

## DISASTER PREPAREDNESS IN INDIA: NATIONAL LEGISLATIVE AND INSTITUTIONAL FRAMEWORK OF DISASTER MANAGEMENT IN INDIA VIS-À-VIS FUNDING ARRANGEMENTS

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*Across the globe, Disaster Preparedness and Disaster Risk Reduction (DRR) is becoming the most prominent theme for disaster management. Though the natural disasters cannot be eliminated, the risk of damages from the disasters can be significantly reduced by proper planning and such approach is highly required in disaster prone countries such as India. India is prone to both natural and man-made disasters. In recent years, the country has witnessed a slew of disasters including tsunamis, floods and earthquakes. A three tier disaster management institutional set up was thus, established and the Disaster Management (DM) Act 2005 was accordingly legislated. Together with this, many international aided programs aimed at disaster risk reduction are being carried out in the country. However, it has been a long time since the DM Act, 2005 was introduced, with new challenges propping in front of the nation in the form of human created floods and poor calamity aversion policy, so it is the right time to assess the disaster preparation level to manage disasters in the country so as to understand the nature of problem and drawbacks in the current disaster management policy of India and to identify areas for improvement. This study has been done with the Uttarakhand Floods 2013 in the background and the spillover effects it has had since over the nation's preparedness for dealing with disasters.*

### UNDERSTANDING THE TERM DISASTER & DISASTER MANAGEMENT

A disaster is an event or series of events, which gives rise to casualties and damage or loss of property, infrastructure, environment, essential services or means of livelihood on a scale that is beyond the normal capacity of the affected community. Disasters not only thwart the progress of a nation but push them back by several decades and thus, the development efforts of a nation are all but rendered useless. Thus, it is important to manage the disasters efficiently rather than merely responding to their occurrences. This concept has received due attention in India. The Disaster Management Act, 2005 defines disaster as 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”.

Disaster Management is a continuous and integrated process of:

- Planning, organizing, coordinating and implementing measures which are necessary or expedient for prevention of any disaster;
- Mitigation or reduction of any disaster or its severity or consequences;
- Capacity building to deal with any disaster;
- Prompt response to any threatening disaster situation or disaster;
- Assessing the magnitude of any disaster;
- Evacuation, rescue and relief; and,
- Rehabilitation and reconstruction.

This process is of paramount importance in countries such as India which are not only prone to natural but also man-made disasters. In a country like India not only disaster management is essential but the preparedness for disasters also takes the center stage.

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## EVOLUTION OF DISASTER MANAGEMENT IN INDIA

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Disaster Management in India began with the setting up of a high powered committee in August 1999. In the same decade, India was plagued by disasters such as Latur Earthquake (1993), Malpa Landslide (1994) and Odisha Super Cyclone (1999). Until 2001 the obligation regarding disaster management was with Agriculture Ministry which was transferred to Ministry of Home Affairs in June 2002, a High Powered Committee (HPC) was constituted to review the existing arrangements for preparedness and mitigation of natural disasters and it was to recommend the measures to strengthen the existing organizational structures at the national, state and district levels and in due course of time National Disaster Management Authority (NDMA) was set up on 28th September 2005 and with the Inclusion of Disaster Management in the Seventh Schedule of the Constitution on 23rd December 2005, Disaster Management Act was instituted. A model plan was also to be formulated to tackle the manmade and natural disasters in a systematic manner and a holistic approach was adopted towards the disaster.

**Prior to DM Act** the Cabinet had the power to constitute a committee in the wake of a natural calamity for the effective implementation of relief measures. After such a committee was constituted, the Agriculture Secretary had to provide all necessary information and seek directions in all directions in the matters concerned with relief measures and their effective implementation.

In the absence of the aforesaid committee, all the matters were reported to the Cabinet Secretary. The Relief Commissioner, Department of Agriculture and Cooperation (DAC) was the nodal officer to coordinate relief operations and regarding all matters related to natural calamities relief however the Disaster Management Division was transferred to the Ministry of Home Affairs (MHA) in 2002.

