

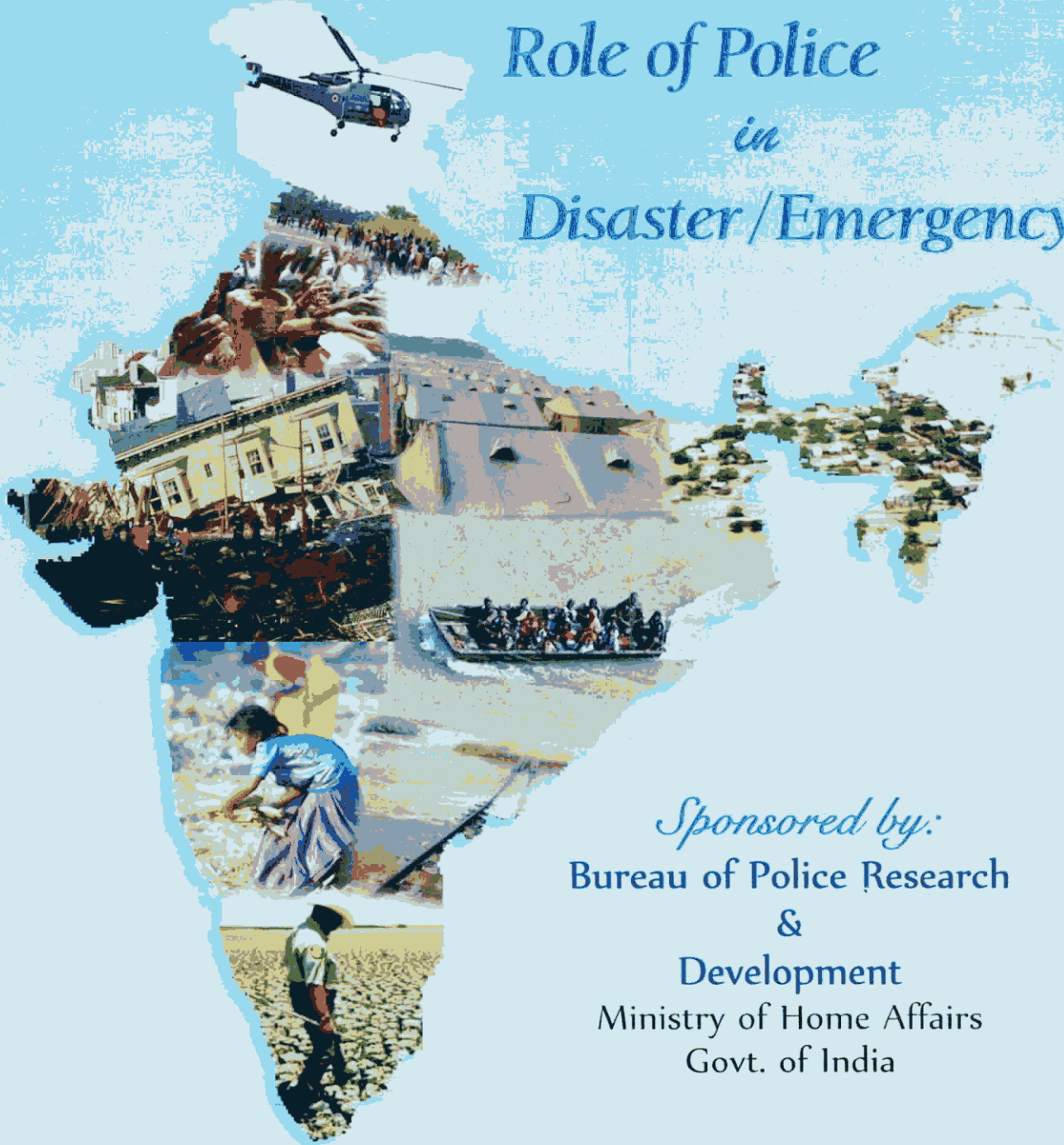
# RESEARCH PROJECT

*on*

*Role of Police*

*in*

*Disaster/Emergency*



*Sponsored by:*

Bureau of Police Research

&

Development

Ministry of Home Affairs

Govt. of India

Project Director

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Sincere thanks to BPRD which thought it appropriate to have a study on a subject that is likely to emerge a major field of work with policeman being increasingly involved in management of disasters both natural and manmade. Their role in emergencies related to internal security is well defined and documented. But same is not true for natural disaster and major accidents including industrial and chemical.

