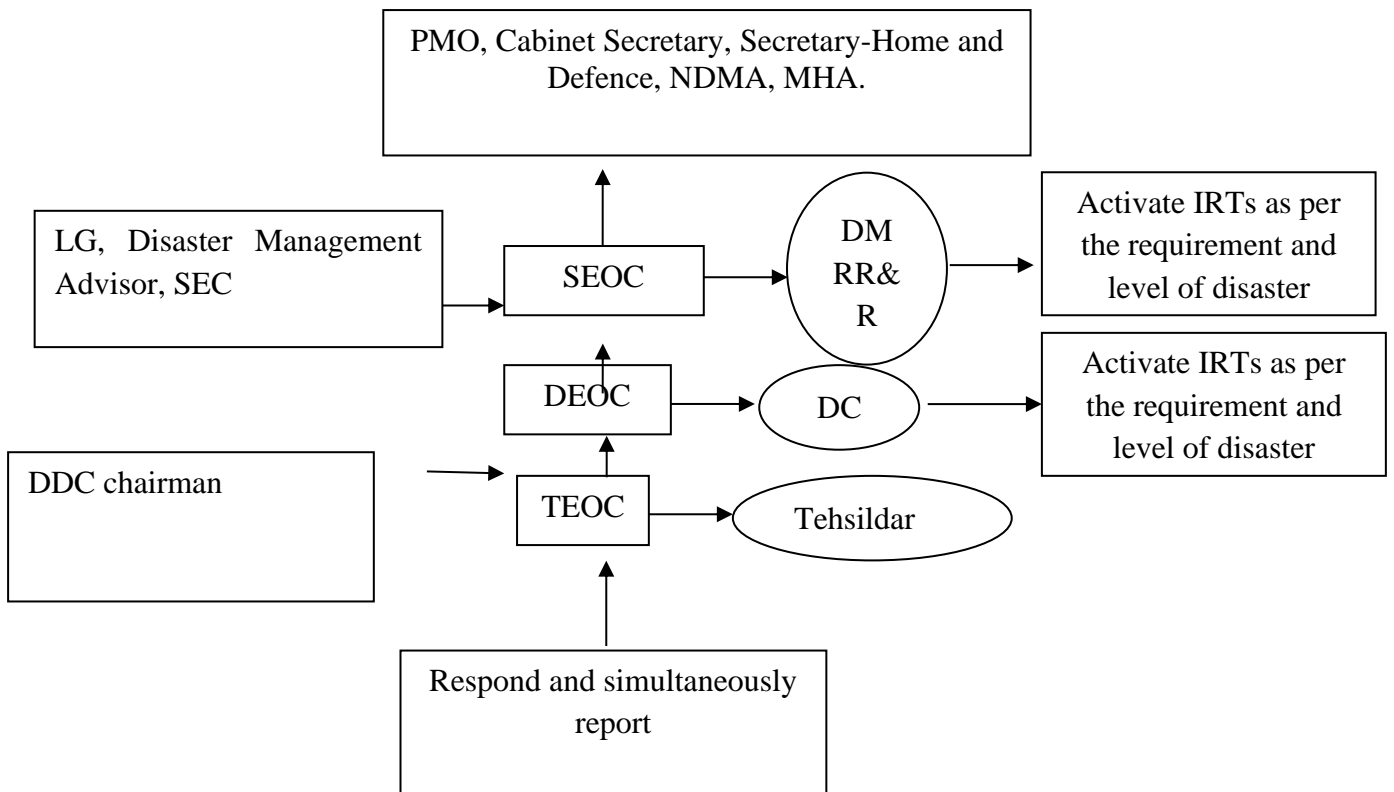
Without Early Warning

Figure 7.2: Trigger Mechanism without Early Warning

Incident Response System

       Incident Response System (IRS) is one of the crucial tools for coordinated response. The system envisages that the roles and duties are laid down in advance, the personnel earmarked and trained in their respective roles and duties. It fixes accountability of the earmarked personnel and also avoids duplication of efforts by clearly demarcating the area specific task force teams.

       It provides a participatory, well structured, fail safe, multi disciplinary, multi-departmental and systematic approach to guide administrative mechanisms at all levels of the government. It also provides scope for private sector, NGOs, CBOs, PRIs and communities to work seamlessly in the response activities.