The *DISASTER MANAGEMENT ACT 2005* (DM Act, 2005) was enacted on the basis of the report of the HPC and the act laid down the institutional, financial, legal and

coordination mechanisms at the Centre, State and District level. This new framework led to a paradigm shift in Disaster Management and it was the beginning of the paradigm shift of the Government policy from a Relief Oriented Approach to an approach that laid emphasis on prevention, preparedness and mitigation.

The major provisions of the DM Act, 2005 are:

- National Disaster Management Authority (NDMA) was established as the apex body for formulating and monitoring the national disaster management policy.
- The Prime Minister was to be the chairman of the NDMA.
- Preparation of a National Plan by National Executive Committee and approved by NDMA.
- NDMA to prepare a policy for disaster management.
- A National Disaster Relief Fund and National Disaster Mitigation Fund to be instituted by the Central Government.
- To establish a dedicated force called National Disaster Response Force.

The National Policy on Disaster Management was prepared in accordance with the DM Act and was approved by the Union Cabinet in October 2009. A holistic approach to disaster management was envisaged and it encompassed the entire circle of disaster management (prevention, mitigation, preparedness, relief, response, rehabilitation and reconstruction). It attempted to address all aspects of disaster management of focusing on where action was needed and setting up an institutional mechanism to channelize the same and in order to do so, it covered institutional, legal and financial arrangements, capacity building, knowledge management, research and development.

The legal institutional framework of India for disaster management in India has transitioned after the enactment of the DM Act 2005 and this has led to major changes in the arrangement of the structure for disaster management. The DM Act, 2005 provided for the constitution of a National Disaster Management Authority under the Prime Minister along with the State Disaster Management Committees under the Chief Minister. It also provided for the setting up of the Executive Committees at the National and State levels. Under the aegis of the DM Act, the National Institute of Disaster Management for capacity building and National Disaster Response Force for the purpose of immediate response to the calamities were set up. In addition to the three tier institutional structure, the National Crisis Management Committee (NCMC) and High Level Committee (HLC), which were part of the earlier set up, continue to function at the Centre.

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## NATIONAL DISASTER MANAGEMENT AUTHORITY

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Formerly the NDMA was constituted through an executive order in May 2005, however it was reconstituted formally in accordance with section 3(1) of the Act on 27 September 2006. NDMA deals with all types of disasters and has the main job to lay down the policies and guidelines on disaster management which are to be followed by the different Ministries

in the Government of India so as to reduce the risk of occurrence of disasters. Even the State Governments have to follow the guidelines laid down by NDMA. However, incidents involving terrorist activities, law and order scenarios, serial bomb blasts, mine disasters, ports and harbor emergencies are dealt by the NCMC.

The NDMA had to prepare the guidelines on various aspects of the disaster management to be followed by the different Ministries and Indian Government Departments and regarding the same seventeen National Guidelines on various types of disasters were formulated and issued. The primary aim of these guidelines was to ensure an integrated system of disaster management and they aimed to cover all the stages of disaster management cycle. But the basic problem still remained as adoption of these guidelines was unto the NEC, State Governments and not NDMA and thus, the NEC failed miserably in its discharge of function as the executive branch of the NDMA and it was its responsibility to ensure compliance on the guidelines issued by it. Certain guidelines are still under finalization and no time frame has been finalized for them either thereby not giving an impetus to the implementation and activities for disaster management. The following guidelines are under finalization:

- Community based disaster management
- Micro Finance & Risk Insurance
- Post Disaster Reconstruction
- Protection of Cultural Heritage & Monuments

Furthermore because of delay in finalization of guidelines, the demarcation of roles and responsibilities has taken a backseat as the guidelines had to be placed before the Group of Ministers (GoM) and then, the MHA was required to incorporate the guidelines finalized by GoM. This has resulted in ambiguity in the demarcation of roles and responsibilities between the NEC, NDMA and MHA thus, the constitution of a Task Force to suggest measures in order to obtain clarity and avoid overlapping roles is a step in the right direction and hopefully, it recommends the measures in a brisk amount of time and the same are implemented without undue delay.