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## PREFACE

This study was conceived during Kosi disaster 2008 appropriately called National Disaster by Prime Minister of India. Kosi river, the 'sorrow of Bihar' breached (18th August, 2008) its embankment at Kusaha 10 kms inside Nepal bordering Supaul district of Bihar and started flowing along a new course approximately 15 to 20 km wide and 150 km long affecting 35 blocks, 407 Panchayats and 980 villages in five districts with population of over 33 lakhs. More than 33 lac people and their houses spread in 110258 ha land fell in the path of the new course. The entire country side within this 3000 sq. km swathe was totally devastated by the rapid surging flow of the river along its new course. Houses, school buildings, roads, health centers, bridges, telephone towers and railway tracks were all flooded and severely damaged/ swept away. Several banks closed their branches in the affected area causing problems in distribution of relief. There was complete disruption of road connectivity and as such boats became the only source of reaching the people.

As Special Secretary in the department of Disaster Management, I had the opportunity to organize response-both evacuation and relief. It involved perhaps the largest evacuation and relief operation in the country involving all wings of the defense services, specialized disaster response force- NDRF and state agencies specially police. I was also part of the team organizing relief and shelter for the affected population under extremely adverse conditions. The response was prompt and highly organized and several elements of the Incident Command System were practiced.

During Kosi, different functions were performed by the police as we went along with evacuation and relief work. These functions were evolved as the response activities unfolded. During rescue/evacuation police became the first responder - actually conducting search and rescue. Later on it facilitated operations of defence services, NDRF and others when they arrived as guides, coordinators and logistic support, helping maintain law & order and safety of property in the affected areas. The role during relief and recovery phase was more significant. It supported the civil administration in all the activities. The police forces got involved in whole lot of activities including security at relief distribution centers and relief camps to prevent unrest, security at food godowns, stations where material was being received from all over the country.



Although police has to perform function as above, it does not have the appropriate mandate in relevant Acts and manuals. Some of the enactments do mention this function, but it is of general nature ie search and rescue in State government disaster management plans and subsequent SOPs. Therefore there was need for defining the specific roles that police can play in different phases of an emergency-evacuation, relief and rehabilitation. The functions that are being identified for the police is based on the experience of Kosi disaster 2008 when as mentioned earlier I had the opportunity to evolve and define the roles as problems/issues came up during rescue, relief and recovery phases. People and government agencies perceive police as first responder due to the proximity of police station to the community. Even Model Police Act and Administrative Reforms Commission have recognized police as first responder. Therefore police is and would remain the first responder since immediate response can be provided at the police station level only. For this police must be trained and equipped. However, police station level police is neither trained nor equipped and therefore they would not be able to perform their role properly.

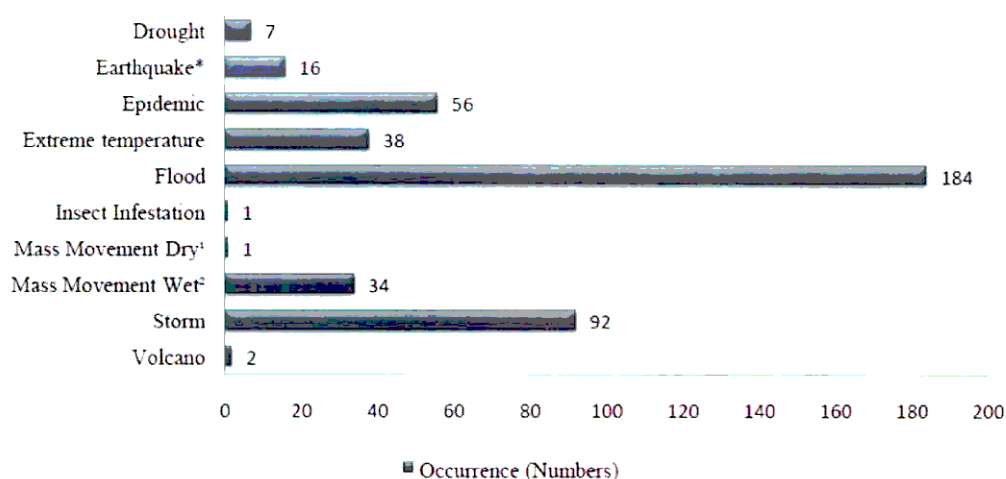
Now the approach to disaster management has undergone a paradigm shift from relief centric to holistic approach involving preparedness, mitigation and recovery. The present disaster management system and its strengths and weaknesses have been studied to understand whether it has the capability to accept the future challenges. The present day response management is becoming increasingly difficult due to variety of reasons including population growth, climate change and democratization of information, which makes incumbent upon us to bring about changes in approach, policy, legislation etc. The basic responsibility of undertaking rescue, relief and rehabilitation measures rest with the concerned State Government. The Central Government supplements the efforts of the State Governments by providing logistic and financial support in case of severe natural calamities. It includes deployment of aircrafts and boats, specialist teams of Armed Forces, Central Para Military Forces and personnel of National Disaster Response Force (NDRF), arrangements for relief materials, medical stores, and restoration of critical infrastructure facilities.