       Flowchart of IRS is depicted in Figure 8.3. The detailed roles and responsibilities of each section, branch and group are mentioned in Annexure 4.
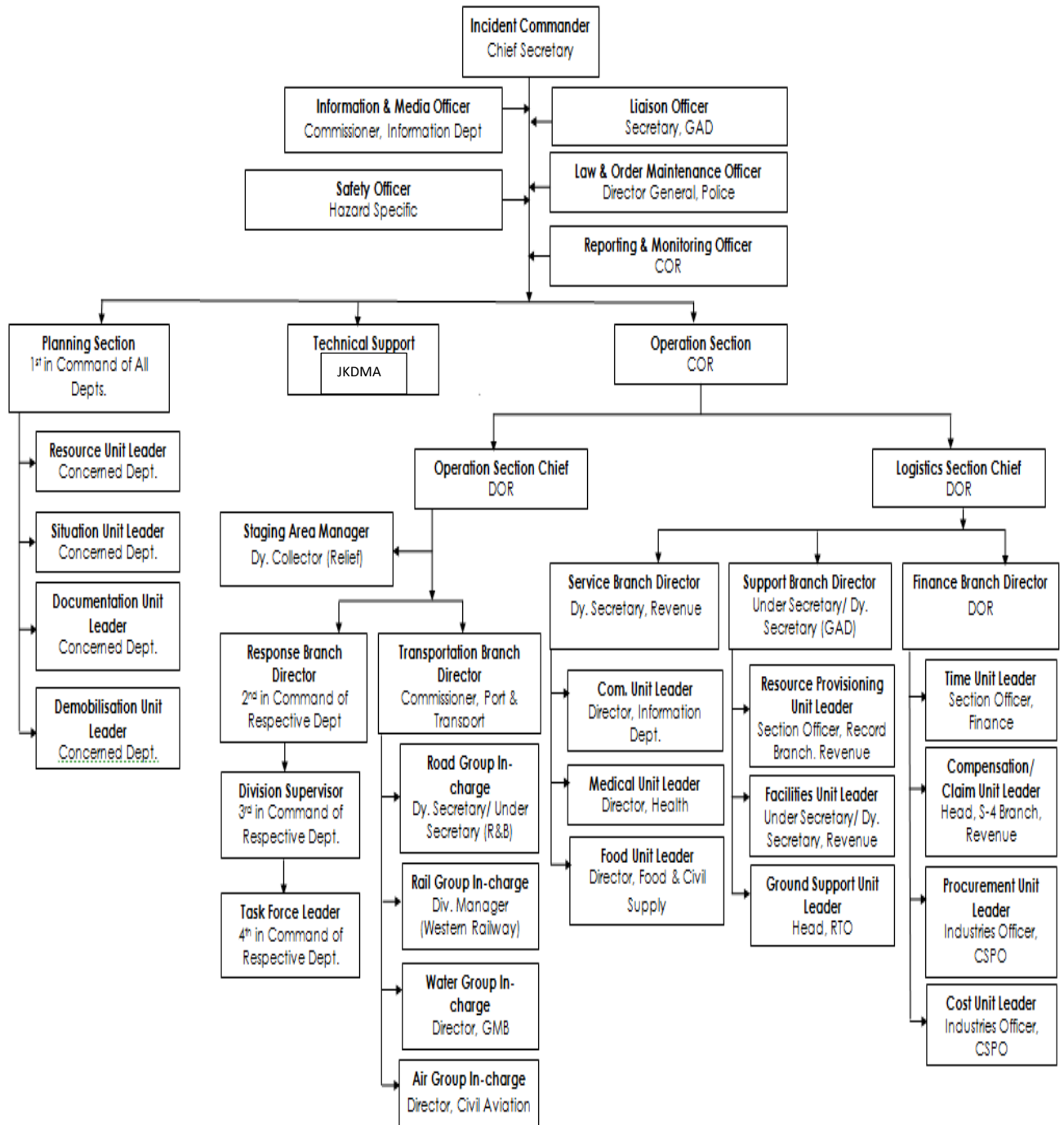
Figure 8.3: Incident Response System

Emergency Support Functions

       Emergency Support Functions (ESF) are critical services which are performed in post disaster scenario to minimise life loss and address various issues in a post disaster situation. The key ESFs are listed in Table 8.3.

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
Early Warning, Communication & Dissemination	To activate warning systems and alert responding agencies, departments/ offices and public at large for necessary actions in safeguarding life, property and assets. To provide safe communication and last mile connectivity	• Failsafe communication plan is prepared with all early warning agencies • Logistic section of the state level IRT coordinates with all the agencies to provide effective communication support to the field level IRTs for response. • Ensure all communication equipment, especially the satellite phones are in good working condition 24x7 on all days through regular testing • Plans for communication including telephone and Vsat, ISAT is prepared for smooth coordination with the field level IRTs • To disseminate early warning signals to the district administration, local authorities, and the public at large in the areas likely to be affected by a disaster so as to	• Central Water Commission- Flood • Indian Meteorological Department – Flood, Heat wave& Cold wave • Health & Family Welfare Department • Department of information Technology	• Deputy Commissioner • District Emergency Operations centre • Aapda Mitra and other Youth and Volunteer Organisations • Telecom Service Providers

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
		reduce loss of life and property using incident logger app of DSS and CAP. - Dissemination of warnings and information up to the last mile through CAP. - Establish protocols and responsibilities for coordination with central agencies and various providers - Prepare, update and maintain a District wise list of wireless Operators who could be contacted and deployed at the site of emergency. - Have binding agreements with telecom service providers to restore damaged facilities and setup temporary facilities on emergency basis - Ensure Inter-Operability among different telecom service providers		
Evacuation	To ensure urgent, organised and safe escape of people from an	• Quick assessment of evacuation needs information such as the number of people and animals to be evacuated and mode of evacuation	• Revenue Department • DMRR&R	• District Administration • Police

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
	area of imminent or ongoing threat or risk to life and property	• Special attention to evacuation of persons with disability, Senior Citizen ,Old age persons, Women, Pregnant Women, Children • Mobilize transport and resources for evacuation • Identify Shelter Homes, Schools, Hostels, Colleges, Dharmashalas, Multipurpose halls and any other place as sites for temporary relocation for affected people and animals • Identify requirements of resources for evacuation such as helicopters, aircrafts, high speed boats and ships, Trains and Buses to be provided • Request for central resources, if needed • Coordination with central agencies to mobilise required resources • Earmark resources/ units / battalions of NDRF /SDRF for quick deployment • Prepare handbook/manuals and SOP for evacuation for	• Home Department • Transport Department	• Transport Dept . • Aapda Mitra and NCC, NSS and other Youth and Volunteer Organisati ons

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
		people and animals		
Data Collection & Management	To ensure sound reporting mechanism to meet the information needs of both Central and State governments about the disaster	• JKDMA works with the planning section at state level for making of Incident Action Plan (IAP) and dissemination of information. • Creation of a cell at the District level and place dedicated resources to collect/ update data on all essential services (as per the template given in the IRS guidelines) which will help during the response phase for effective reporting and compilation.	• JKDMA • DMRR&R • Revenue Dept	DM & Deputy Commissioner
Fire fighting	To provide prompt and organized services for controlling and managing of fire incidents to save life, property and environment	• Quick assessment of the situation and deploy the team along with necessary equipments • Assess and make additional requirement of resources from nearby districts, states	• Fire & Emergency Services • ERC s • ULBs	DM & Deputy Commissioner • Police • Fire Stations
Oil and Hazardous Material	To provide expert and technical support in case	Ensure strict compliance with guidelines • Activation of the On-site & Off- site evacuation	• Director Health services.	• DM & Deputy Commissi oner • Emergenc