#### **National Executive Committee**

NEC was the executive committee of NDMA and it was to assist the NDMA in discharging its functions and constituted of 14 Secretaries to the Government of India and was chaired by the Union Home Secretary. NEC was to monitor the implementation of guidelines issued by the NDMA and also coordinate the response in case of a threatening disaster or disaster situation. Though the NEC Rules 2006 mandate that NEC is to meet at least once in three months, it has only met four times since its inception i.e. September 2006. It was the Home Ministry of the Union that was coordinating all the disasters in the country. National Executive Committee (NEC) had to prepare a National Plan for disaster management of the country and the same was to be approved by NDMA and following was to be included in the plan:

- Measures to be taken for prevention of the disasters and mitigation of their effects;
- Measures to be taken for the integration of mitigation measures in the development plans;
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- Roles and responsibilities of the different Ministries/Departments of Government of India in respect of aforesaid measures.

In the third meeting held in May 2008, following was decided:

- That a nodal officer must be designated by the Ministry and Department for the preparation of National Plan; and,
- To develop an institutional mechanism for working out the preparation of National Plan.
- To implement these measures, the MHA structured the National Plan into three parts:

#### **National Disaster Response Force**

Response is the most perceptible as well as vital element of disaster preparedness. The damage caused by the disasters to both life and property is minimized to a great extent by the efficacy of the response shown by the Government at the needed time of the hour. Thus, a specialist force is needed in order to respond to a disaster and threatening disaster in an efficient manner and the NDRF was accordingly constituted. NDMA has the control and superintendence over the NDRF which is a multi-disciplinary, multi-skilled and a high tech force capable of dealing with all types of disasters and insertion by air, land and sea.

It comprises of 10 battalions stationed at different places in the country and has four battalions which are capable of combating nuclear, biological and chemical disasters. These forces are pro-actively deployed in case of disaster preparedness or in case of threatening disaster situation in consultation with the State Authorities.

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#### **NATIONAL DISASTER MANAGEMENT GUIDELINES**

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### CASE STUDY: UTTARAKHAND FLOODS 2013

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Despite such a massive framework in place, the Indian state has been from time to time been subjected to the fury of nature. To understand as to how effective on ground is our disaster preparedness, we must analyze how we have in fact handled crisis by the means of a case study.

At the peak of the monsoon season, the state of Uttarakhand faced the most devastating disaster in its history as floods caused due to the cloud burst hit three of the four famous Char Dham pilgrim leaving tens and thousands of inhabitants as well as pilgrims stranded or swept away along with irreparable damage caused to life, property and business. The famous Char Dham pilgrimage was discontinued for three years for repair and restoration. The National Institute of Disaster Management (NIDM), in one of its first reports on the Uttarakhand floods, has blamed “climatic conditions combined with haphazard human intervention” in the hills for the disaster. Uttarakhand’s huge potential in tourism lead to the state in tapping its potential towards becoming a major tourist and pilgrim destination had a hand in this disaster. The uncontrolled rise of tourism inflow into the state of Uttarakhand, took a toll on the ecology of the state along with Uttarakhand’s proximity to the national capital leading to the weekend revelers finding in Uttarakhand a destination to beat the heat leading to an unsustainable rise in the number of people traveling to Uttarakhand.