India has a well defined administrative structure extending up to the village level which is quite robust and time tested. Well defined and clearly designated, coordinating authorities exist at all levels. Line departments (police, health, PWD, power, civil supplies etc) function under chief executives at various levels. All are being coordinated by district magistrate / collector/ deputy commissioner. This structure is also responsible for disaster management.

Nonetheless, disaster management operations often takes place without any appropriate plans, designated authorities are not backed by professional response teams for various functional assignments and authority and responsibility are position based / designation and not backed by professional training. And finally there is poor resources/ inventory management leading to non /sub optimal deployment of men and material resulting in response at higher cost.

The human and economic losses from disasters are enormously high in India as compared to other developing nations of the world. According to the World Bank, direct losses from natural disasters have been estimated to amount to up to 2 per cent of India's GDP and up to 12 per cent of central government revenues.

### Natural Disaster Occurrence Reported during 1980-2010 in India



Source: Ministry of Home Affairs, Government of India

The institutional mechanisms put in place at the Centre, State and District levels should be able to help the States manage these disasters in an effective manner. The National Disaster Management Act, 2005 mandates the State Governments, inter alia, to take measures for preparation of state disaster management plans, integration of measures for prevention of disasters or mitigation into state development plans, allocation of funds, establishment of early warning systems and to assist the Central Government and other agencies in various aspects of disaster management. State Governments have enacted their own Acts, prepared State disaster management policies and guidelines for different kinds of emergencies. This has gone along with formation of several institutions at national, State and district levels including NDMA, SDMA, DDMA and NDRF and State level SDRFs. These institutions

have taken shape also in some states, but even those have not really become strong/active enough to improve response adequately. Moreover, machinery at the executive level i.e. district, subdivision, block, panchayat/village is nonexistent or very weak. There is need to build institutions at district and below with professionals who engage in all aspects in disaster management-preparation, mitigation etc. Even panchayats should be empowered to prepare vulnerability plan, response etc. Alongside, incident management teams should be constituted at all levels to respond in quickest time.

The Study aims at building a holistic, coordinated and prompt response to any disaster situation. The objective of this study is to suggest ways to quicken the emergency responses by empowering, training and equipping the police station and state police personnel and the auxiliary support agencies such as home guards and civil defence which would provide the immediate response to take care of the ‘golden hour’. This would enhance crisis management capability of the local and state governments.

The police has well defined role in internal emergencies including terrorist action. There is urgent need for capacity building of the police personnel. This includes a system wherein disaster management becomes an integral part of training of the Police Forces integrated with the community-based disaster management and closely coordinated with other agencies. The role of Police becomes very eminent as a law and order interface vis-à-vis the social welfare assistance to the community with a human face. The psyche of the members of the police force is to be fine tuned to the needs during such times.

Based on the first-hand experience of the author during Kosi disaster ‘2008’ in Bihar the paper brings out the multifarious role played by the police force as first responders. The lessons learnt need to be shared such that they can be applied elsewhere.

Happily, things are changing. Police Act of Bihar (2007) and Kerala (2010) has clearly put disaster Management as one of the police duties. This is certainly welcome. Even the Model Police Act prepared by BRRD in 2010 has identified police as first responder. This should go a long way in empowering and preparing the police as alternative to specialized and the defence forces wherein they become effective first responders capable of handling most emergencies.

## Executive Summary

Kosi river, the 'sorrow of Bihar' breached its embankment at Kusaha 10 kms inside Nepal bordering Supaul district of Bihar on 18th August, 2008 impacting 33 lakhs of people in 5 districts of Bihar as it started flowing along a new course approximately 15 to 20 km wide and 150 km long affecting 35 blocks, 407 Panchayats and 980 villages.