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
Response	of release of any hazardous material	of the persons to avoid any casualty • To keep in readiness the Antidote for the relevant chemical / hazardous gases.		y Response Centres • Fire & Emergency Services • Health/U HC • Police
Drinking Water and Sanitation	Supply of clean drinking water and to prevent the spread of water borne diseases in the disaster affected areas.	• Provide disaster-affected areas with clean drinking water and to prevent the spread of water • Provide emergency water supplies when there is scarcity of potable water • Respond to the public health needs to prevent and mitigate outbreak of epidemic, water and food contamination as well as other public health-related problems in the aftermath of a disaster	• Jal Shakti Department	• Revenue Dept • Panchayat, Rural Housing and Rural Developm ent Departme nt • Health & Family Welfare Dept
Search & Rescue	To provide life saving assistance in	• Various positions of IRTs (State, District and Taluka) are trained and activated for	• SDRF/ NDRF • Police	• Health • Aapda

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
	aftermath of disaster	response • Ensure SDRF teams are trained, equipped and ready to move at a short notice to the affected areas • Strategic stationing of state-of the-art equipment for search, rescue and response with dedicated trained manpower • Activation of the MoU for emergency supply like blankets, tarpaulins, tents, boats, etc. • Nodal officer selected for coordination is in regular touch with MHA /NDMA for additional requirements (including help from other Central Ministries) • Deploy Quick Response Teams (QRT) and Quick Medical Response Teams (QMRT)	• Fire & Emergency Services	Mitra and other Youth and Volunteer Organisati ons • Fire & Emergenc y Services • Home Guards
Medical Care	To provide emergency medical and mental health assistance during a disaster event or health	• Health and Family Welfare Dept. works with the logistic section of the state level IRT to provide effective services (Medical Unit) to the field level IRTs for response.	• Health& Family Welfare Dept	• Civil Hospital • UHC/PHC /CHC • Red Cross Society • 108

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
	and medical emergency	• District wise repository of hospitals (both Government and Private), availability of beds, Doctors, paramedics and other trained staff available along with other infrastructure details and update it on a regular basis • Include the hospital wise information in the DM Plans at local levels • Tie-up with the companies for easy availability of common medicines during the emergency situations • Hygienic conditions are prevalent at all times in various facilities established as well as hospitals to curb the spread of diseases • Establishment of sound protocols for coordination between state's health Dept. and the central agencies • Ensure strict compliance with minimum standards of relief as decided by the state		• AapdaMitra and other Youth and Volunteer Organisations
Dignified Management of the	To ensure proper identification	• Adopt SOP in SDMP and DDMP as per GoI guidelines and implement it properly	• Police	• Revenue • Health • Local

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
Dead	and record-keeping of the dead To facilitate in appropriate cremation or burial Timely claim of compensation and belongings of the dead to minimise the physical, pyscho-social, ethical, religious and cultural issues faced by aggrieved families	• Establishing Dead Body Management Group in the IRS at state and district levels • Deploy trained squads for detection and recovery of the survivors and the dead as early as possible • The recovery team will use basic personal protective kit and follow adequate precautions • Follow the protocols for the identification of the dead, recording evidence, transport and burial (i.e., disposal as per norms) • If required, establish temporary mortuaries with adequate facilities where it is possible • In special cases, appropriate arrangements and relevant protocol must be followed for victims in certain types of disaster keeping in view the safety of survivors and emergency workers • Inform the affected community by giving wide		Authorities • F&ES • SDRF

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
		publicity to the procedure for the management of the dead • Take urgent steps for release of ex-gratia payment • Ensure to the extent possible ethical management of the dead, along with respect for religious and cultural sensitivities • Deal with the psychological impacts and psycho-social support • Ensure due documentation such as inventory record of the dead, dead body identification and all other relevant information		
Relief Logistics and Supply Chain Management	To provide water, food, clothing, medicines and other basic supplies to the people at affected areas and relief centres	• Establish a mobilisation centre at the airport/railway station for the movement of relief supplies within the state. • Deploy special transportation for the movement of relief supplies within the state • Make arrangements to receive and distribute relief and emergency	• Revenue Dept. • Food, Civil Supplies & Consumer Affairs Department	• Revenue • Police • Panchayat, Rural Housing and Rural Development Department

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
		supplies received from different parts of the state and country • Coordinate transportation (air, rail, road, water) with state and Central ministries/ departments/ agencies • Arrange alternative means of transportation to reach relief supplies to the affected locations		• All line Dept.
Transport ation	To provide transportation services and support for efficient and timely response and recovery to a disaster	• Transport Department works with the logistic section of the state level • IRT to provide effective services(Ground Support Unit) to the field level IRTs for response • Requirement of transport for the transportation of relief material, responders are arranged • Need of the transport of various activated section of the IRT as per Incident Action Plan is fulfilled • Indian Railway works with the logistic section of the state	Transport Department	• Local Transport Agencies/ RTs • Railways • Civil Aviation • Municipal Corporatio ns/ ULBs

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
		level IRT to provide effective services(Ground Support Unit) • Coordinate with central govt. for transportation of relief materials • Within and near Airports: AAI works with the logistic section of the state level IRT to provide effective services (Ground Support Unit) and also provide Nodal Officer for coordination of the relief operations • Restoration of Airport at the earliest involving specialised response force of the central government • Coordination with state and district administration to provide air support • Cater to the needs of transport to affected people, if required.		
Temporary Shelter/ Camp Management	To address all basic needs of the affected population and ensure safe, accessible, and secure shelter e	• Ensure strict compliance with minimum standards of relief of state government • Logistic section of the state level IRT must coordinate with Railways to provide effective services to the field	Revenue Department	• DM & Deputy Commissioner • Panchayat, Rural Housing