As stated by Jacob during a live television interview on CNN-IBN that, “the number of 'pilgrims' has been steadily increasing, with people from the plains interested in a quick guided tour of the hills in a vehicle...the local authorities have ignored the carrying capacity and cumulative impact of dams and illegal construction on the fragile Himalayas”. This steady rise in tourist inflow resulted in other issues such as heavy traffic and roadblocks and in order to curb this problem of the tourists, the government resorted to widen the roads so as to accommodate the tourist’s inflow. Considering the fragility of these mountains, Himalayas being the youngest of the mountain ranges in the world with very poor soil

stability the roads would routinely cave in or get washed away during monsoons. The rising tourism industry lured the land sharks and they erected multi-storied hotels ignoring all environmental norms as a consequence of which thousands of such resorts and hotels mushroomed in the eco-sensitive zone. The number of hotels have also seen a similar rise in the recent past. For example, Kedarnath Valley has hundreds of such hotels that were vulnerable to these natural calamities. So, when flash floods struck the valley, many of these hotels got swept away and so did the people staying in them. Rampant illegal construction of buildings by locals had also contributed to the problems and made a bad situation worse. On top of it all, traffic in the hills has increased hugely, with the number of vehicles registered in the hills going up sharply. Since the hills are delicate and unstable, it takes little to set off landslides thus, more infrastructure has in fact worsened the situation since much of it is poorly made and constructed by people who have no idea of building in the hills. The former Deputy Director-General of the Geological Survey of India, V.K. Raina, told that while natural calamities such as cloud bursts and flash floods could not be prevented, but deaths and damage could be contained if there were laws to regulate construction along rivers, and authorities were prepared to deal with the situation. "Construction in Uttarakhand is not planned. The owners have taken a calculated risk and paid for it. Such things will keep happening in future, and people living in ecologically sensitive areas also have needs which have to be fulfilled..., but there needs to be enough restrictions on the activities, including the movement of pilgrims and tourists". The same was stated by Sunita Narain of the Centre for Science and Environment, who termed the Uttarakhand tragedy a "man-made disaster," and further added that development in the ecologically sensitive areas had to be different from the plains. She said "We cannot have roads on the Himalayas like the ones on the Alps. The Himalayas are young mountains," she said. Though technology was available for this, and one need not depend on the Border Roads Organization for it outsourced construction works.

All the above factors have had a crucial role to play in the disaster, but as the report provisioned by the Comptroller and Auditor General (CAG) showed that not only was the disaster aggravated due to rise tourism but also blames the State Disaster Management Authority which although formed in 2007 never convened a meeting nor framed any rules, regulations, policies or guidelines. "The state disaster management plan was under preparation and actionable programs were not prepared for various disasters," the report says. "Plan ahead" (2013), states that "Disasters are not learning processes. The authorities will have to do all they can to ensure against such recurrences...the starting point is for the State Disaster Management Authority to put place a disaster management plan". Thus, unforeseen disasters calls for having an effective disaster management plan in place and for the State Disaster Management Authority to prepare actionable programs to deal with disasters.

In contrast to this scenario, however it is further proved beyond doubt that the state was unprepared to face a sudden crisis, Varma stated, "citing examples of the mismanagement by the Uttarakhand government, the CAG said that although the Geological Survey of

India had identified 101 villages as 'vulnerable' in June 2008, the state government did not take any measures for their rehabilitation till date”.

The major aim of the DM Act 2005 was focused on minimizing the damage to life, property and environment. The Pre-Disaster Stage i.e. before the disaster strikes aimed at the same along with the prohibition stage. Various schemes were drafted for controlling the losses to lives and property to minimize the effects of disaster. There are several techniques to embark upon this stage where the disaster has not occurred, wherein there is a call for being better prepared and to have an effective of warning mechanism prior to the Disaster Preparedness i.e. readiness on the governmental, social and personal levels, to effectively face the disaster that has already come into existence and includes practical disaster-layouts. Here, the local residents along with the state officials need to be sensitized regarding the measures to be taken when faced by a crisis, so, that in case of such emergencies necessary action can be taken. The Warning of Disaster is very crucial so, that immediately after receiving slightest hint of a disaster, the information about its advent reaches the entire danger-prone area. In the case of Uttarakhand it was seen that the State Disaster Management Authority did not have a scheme so as to curtail the disaster nor were the warnings issued by the meteorology department taken seriously.