Floods due to the overflowing of river-waters are almost an annual ritual in Bihar, but this was a different flood: it was massive, sudden and unexpected, caused not by overflow of water but by a breach in river Kosi and change in its course. Therefore disaster management had to be undertaken under conditions of terrible handicaps. Roads, rail tracks, bridges and telephone lines were thrown out of use. Families of those responsible for the rescue operations stood marooned, looking for shelter. The current of water was so strong that on a few occasions motor-boats engaged in rescue work capsized, causing deaths.

In this background, response was organized in the face of one of modern India's worst natural calamities wherein the state launched one of the largest evacuation and relief operation in the country initially with its own resources and later on involving all wings of the defense services, specialized disaster response force- NDRF and state agencies including police. The response was prompt and highly organized and the state was able to minimize the loss both to life and property.

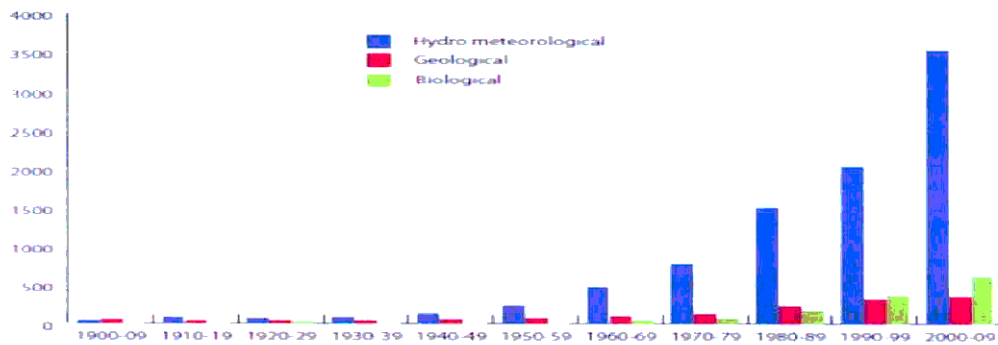
During rescue, relief and recovery work, different functions were performed by the police which were evolved as the response activities unfolded. Local policemen became the first responder. The role included helping civil administration in arranging boats and other resources, maintaining law & order and safety of property in the affected areas, providing security to government and non government functionaries involved in rescue and later on relief and rehabilitation. The police forces provided security at relief distribution centers and relief camps to prevent unrest, security at food godowns, railway stations where relief material being received from all over the country was stored and distributed.

One of the lessons learnt from Kosi has been designing and documenting the functions of the police such as to enhance response.

India is highly vulnerable to natural disasters on account of its unique geo-climatic conditions ***and out of 35 States and Union Territories in the country, 27 are disaster prone.*** Floods, droughts, cyclones, earthquakes and landslides are recurrent phenomenon. Coastal states, including Andhra Pradesh, Tamil Nadu and Gujarat are exposed to cyclones, 68 percent of the area faces drought threat, 55 per cent of the area is in seismic zones III and IV which falls under earthquakes-prone belt and sub-Himalayan region and Western Ghat are threatened by landslides. 12 % of land is prone to flood and river erosion and approximately 5700 kilometres of coastline is prone to cyclones and tsunami. Hilly areas risk from landslides and avalanches. On account of its multilayered vulnerability, India has witnessed an increase in the frequency and intensity of disasters in the past resulting in widespread devastation. The human and economic losses from disasters are enormously high in India as compared to other developing nations of the world. According to the World Bank, direct losses from natural disasters have been estimated to amount to up to 2 per cent of India's GDP and up to 12 per cent of central government revenues.

Globally too incidence and intensity of disasters are increasing over the years. The upward trend is mainly driven by 7.4% per year increase in hydrological disasters on average. Unfortunately developing countries bear the brunt of natural and man-made disasters (90% of the people affected live in Asia) and these countries lack the resources and capacities to responds effectively.

### *Disaster events globally between 1900 and 2009*



Source: Disaster Management in India, Ministry of Home Affairs

The state governments have the basic responsibility for undertaking rescue, relief and rehabilitation measures in the event of a disaster. The Central Government supplements the efforts of the State Governments by providing logistic and financial support as may be required by the affected States to meet the situation effectively. Ministry of Home is the nodal ministry for most of the disasters.

Indian disaster management set up underwent a paradigm shift with National Disaster Management Act 2005. India has established institutional framework by creating National Disaster Management Authority, State and district level disaster management authorities and a National Disaster Response Force one and the only one in the world. The NDMA and some of SDMAs are active. They have issued guidelines, SOP etc.