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
	nvironment for evacuees.	level IRTs for response • Alternate places for establishment of facilities as mentioned in the IRS guidelines such as relief camp, base, camp etc. are identified in advance and included in the local DM Plan • Stockpile tents, tarpaulins and temporary shelter material in regional warehouses/ stores/ EOCs/ ERCs • Depending upon the requirement, coordinate with the relevant Central Ministry to make sure that the tents/ shelters reach the site on time. • Deploy a dedicated team at the local level to receive the tents/ shelters • Maintain logs (manual or computerized) of all material movements and details of distribution to required locations		and Rural Development Department • Food & Civil Supplies • Health • Police • Water Supply
Energy	To ensure rapid restoration of power to affected areas	• Electricity Board and Power Distribution Companies work with the logistic section of the state level IRT to provide	PDD, JKPDC	• PDD

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
	particularly to critical facilities on the priority	effective services to the field level IRTs for response • Pre-disaster arrangements for quick restoration of power supply with alternate mechanisms to critical facilities usually within 6 to 12 hours of placement of order • Mobile power supply units or other arrangements with power generation companies for quick deployment at the site during emergency		
Public Safety & Security	To ensure safety and security of affected population first responders and their property	• Maintain law and order during emergency situations; • Ensure safety of Women & Children • Protect property in evacuated areas; • Controlled access to damaged areas; • Establish and coordinate traffic control points as needed; • To carry out the crowd control as needed; • Participate in the local warning system; • Assist in the evacuation of	Home Department	• DM & Deputy Commissioner • Police • Home Guards • Panchayat, Rural Housing and Rural Development Department

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
		prisoners from the jail by providing perimeter security		
Media Management	To ensure precise and accurate incident briefing to public and ensure proper rumour and panic management	• Information and Broadcasting Department works with staff as Information and media officer of the state level IRT to provide effective services • Ethical guidelines for coverage of disaster is prepared and shared with all media agencies • Plan is prepared for providing/broadcasting warnings, do's and don'ts etc. to media and ensure its dissemination	Information Department	• DM &Deputy Commissioner • Police • District Information Officer
Disposal of Animal Carcasses	Ensure safe disposal of animal carcasses	• Activate the Animal Carcass Management Group in the IRS • Equip and train the staff in carcass removal/ disposal at pre-identified sites to ensure that no other health hazard is created both for the staff as well as the public • Use of recommended safety kits and personal protection by the staff deployed in carcass disposal so that they are not infected	U D Department Panchayat & RDD	Local Municipality ULBs / Local Sanitary Inspector Gram Panchayat

ESF	Aim	Responsibilities	Primary Dept./ Agency	Secondary Dept./ Agency
		• Take measures for dispersal of financial relief as per norms		

Table 7.3 Emergency Support Functions

Disaster Reporting and Assessments

There are three kinds of assessment reports made at different timeframe. Each assessment report has different format for collection of data and reporting of information. These reports are designed to assess:

a) Life threatening situation

b) Need for emergency food, water, shelter and medical assistance

c) Need for restoration of critical facilities and services

The format for Damage and Need Assessment is mentioned in Annexure 10 of volume 3

Rapid Report

It is aimed at obtaining a broad picture of extent of damage. It should ideally be undertaken within 4-8 hours of all clear. It helps in identifying the immediate actions necessary to be made.

Preliminary Report

Preliminary report is made within first 7 days of all clear. Within these 7 days, interim SITREP should be prepared and submitted at the end of 48 hours followed by SITREPS at the end of each 24 hours period. The objective of this report is to obtain more detailed and specific data regarding damage and needs. The 48 hours report should include wherever possible preliminary cost estimates of damage.

Detailed Report

Detailed report is made within 21 days of all clear. This assessment is conducted sector-wise and is aimed at finding the detailed damage and post disaster needs of each sector so as to plan recovery and rehabilitation of the sector. The direct costs associated with recovery and rehabilitation of each sector should be mentioned in details wherever possible.

Deactivation of the Process

After the process of damage and need assessment is over, the designated authority shall issue the appropriate directives to deactivate the damage and need assessment process.

Minimum Standard of Relief

National Disaster Management Act, 2005 mandates the State government to lay down detailed guidelines for providing standards of relief to persons affected by disaster in the State.

State government has laid down detailed guidelines for providing relief at the time of disaster. The copy of the same is given as ==Annexure 5==

Finalizing relief pay-outs and packages

Relief packages would include details relating to collection, allocation and disbursal 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.

GOVERNMENT OF JK should also ensure that all Government Departments, responding agencies and forces are striving to achieve the Minimum Standards for Disaster Relief by GoI/ GoJK. These standards deals with various domain like water supply, sanitation, hygiene promotion, food security and nutrition, shelter and medical cover.

Relief Kits

Indicative details of immediate relief kit, household kits and family ration kits are mentioned in ==Annexure 6.==

Post-relief Assessment

JKDMA, with assistance from Government Departments, District Administration and local authorities shall document learning from the relief experience and incorporate the same for relief or rehabilitation and reconstruction plans.

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

CHAPTER 8: REHABILITATION AND RECONSTRUCTION FOR RESILIENT RECOVERY

Introduction:

Rehabilitation and Reconstruction plays an important role in the disaster recovery phase. The reconstruction and rehabilitation activities, which follow the disaster response stage, aim at achieving long term recovery. On the expiry of a disaster declaration, the JKDMA shall, where necessary, act as an agency for facilitating and coordinating rehabilitation and reconstruction activities by departments of the Government.