The Meteorological Department, Dehradun, forecast “heavy to very heavy rainfall in the upper regions of Uttarakhand in the next 48 to 72 hours” on 13th June 2013 however the Central Government, Uttarakhand Government and National Disaster Management Authority ignored the warning. From 14-16 June 2013, heavy unseasonal monsoon rain in north India triggered floods and landslides in the north western mountain states of Uttar Pradesh, Uttarakhand and Himachal Pradesh. But state of Uttarakhand was most highly affected as the figures issued by Subhash Kumar, Chief Secretary of Uttarakhand revealed that missing persons were ranging from 4120 to 5100 including 421 children and 580 were declared dead. These figures were compiled by Dehradun-based Missing Persons Cell, on basis of a review of the First Information Reports recorded in the state’s 13 districts. On 19 June 2013 the then Prime Minister Manmohan Singh, also Chairman of the NDMA and the Indian Congress Party President Sonia Gandhi, carried out an aerial survey of affected area where the PM called the situation in Uttarakhand a ‘disaster’ and directed “all Central Agencies to render all possible assistance in their domain to the State”. This further highlights that the NDMA failed to not only prepare adequately for the disaster but also failed to act properly in the relief work. Thus, the NDMA failed both at the Pre-Disaster Stage and at the Relief Administration stage. Operation Surya Hope was the name that Indian Army’s Central Command gave to its response in Uttarakhand following the June 2013 North India floods and was conducted by Indian Army’s Lucknow based Central Command. The floods and landslides in Uttarakhand was the worst natural disaster in the area in a hundred years and has been called a “Himalayan Tsunami” by the Government of India. According to the Indian Meteorological Department, the total rainfall in Uttarakhand was the highest in the last 80 years, the rainfall was 440% above the normal.



The total number of aircrafts involved in the evacuation, relief, rescue, and search tasks, according to government sources, was 83 (IAF-45, Army-13, hired helicopters- 25). The helicopters carried out their mission in hazardous mountain conditions, often in rain and fog. For relief and rescue operations, the army divided the affected areas into four axis, or sub sectors. On 19–20 June, the army conducted reconnaissance, and stranded people. By 20 June evening the army reported that it had ‘rescued more than 11000 people, and was sheltering, feeding, and providing medical assistance to about 10,000. As follow up to aerial reconnaissance of inaccessible areas on 19 June, army plans Heli borne operations by paratroopers and special forces to rescue stranded people, in Jungle Chatti, Kedarnath, and other areas. On 20 June, the army, started work on the maintenance and improvement, and expansion of helipad at Gagaria on Hemkund Sahib axis to make it ready to accommodate the larger MI-17 helicopter to allow for speedier aerial evacuation.

On 23 June, relief, rescue, search, and evacuation operations were started by Indian army. Army works on securing, marking, and improving helipads; repairing and installing bridges; improving and restoring tracks; establishing staging areas, transit areas, reception centers, medical aid posts; escorting and guiding people; providing food, water, shelter, and medical aid to the affected population, and most importantly providing through their presence, example, and leadership, hope, and encouragement to the stranded population. Medical aid formed an important component of the mission. Doctors from Army Medical Corps, and nurses from the Military Nursing Service were amongst the lead elements to be deployed in the area. By 19 June, it was reported, 12 self-sufficient medical teams were deployed in the area, an emergency medical helpline was opened and military communication channels were provided to affected people to speak with their families and friends. In addition, the IAF deployed Air Force Rapid Action Medical Teams, with the air stations, and detachments.