India has a well defined administrative structure extending up to the village level. Well defined and clearly designated, coordinating authorities are functional at each level of government. Line departments including police, health, PWD, power, civil supplies etc function under own administrative structure. However all are being coordinated by district magistrate / collector/ deputy commissioner. This administrative structure is also responsible for disaster management.

Nonetheless, disaster management operations often take place without any appropriate plans, designated authorities are not backed by professional response teams and authority and responsibility are position based. And finally there is poor resources/ inventory management leading to sub optimal deployment of men and material resulting in response at higher cost.

With regard to emergencies related to internal security, police functions are well defined in manuals and acts. But police has to respond urgently during national disasters. This function is well established. This has been recognized very well. **Administrative Reforms Commission** in its report published in 2006 mentions “The police are among the first responders in any crisis” and “It is essential therefore, that policemen at level who would be the responders are sufficiently trained”. Model Police Act, 2006 also mentions that police “to provide, as first responders, all possible help to people in situations arising out of natural or



man-made disasters, and to provide active assistance to other agencies in relief and rehabilitation measures” and **National Police Commission** speaks of “service-oriented functions of police, which are meant to provide relief to persons in a distress situation”. Some of the national and state government’s policy enactments do mention such role, but it is of general nature ie search and rescue in State government disaster management plans and subsequent SOPs. Therefore there is need for defining the specific roles that police can play in different phases of an emergency response-evacuation, relief and rehabilitation.

The functions that are being identified for the police are based on recommendations of expert commissions/ committees including National Police Commission, Administrative Reforms Commission and Model Police Act, literature of response in disasters in other countries and the experience of Kosi disaster 2008 when we had the opportunity to evolve and define the roles as problems/issues came up during rescue, relief and recovery phases.

People and government agencies perceive police as first responder due to the proximity of police station to the community. Even Model Police Act and Administrative Reforms Commission have recognized police as first responder. Therefore police is and would remain the first responder / immediate responder after the community since immediate response can be provided at the police station level only. For this police must be trained and equipped. However, police station level police is neither trained nor equipped and therefore they would not be able to perform their role properly.

While on one hand our disaster management response needs considerable strengthening, on the other, frequency and intensity of disasters are increasing over the years. At the same time response management is becoming increasingly difficult due to variety of reasons including population growth, climate change and democratisation of information, which makes incumbent upon us to bring about recommended changes in approach, policy, legislation etc. Disaster management managers specially police officers need to appreciate the enormous task that they have on hand in future.

The Kosi experience has amply demonstrated the significant role of the police in every activity of rescue, relief & recovery. Policemen were critical to evacuation of people, maintenance of law and order in affected areas and relief camps, security of responders etc. Its resourcefulness, widespread presence and organized nature made it ideally suited for role of first responder. Unfortunately, the national and the state acts related to disaster management do not delegate any significant role to the police. Given the functions that a police has to perform during such emergency, it is essential to build capacity of the responders. Finally, the organization should be provided with sufficient funds to equip it and build capacity. Only then it could fulfill the expectations of all the stakeholders including the public.

Police has prime role in disaster management. As police will continue to have the first responder role given its proximity to the incident site it has to bring about a change in its approach. It has to adopt disaster management function as a primary one and not a side work. State & district level authorities cannot afford to wait for response forces such as NDRF all the time. In addition to capacity building, State governments have to bring about changes in law to empower the police and the supporting organizations such as home guards and civil defence. Hence the local police must be trained, equipped and supported with legislation and logistics so that they find themselves capable to support the victim in the ‘golden hour’.