Globally, the approach towards post-disaster reconstruction and rehabilitation has shifted to building back stronger, faster and inclusive to achieve resilience. While disasters result in considerable disruption of normal life, enormous suffering, loss of lives and property, global efforts consider the recovery, rehabilitation and reconstruction phase as an opportunity to **"Build Back Better"** (BBB) integrating disaster risk reduction into development measures and making communities resilient to disasters

The proposed reconstruction and rehabilitation actions/measures in this plan are keeping in view the worst -case scenarios in which the capacity of the State and District administration would be overwhelmed and require assistance from the Central Government for re-establishing normalcy in the disaster affected areas. This chapter provides a general framework for the role of Government and its development partners in restoring after a disaster, various essential and basic services. Much of this support will involve the coordinated working of multiple agencies – government and non-government. All the agencies are required to closely monitor response activities and to obtain valuable data regarding the severity and intensity of the event, the affected geographical area and the potential unmet critical needs of the affected population while evolving a comprehensive recovery plan. The key activities in the phase are discussed as below.

Recovery Process

Effective post -disaster recovery usually has the following three broad aspects:

- Physical aspects of recovery, i.e. restoration and reconstruction of damaged community infrastructure, critical infrastructure, private houses and cultural heritage buildings

- Economic aspects of recovery, i.e. livelihoods, productive activities and market services

- Social recovery, i.e. social and psychological aspects of personal, family and community functioning and wellbeing.

Recovery is most successful when the wide-ranging needs of communities, organizations, different vulnerable groups and individuals are addressed in the coordinated manner that recovery frameworks enable. Disaster recovery process is rarely a set of orderly actions. It will consist of several related activities such as the following:

Relief Memorandum [for seeking assistance from National Disaster Response Fund(NDRF)]

While a preliminary rapid damage assessment is carried out during disaster phase, a damage and loss assessment is conducted following the provisions and norms in the manual of National Disaster Response Fund/ State Disaster Response Fund. The CoR / Revenue Department of each is mandated to collect information on damage and losses after any disaster and to provide the required disaster response thereafter.

The relevant government departments and local authorities shall initiate a detailed assessment at their respective level for the damages occurred in their respective jurisdiction in the affected regions.

For assessing the damage and need of the affected community, the damage and need assessment team should take into account the composite representation of all the different communities and vulnerable groups in the affected area. An ideal team would include expert in the related field, government official and representatives from majority and minority communities, Women, Scheduled Caste, Schedule Tribes, Panchayat member or nagarpalika member, etc.

The format for development of Relief Memorandum is as per Annexure 9.

Post Disaster Needs Assessment

The primary objective of any Post Disaster Needs Assessment (PDNA) is to assess the full extent of a disaster's impact, define the needs for recovery and design a recovery strategy. A PDNA looks ahead to restoring damaged infrastructure, houses, livelihoods,

services, governance and social systems, and includes an emphasis on reducing future disaster risks and building resilience.

National Disaster Management Authority (NDMA) with the assistance of National Institute of Disaster Management (NIDM) has developed PDNA Tools for India with the objective to establish a standardized mechanism based on scientific approach for conducting post disaster needs assessment for recovery and reconstruction.

The PDNA is an assessment covering 23 thematic areas as follows

- **Social Sectors:**
1. Housing
2. Health & Population
3. Nutrition
4. Education
5. Cultural Heritage

- **Productive Sectors:**
1. Agriculture
2. Irrigation
3. Commerce & Industry
4. Tourism
5. Financial Sector

- **Infrastructure Sectors:**
1. Electricity
2. Communications
3. Community Infrastructure
4. Transport
5. Water, Sanitation & Hygiene

- **Cross-cutting Sectors:**
1. Governance
2. Disaster Risk Reduction
3. Environment & Forestry
4. Employment & Livelihoods
5. Social Protection
6. Gender Equity & Social Inclusion

7.   Poverty and Human Development

8.   Macroeconomic Impact Assessment

Operational Activities and Protocols for PDNA

Planning for PDNA

1.   The JKDMA / DMRR & R department, based on the initial assessment and in consultation with NDMA will recommend for PDNA exercise after a week of the disaster event.

2.   As per the approval by the competent authority on requirement of PDNA, the State shall inform the national nodal ministries and invite the other government departments and technical agencies such as CWC, IMD, ISRO etc. to participate in the PDNA activities. The JKDMA/ DMRR & R department shall lead the PDNA in cooperation and coordination.

3.   The PDNA should be a well-coordinated inter-agency mechanism. Agreement on the management structure of the PDNA is important: The management structure shall comprise of the following:

   i.   ***PDNA management team***: The assessment team is normally led by the CEO, Secretary (DMRR & R). The management team shall meet regularly to oversee the process of assessment, provide strategic guidance, take decisions and shall ensure that the necessary resources are available for undertaking the assessment.

   ii.   ***Coordination team***: The members can be from national ministries or state departments. The team shall be responsible for managing day-to-day planning, coordinating with the sector team members as well as state government and donors in conducting the assessment, analyzing the data, preparing the reports, and the development of the recovery and reconstruction framework under the guidance on the PDNA management team. The Coordination team shall have the principal responsibility in organizing the conduct of the assessment and in ensuring that all logistic arrangements are in place.

   iii. ***Sector teams***: the sector teams shall be composed of designated technical representatives from line departments at national, state and district offices, as well as with representatives from development partner agencies. The sector team will be responsible for collecting sector specific baseline data, damage and loss data, undertaking field visits to validate the data collected, analyzing the data

and writing the sectoral assessment report on damage and loss and propose sector priorities for recovery and reconstruction.

iv. ***Report Preparation Secretariat***: the coordination team, with technical support from development partners (if required), shall be responsible for coordinating with the sectoral team members for the sector report based on data analysis for their sector. The coordination team will then compile and summarize the individual sectoral report into consolidated report.