On 26 June 13, a team of two psychiatrists from Army Medical Corps, opened a post disaster and trauma counseling center in the Joshimath sector, to provide counseling to the civil population stranded at Badrinath and Kedarnath and veterinary teams from the Army Veterinary Corps consisting of a veterinary doctor and two paramedics were inducted by helicopter to establish Animal Aid Posts along the Hemkund axis to take care of ponies and mules stranded in the area. On 30 June 2013, the Ministry of Defense updated that IAF from 17 -30 Jun 2013, airlifted 18,424 persons in 2,137 sorties and delivered 3,36,930 kg of relief supplies with the BBC describing it as “one of the world’s largest air rescue operations” on 2 July 2013 after the evacuation of all stranded pilgrim complete. On 10 July 2013, the Army Engineers started work on a new 20 km route to restore land communication with Kedarnath, which had remained cut off since the 16 June. After the river flood economy of Uttarakhand was badly affected as major part comes from tourism for the people were threatened to come in Uttarakhand thus, around 30% of the economy suffered. Many people became jobless and moreover almost all the tourist places were destroyed resulting in a huge loss of infrastructure and man power.

Around ₹1000 crore was the money which was decided to be given as a compensation part which was not at all sufficient as the loss was much more than that and together with the fact that the person had to wait in order to receive the same. So it is plausible to say that economic condition of affected people as well as of state was in a very bad condition and in order to overcome the situation state of Uttarakhand needed a special package from Union Government and the same was demanded by the aggrieved State. From the happening of river floods in Uttarakhand the clear picture of lack of seriousness of State and Union towards Disaster management was displayed. All the work done including rescue operations and relief camps were done by localities and military forces. The official agencies for this work responded only after 3 days and that too with a lot of confusion in their mind. Many great politicians at both level just tried to blame each other and were in busy in formulating a plan to take political advantage of this situation. At both the levels, the State as well as Union there was a very late response to this situation as seen earlier but because of the activeness of army and co-operation of civilians somehow situation was managed.

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## CONCLUSION

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India has, in the recent decade, been massively investing in its infrastructure, by promoting smart cities, creating new urban complexes and investing in the growth of major urban centers. In this rapidly urbanizing country, making towns and cities safer is emerging as one of the greatest challenges of the 21st century and this is true not just for India alone but for the whole world. Due to a lack of proper planning, man-made disasters are emerging as a new form of threat that continue to haunt us. The recent floods of Chennai, Srinagar, Uttarakhand, and even Mumbai are an example of how lack of proper planning can leave our great cities at the mercy of nature's fury. What these floods taught us was that it's time to build resilience into the blueprint for the future, strengthen cities' ability to respond to a disaster, as well as to recover rapidly if it does in fact occur. India has sought to build a safer, disaster-resilient nation from the time a super-cyclone hit Odisha in 1999, and a devastating earthquake shook Gujarat in 2001. Post these disasters, a slew of policy initiative and public administrative action came in to make India more disaster resilient, with the efforts leading to the setting up of the National Disaster Management Authority (NDMA) in 2006. It has to be said to the credit of India, that at the level of policy and an institutional framework, it has created for itself an excellent disaster management plan. However, lessons are to be learnt from the recent happenings which show that much can be done to reduce risk, especially in complex urban scenarios. In order to increase resilience, critical infrastructure and services such as schools, hospitals, water, electricity, communications systems, transportation, etc. will have to be built or retrofitted to withstand multiple hazards so that they continue to function in an emergency. Floods are the most frequent of all natural calamities and, with the likely growth in high rainfall events, storm surges, and sea-level rise, urban vulnerability will only increase. Various cities across the globe have used innovate methods and have relied upon modern technology to tackle frequent flooding. Modern technology can help us in forecasting which areas are

prone to floods, however to make us of this technology and to further act upon it is a matter which rests with the civic authorities of the urban centers.

In order to ensure that we minimize the loss to the fury of nature, smart and innovative planning is needed, which will require co-operation and co-ordination between various government departments. Towns and cities will benefit by collecting and sharing data on population densities, critical infrastructure, buildings, etc, enabling them to direct urban growth to safer places. What India has is an excellent institutional framework and a ready disaster management plan, however what it needs is to focus on improving disaster forecasting and ensuring that its urban centers are better prepared to handle a disaster so as to ensure the minimal loss.