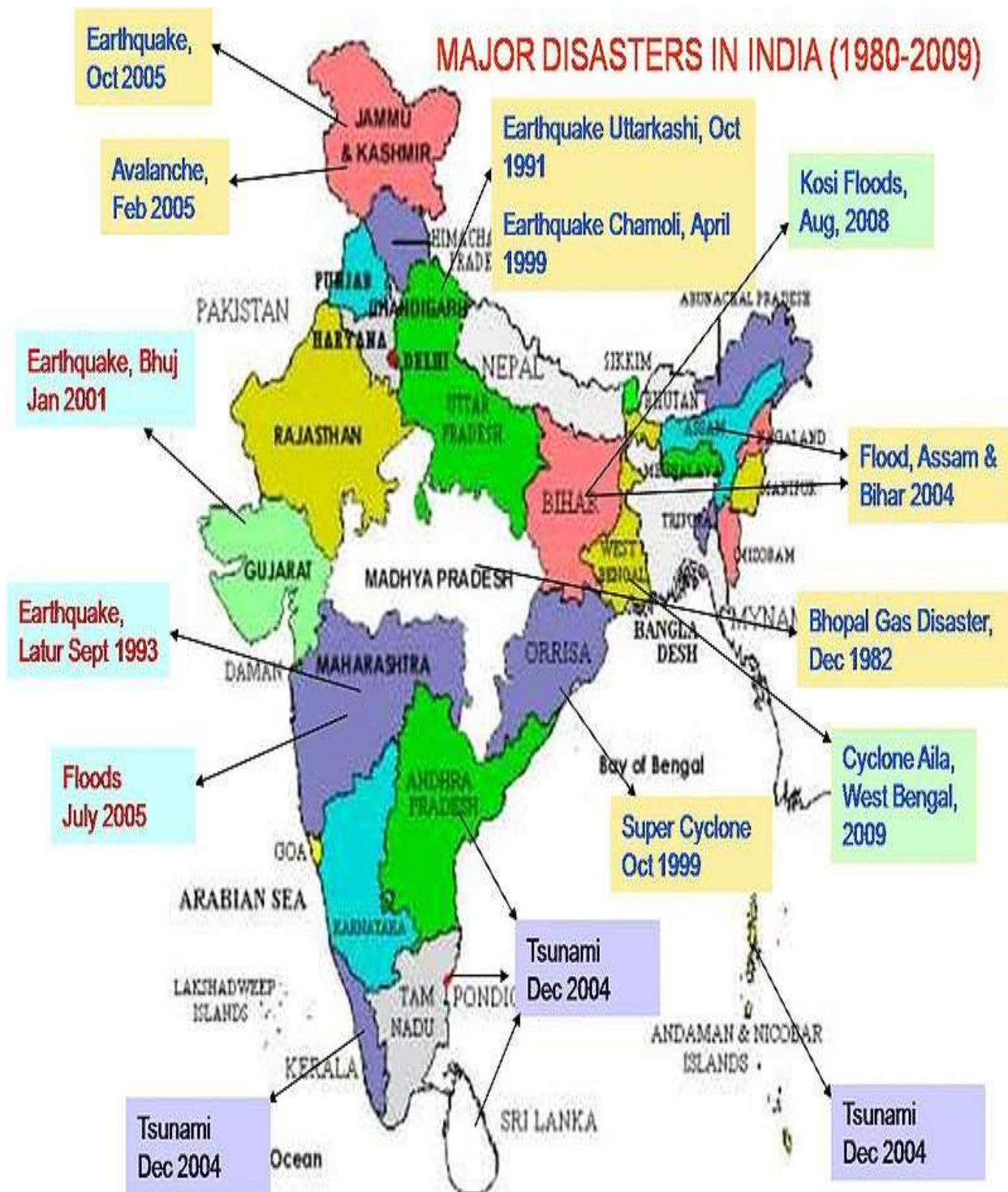


## ABBREVIATIONS

|        |   |                                                                |
|--------|---|----------------------------------------------------------------|
| ADG    | - | Additional Director General of police                          |
| ADM    | - | Additional District Magistrate                                 |
| ARC    | - | Administrative Reforms commission                              |
| ATI    | - | Administrative Training Institutes                             |
| BDO    | - | Block Development Officer                                      |
| BDRF   | - | Bihar Disaster Response Force                                  |
| BHG    | - | Bihar Home Guards                                              |
| BIPARD | - | Bihar Institute of Public Administration and Rural Development |
| BRR&D  | - | Bureau of Police Research and Development                      |
| BSF    | - | Border Security Force                                          |
| BWHG   | - | Border Wing Home Guards                                        |
| CARE   | - | Co-operative Assistance and Relief Everywhere                  |
| CCMNC  | - | Cabinet Committee on Management of Natural Calamities          |
| CCS    | - | Cabinet Committee on Security                                  |
| CD     | - | Civil Defence                                                  |
| CDNC   | - | Centre for Disaster and Natural Calamity                       |
| CISF   | - | Central Industrial Security Force CMG -Crisis Management Group |
| CMRF   | - | Chief Ministers Relief Fund                                    |
| CO     | - | Circle Officer                                                 |
| CPMF   | - | Central para-military forces                                   |
| CRED   | - | Centre for Research on Epidemiology of Disasters               |
| CRPF   | - | Central Reserve Police Force                                   |
| CSSR   | - | Collapse Structure Search & Rescue                             |
| DC     | - | Deputy Commissioner                                            |
| DDMA   | - | The District Disaster Management Authority                     |
| DGP    | - | Director General of police                                     |
| DIG    | - | Deputy Inspector General                                       |
| DM     | - | Disaster Management                                            |
| DSC    | - | Defence Security Corps                                         |
| ESF    | - | Essential Support Functions                                    |
| FLO    | - | Family Liaison Officers                                        |