4. The Secretary (DMRR & R) as the leader of the PDNA management team will brief the Chairman, JKDMA and State Crisis Group on the conduct of the PDNA and recommend appropriate actions to be taken, including timeframe for completing the assessment and delivering the report. The Secretary (DMRR & R)will also decide if assistance from development partners, in the conduct of the PDNA, is needed. If required, the nodal ministry at national level will coordinate with the Ministry of External Affairs (MEA), to issue a formal letter requesting for assistance from development partners in the conduct of PDNA.

5. Once the formal request is made by the MEA to development partners, the MHA will call for an internal meeting – called **"Stakeholder Consultation"** between the international agencies and development partners. The cost of the assessment shall be borne by the JKDMA / Revenue Department.

6. Prior to starting the assessment, an "**Orientation Training**" will be organised to refresh the designated PDNA team members on the broad concept of the damage, loss and needs as well as methodology for undertaking the assessments for each sector/sub-sector and issues to be aware when the team is in the field for individual sector members.

7. Finally, Sector teams will initiate **collection of baseline data** as per the templates prescribed in the sector specific Guidance Notes (GOI) on undertaking damage, loss and needs assessment. The Central Statistical Organization (CSO) as well as the line departments will maintain and update key baseline date of sectors.

Developing Reconstruction and Rehabilitation Strategy for Resilient Recovery

In parallel to the PDNA planning process, the formulation of Reconstruction and Rehabilitation will be initiated by JKDMA / Secretary (DMRR & R) with the objectives to:-

- Provide indicative steps to facilitate a sequenced, prioritised and flexible multisectoral planning guide for recovery programmes.

- Provide guidance to state for organising post-disaster recovery in accordance with the damages, losses and needs following a disaster event.

- Plan and implement a post-disaster recovery programme in an inclusive and transparent manner (including financial planning and institutional arrangements).

- Recommend policies, strategies, areas of technical assistance and monitoring support needed for recovery programming.

- Optimise the use of national and state flagship programmes, other schemes and resources for implementing recovery.

- Provide guidance to reduce future disaster risks and allow for further opportunities for long-term sustainable development.

Short-term, Mid-term and Long-term Recovery

The disaster recovery programmes usually proceed in three distinct stages to facilitate a sequenced, prioritized, and flexible multi-sectoral approach. Three recovery stages, in which appropriate policies and programmes tend to be planned and implemented are: a) Short term, b) Mid -Term, and c) Long-term.

Repair and Restoration

The state governments as per the existing policy provide assistance to the affected citizen to repair and restore damaged houses and dwellings. Respective departments should carry out repair and restoration of the related infrastructure, facilities, services, etc. at the earliest so that the essential services can be resumed to bring the life back to normalcy.

The government shall also coordinate with national and international NGOs, donor agencies and other government bodies to prioritise restoration of critical infrastructure like health, temporary housing, lifesaving facilities, critical government infrastructure, etc.

Reconstruction

J&K State Disaster Management Authority (JKDMA) shall oversee reconstruction and rehabilitation work and ensure that it takes into account the overall development plans for the state. These reconstruction efforts include:

- Reconstruction of public infrastructures and social services damaged by the disaster, which can be completed over long-term
- Re-establishment of adequate housing to replace that which has been destroyed
- Restoration of jobs / livelihood that was lost
  Restoration of the economic base of the disaster areas

a. **Owner Driven Reconstruction**

- Reconstruction should be done on the principle of Owner Driven Reconstruction. Here the district administration aids in provision of funds and technical expertise for construction activity. In principle allow active participation of the affected family/ owner in rebuilding their houses and ensures that their houses suit their cultural, occupational and other personal needs and context. It also gives them a sense of ownership and change their mindset from 'being a beneficiary' to 'being am owner' which also aids in psychological rehabilitation.

- The active participation of the owner also ensures regular monitoring of the process, quality of material used, etc. which helps in speeding up the reconstruction process.

b. **Build Back Better**

- Reconstruction post disaster also gives an opportunity to build back better. The new construction post disaster should comply with all safety norms, guidelines and building codes. The design of these buildings should be disaster resilient as per the hazard profile of the state.

- Government of Gujarat shall monitor the reconstruction process and ensure that the principle of build back better is followed through disaster resilient reconstruction.

Rehabilitation

Holistic rehabilitation post disaster includes many inter linked aspects. It is critical to address the need of affected population in order to achieve early recovery and to bring back life to its normalcy.

Socio-economic Rehabilitation

Socio-economic rehabilitation is aimed at revamping the social and economic fabric to the pre-disaster or a better situation. It also addresses issues like that of restoration and generation of livelihoods. This is done by providing required training, skill, tools and equipment to restart the previous or new livelihood options.

Care should also be taken to address the needs of various socially and economically vulnerable groups like that of women, adolescent girls, old age persons, person with disabilities, children, destitute, below poverty line population, scheduled castes, scheduled tribes, particularly vulnerable tribal groups, etc.

Psychological Rehabilitation

Disasters often lead to long time stress and trauma due to loss of near and dear ones, injuries, loss of limbs, loss of housing and related property, trauma generated by facing the disaster and fearful sites, fear of repetition of the disaster, etc. If not addressed appropriately, it may lead to lifelong psychological fear and disorders, thus it is necessary to provide psycho-social first aid and psychological care to the affected population.

Environmental Rehabilitation

Environmental impacts of disasters can result in serious risk to life and livelihoods if not addressed. Environmental emergencies like uncontrolled, unplanned or accidental release of a substance into the environment not only impact human life in many ways but also damage environment to great extent which may be impossible or may take years to restore to its original.

Thus without proper consideration of the environment, pre-existing vulnerabilities may be re-created or exacerbated. Thus GoJK along with other concerned department should ensure measures to decontaminate the affected elements like air, river, water bodies, forests, etc.

Relocation

The state government believes that need-based considerations and not extraneous factors drives the relocation of people. The local authorities, in consultation with the affected persons and under the guidance of JKDMA, 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:

1. Gaining consent of the affected population
2. Land acquisition
3. Urban/ rural land use planning
4. Customizing relocation packages

5.   Obtaining due legal clearances for relocation

6.   Getting the necessary authorization for rehabilitation

7.   Livelihood rehabilitation measures for relocated communities, wherever necessary

While planning on site reconstruction or relocation, care should be taken to provide the community with all basic amenities in close vicinity of the reconstruction site. This leads to inclusive and holistic reconstruction process. Some of the basic amenities are as follows:

1.   Health

2.   Education

3.   Provision of adequate drainage system

4.   Provision to drinking water

5.   Provision for proper sanitation

6.   Provision for Electricity

7.   Provision for waste collection and management

8.   Market place

9.   Connectivity to road and railway

Restoration of Damaged Cultural Heritage Sites, their Precincts and Museums

Post disaster repairs and reconstruction of damaged sites / precincts to be undertaken based on sound documentation and assessment practices. Poor reconstruction practices cause further physical damage to heritage structures, may worsen its structural vulnerability and carries the risk of erasing the heritage features. Restoration or reconstruction of heritage after disasters should go beyond buildings and it should look at heritage livelihood, traditional trades/ crafts etc.

Project Management

Since rehabilitation and reconstruction effort typically involves the co-ordinated efforts of several entities / institutions, the GoJK shall encourage the respective entities to strengthen program management capabilities to ensure that synergies across and within entities are managed efficiently. In addition, it is also necessary to constantly monitor the activity to ensure that the project is executed on time, in accordance with the technical specifications and to the satisfaction of the beneficiaries. JKDMA, in coordination with relevant government departments, will monitor the reconstruction activity that is carried out by various implementation agencies.

Typical implementation activities would include:

- Disaster proofing and retrofitting of houses

- Creation/ retrofitting of structures – including roads, bridges, dams, canals etc that may have been destroyed/ damaged due to the disaster

- Restoration of basic infrastructure facilities, for example, ports, airports, power stations etc.

- Creation of health centres, first aid centres, hospitals, groups of doctors and surgeons etc.

- Restoration of the industrial viability of the affected area.

- Restoration of livelihood.

For managing long-term rehabilitation programmes, such as reconstruction of houses, infrastructure and other social amenities, the responsibilities will be that of respective line departments through a well-structured R & R Programme.

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 stakeholders awareness and buy-in for the ongoing activities. Hence, JKDMA and relevant government departments, district administration and local authorities shall undertake:

- **Ongoing media management/ Public Relations:** To ensure that accurate communication of the reconstruction and rehabilitation measures are being informed to the various stakeholders;

- **Community management:** This includes communicating to the affected communities with a view to appraising them of efforts being made for their relocation/ rehabilitation/ reconstruction;

- **Feedback mechanisms:** Using the communication network to get feedback on reconstruction and rehabilitation measures.

Dispute Resolution Mechanisms

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

Implementing Initiatives for Recovery of Reconstruction Costs

The GoJK shall finalise and implement selected recovery measures such as:

- Imposing tax surcharge levies (central)

- Imposing local taxes

- Facilitation of funding responsibility sharing by beneficiaries etc.

CHAPTER 9   FINANCIAL ARRANGEMENTS

Funding mechanism at various levels

To ensure the long-term sustenance and permanency of the organisation, funds are generated and deployed on an ongoing basis. Financial mechanism for disaster management is already in place at national, state and district level. Additionally there are various projects, programmes and initiatives catering to different phases of disaster management funds for preparedness, mitigation and reconstruction allocated by the government as part of a regular budget.

National Level

National Disaster Response Fund

The National Disaster Response Fund (NDRF), has been constituted under Section 46 of the Disaster Management Act, 2005, supplements SDRF of a State, in case of a disaster of severe nature, provided adequate funds are not available in SDRF. The amount can be spent towards meeting the expenses for emergency response, relief and rehabilitation. Under the existing guidelines, it is available for assistance for Cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloudburst, pest attack, frost and cold waves.

In case of calamity of severe nature when State Disaster Response Fund is insufficient to meet the relief requirements, additional central assistance is provided from NDRF to the State Government by following the laid down procedures.

b. National Disaster Mitigation Fund

To promote local-level mitigation activities, the 15th Finance Commission has recommended the setting up of National and State Disaster Management Funds. Government of India has accepted chapter 6 of the 15th finance commission report for 2020-21. The guidelines with respective constitution and utilization of National Disaster Mitigation Fund (NDMF) and State Disaster Mitigation Fund (SDMF) will be issued by Central Government. Thus the mitigation funds shall be set up both at national and at state level in the form of NDMF and SDMF in accordance with the Disaster Management Act, 2005. These mitigation funds shall be used for those local level and community based interventions which reduce the risk and promote environment friendly settlements and livelihood practices. Thus the creation of funds for disaster mitigation along with disaster response will now be

called as National Disaster Risk Mitigation Fund (NDRMF) and State Disaster Risk Mitigation Fund (SDRMF). [5]

Distribution of NDRMF and SDRMF:

I.   Mitigation : 20%

II.   Response : 80 %

Distribution of NDRF and SDRF:

I.   Response and Relief: 40%

II.   Recovery and Rehabilitation: 30%

III. Capacity Building: 10%

c. Prime Minister's National Relief Fund (PMNRF)

Prime Minister's National Relief Fund (PMNRF) was established entirely with public contributions and does not get any budgetary support. PMNRF accepts voluntary contributions from Individuals, Organizations, Trusts, Companies and Institutions etc. All contributions towards PMNRF are exempt from Income Tax under section 80(G) of the Income Tax Act, 1961.

The resources of the PMNRF are utilized to render immediate relief to families of those killed in natural calamities like floods, cyclones and earthquakes, etc. Assists partially to defray the expenses for medical treatment like heart surgery, kidney transplantation, cancer treatment of needy people and acid attack etc. The corpus of the fund is invested in various forms with scheduled commercial banks and other agencies. Disbursements are made with the approval of the Prime Minister.