|      |   |                                           |
|------|---|-------------------------------------------|
| GIS  | - | Geographical Intelligence System          |
| GOI  | - | Government of India                       |
| GPS  | - | Geo Positioning Systems                   |
| HLC  | - | High Level Committee                      |
| ICS  | - | Incident Command System                   |
| IDRN | - | Indian Disaster Response Network          |
| IG   | - | Inspector General                         |
| ILO  | - | International Labour Organisation         |
| IMD  | - | Indian Meteorological Department          |
| IMG  | - | Inter Ministerial Group                   |
| IPS  | - | Indian Police Service                     |
| IRS  | - | Incident Response System                  |
| IRT  | - | Incident Response Team                    |
| ITBP | - | Indo-Tibetan Border Police                |
| J&K  | - | Jammu and Kashmir                         |
| Mha  | - | million hectares                          |
| MHA  | - | Ministry of Home Affairs                  |
| MFRT | - | Medical First Aid Team                    |
| NCC  | - | National Cadet Corps                      |
| NCCF | - | National Calamity Contingency Fund        |
| NCMC | - | National Crisis Management Committee      |
| NDMA | - | National Disaster Management Authority    |
| NDRF | - | National Disaster Relief Force            |
| NEC  | - | National Executive Committee              |
| NIDM | - | National Institute of Disaster Management |
| NGO  | - | Non Government Organizations              |
| NOPD | - | New York Police Department                |
| NPC  | - | National Police Commission                |
| NSS  | - | National Service Scheme                   |
| NYK  | - | Nehru Yuvak Kendra                        |
| OSD  | - | Officer on Special Duty                   |
| ODRF | - | Odisha Disaster Response Force            |
| RAF  | - | Rapid Action Force                        |

|        |   |                                                                  |
|--------|---|------------------------------------------------------------------|
| RPF    | - | Railway Protection Force                                         |
| SDMA   | - | State Disaster Management Authority                              |
| SDRN   | - | State Disaster Response Network                                  |
| SEC    | - | State Executive Committee.                                       |
| SHO    | - | Station House Officer- officer in charge of a police station     |
| SOP    | - | Special Operational Procedure GIS, GPS                           |
| SRC    | - | State Relief Commissioner                                        |
| SSB    | - | Shashtra Seema Bal                                               |
| SSP    | - | Senior Supt of Police                                            |
| UN     | - | United Nations                                                   |
| UNDP   | - | United Nations Development Programme                             |
| UNESCO | - | United Nations Educational, Scientific and Cultural Organization |
| UNFPA  | - | United Nations Population Fund                                   |
| UNCCR  | - | United Nations High Commissioner for Refugees (UNHCR)            |
| UNICEF | - | United Nations International Children's Emergency Fund           |
| US     | - | United States                                                    |
| UT     | - | Union Territory                                                  |
| VIP    | - | Very Important Person                                            |
| WHO    | - | World Health Organization                                        |



## INTRODUCTION – STATEMENT OF THE PROBLEM

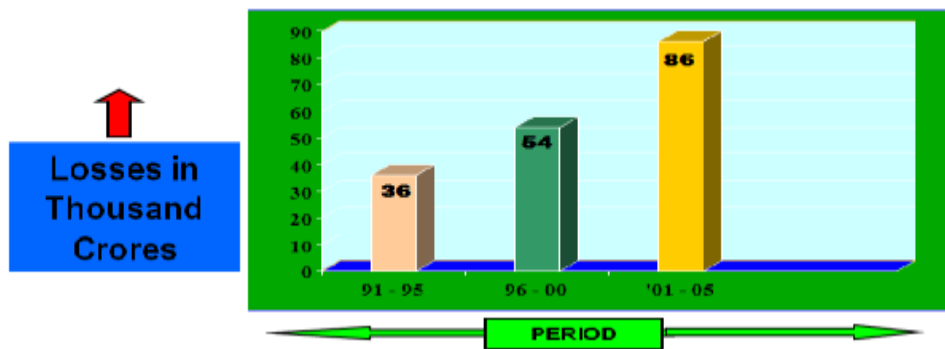
### Indian Disaster Management Scenario

India with its unique geophysical setting and socio-economic conditions is highly vulnerable to disasters. The country is prone to disasters due to number of factors, both natural and human induced, including adverse geo-climatic conditions, topographic features, environmental degradation, population growth, urbanization, industrialization, flawed development practices, etc. As far as the geographic dimensions of the country are concerned, the five distinctive regions of the country i.e. Himalayan region, the alluvial plains, the hilly part of the peninsula, the deserts and the coastal zone have their own specific problems.