State Level

a. State Budget

JKDMA submits 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.

The GoJK also allocates funds in the State Budget for relief activities. In addition, funds may be available through the State Disaster Response Fund.

State Disaster Response Fund

State Disaster Risk Mitigation Fund (SDRMF) has been set up as per the recommendation of 15th finance commission. SDRMF comprises of the State Disaster Response Fund (SDRF) and State Disaster Mitigation Fund (SDMF). Out of the total State

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[5]Chapter 6th of Fifteen Finance Commission

Disaster Risk Mitigation Fund (SDRMF) the share of State Disaster Response Fund shall be 80% and the share of State Disaster Mitigation Fund (SDMF) will be 20%. Within the SDRF allocation of 80% there would be three sub allocations, they are:[6]

   I.   Response and Relief: 40%

  II.   Recovery and Rehabilitation: 30%

 III.   Capacity Building: 10%

While the funding window of SDRF and SDMF are not interchangeable, there could be flexibility of reallocation within these three sub windows of respective funds and such reallocation shall not exceed 10% of allotted amount of that sub window for 2020-21. There is a departure from the expenditure based approach to a methodological which reflects risk and vulnerability of each state.

b. LG Relief Fund

This provides immediate support to the distressed people affected by the natural calamities, or road, air, or railway accidents.

Other Sources of Funds

a. Public Private Partnership

There are projects/schemes in which funding can be done by a public sector authority and a private party in partnership. In this State Govt. along with Private organizations and with Central Govt. share their part.

b. Grant In Aid

State government may receive a grant in aid from Central Govt., World Bank, other departments, bilateral or multilateral funding agencies, etc. to carry out specific projects/schemes related to disaster management/ mitigation/ capacity building.

c. Corporate Social Responsibility (CSR) Funds

Corporate social responsibility is a broad concept that can take many forms depending on the company and industry. Through CSR programs, philanthropy, and volunteer efforts, businesses can benefit society while boosting their brands.

Section 135 of the Act, Schedule VII and Companies (CSR) Policy Rules, 2014, provide a robust framework for companies to partner in contributing to the country's development challenges through its managerial skills, technology and innovation. Besides providing an overall guidance framework for the corporates to carry out their CSR initiatives,

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[6]Member Secretary, NDMA letter no 5-20/2014-NIT dated 10/02/2020

it also provides them with ample autonomy and flexibility to design and implement programmes. The monitoring is based on disclosures made by the company in the prescribed form and annual report. The company has to disclose its details on CSR implementation, including allocation of funds, destination state and development sector where the CSR expenditure is done, etc. annually to this Ministry through filing of annual report on CSR. The mandatory CSR reporting has its advantages as it allows the corporates to demonstrate their commitment towards CSR and communicate with different stakeholders, including shareholders, regulators, customers and society at large.[7]

d. Loan

Authority may borrow money from the open market with the previous approval of State government to carry out disaster management functions as described in DM Act 2005.

e. Disaster Bonds

State government can also raise funds for major disasters by exploring the options of long-term disaster bonds.

f. Recovery Measures

The GoJK shall finalise and implement select recovery measures such as imposing tax surcharge levies (central), imposing local taxes, facilitation of funding responsibility sharing by beneficiaries etc.

Funds Disbursement and Audit

The funds raised from funding agencies are usually accompanied by stringent disbursement and usage restrictions. It is therefore important to monitor the disbursement of such funds to ensure that none of the covenants are breached. JKDMA, in conjunction with relevant agencies, shall monitor disbursal of funds by:

- Prioritizing resource allocation across approved projects

- Establishing mechanisms (like a chain of banks, collection centres, nature of accounts, spread etc) for collection of funds

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[7]http://www.mca.gov.in/Ministry/pdf/CSRHLC_13092019.pdf

- Ongoing monitoring and control of fund usage throughout actual project implementation.

CHAPTER 10   PLAN MAINTENANCE

Plan maintenance is a dynamic process of 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 exercise which consists of identifying the gaps and putting in place a system to fill the same.

Plan Testing

The Commissioner of Relief, Revenue Dept. shall prepare, review and update State Disaster Management Plan as provided for in the JKDMA Act (Section 22 (1) (C)). He shall also ensure that disaster management drills and rehearsals are carried out periodically.

While updating the plan the following aspects need to be considered by the COR every year:

a.   Critical analysis of the outcome of exercises & mock drills as part of plan testing.

b.   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 once in a year. The plan testing should preferably be organized on the first Monday in the months of March every year.

The main objectives of plan testing are to:

a.   Determine the feasibility and compatibility of back up facilities and procedures

b.   Identify areas in the plan that needs modification.

c.   Identify training needs of key stakeholders.

d.   Assess the ability of the organization/department to respond to disasters.

After plan testing and incorporation of lesson learnt, the COR should send a copy of the revised and updated plan to the following officials:

a.   Chief Secretary, Government of J&K

b.   Chief Executive Officer, JKDMA

c.   Principal Secretary, Revenue Dept

d.   Head of all line Depts.

e.   State EOC

f.   District EOCs

g.   IMD

h.   CWC/ACWC

All the departments, which have specific roles and responsibilities in State Disaster Management Plan, must have a system to ensure that all officers of their departments who have a specific role to play are fully up to date with their responsibilities/tasks.

10.1 Mock Exercise

a.   Mock exercise debriefing and evaluation is of critical importance that these insights are collected from participants (who participated in the exercise) and used to modify the plan.

b.   Hot debriefing is very effective as it is carried out immediately after the exercise. It also includes documentation in terms of recommendations and improvements of the plan.

Review & Updation of Plan

The State Disaster Management Plan should be reviewed and updated annually. The plan updation process should begin in January in each year and should be completed by month of April, based on inputs from the following:

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.

JKDMA 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 State Disaster Management Plan for further improving the capability to deal with future disasters.