**Poverty, vulnerability and disasters are linked - it is most often the poorest that are worst affected and suffer most. Their poverty makes them more vulnerable. Their capacity to cope with disasters and recover from the effects are constrained by their lack of resources.**

While on one hand the Himalayan region is prone to disasters like earthquakes and landslides, the plain is affected by floods almost every year. The desert part of the country is affected by droughts while the coastal zone is susceptible to cyclones and storms. If we analyse the layers of vulnerability statistically, ***out of 35 States and Union Territories in the country, 27 of them are disaster prone.***

India is highly vulnerable to natural disasters on account of its unique geo-climatic conditions. Floods, droughts, cyclones, earthquakes and landslides have been recurrent phenomena. Its coastal states, particularly the eastern coast and Gujarat are exposed to cyclones, 68 percent of the area faces drought threat, 55 per cent of the area is in seismic zones III and IV which falls under earthquakes-prone belt and sub-Himalayan region and Western Ghat are threatened by landslides. Over 40 million hectares (12 % of land) is prone to flood and river erosion. Of the 7,516 kilometres of long coastline, close to 5700 kilometres are prone to cyclones and tsunamis. Hilly areas risk from landslides and avalanches. Heightened vulnerabilities are due to population, environmental degradation, unplanned urbanization, industrialization, etc. (National policy on disaster management, 2009). In the decade 1990-2000, an average of about 4344 people lost their lives and about 30 million people were affected by disasters every year. The loss in terms of private, community and public assets has been increasing. The loss is estimated at 2% Percentage of GDP.



**India's Economic Losses Due To Disasters**

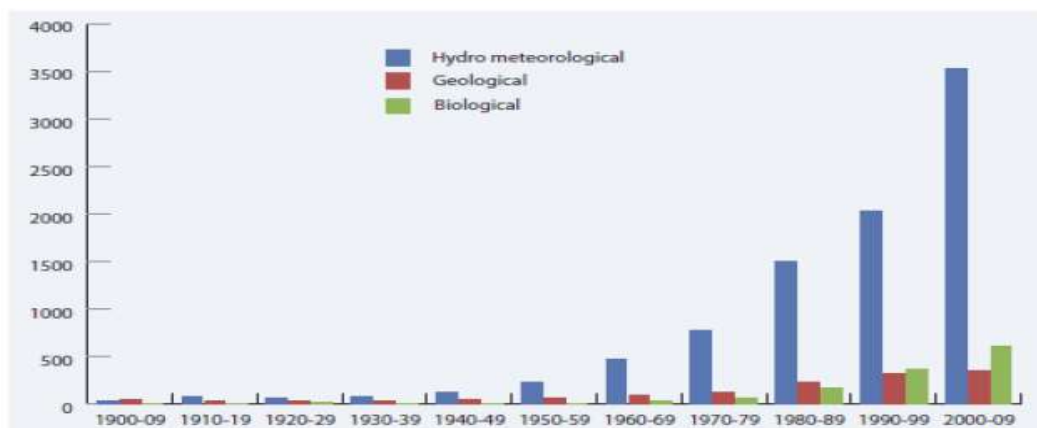
#### **Annual- Impact on People and Financial Losses**

- ✚ Losses in lives – 4334.
- ✚ People affected – 30 Million.
- ✚ Houses lost – 2.34 Million.
- ✚ Percentage of GDP – 2%.
- ✚ Percentage of Central Revenue (for relief) – 12%.

**Source : Presentation on “ Disaster Response In India” by Amit Jha, Joint Secretary, National Disaster Management Authority, India at “Asia Pacific Senior Leader Civil Military Seminar”, Honolulu, USA on August 30 – September 1, 2010**

Globally too incidence and intensity of disasters are increasing as evident from the graph below. In 2007, 414 disasters resulting from natural hazards were reported all over the world. They killed 16,847 people, affected more than 211 million others and caused over 74.9US\$ billion in economic damages. Number of reported disasters confirmed the global upward trend in natural hazard-related disasters, mainly driven by the increase in the number of hydro-meteorological disasters. In recent decades, the number of reported hydrological

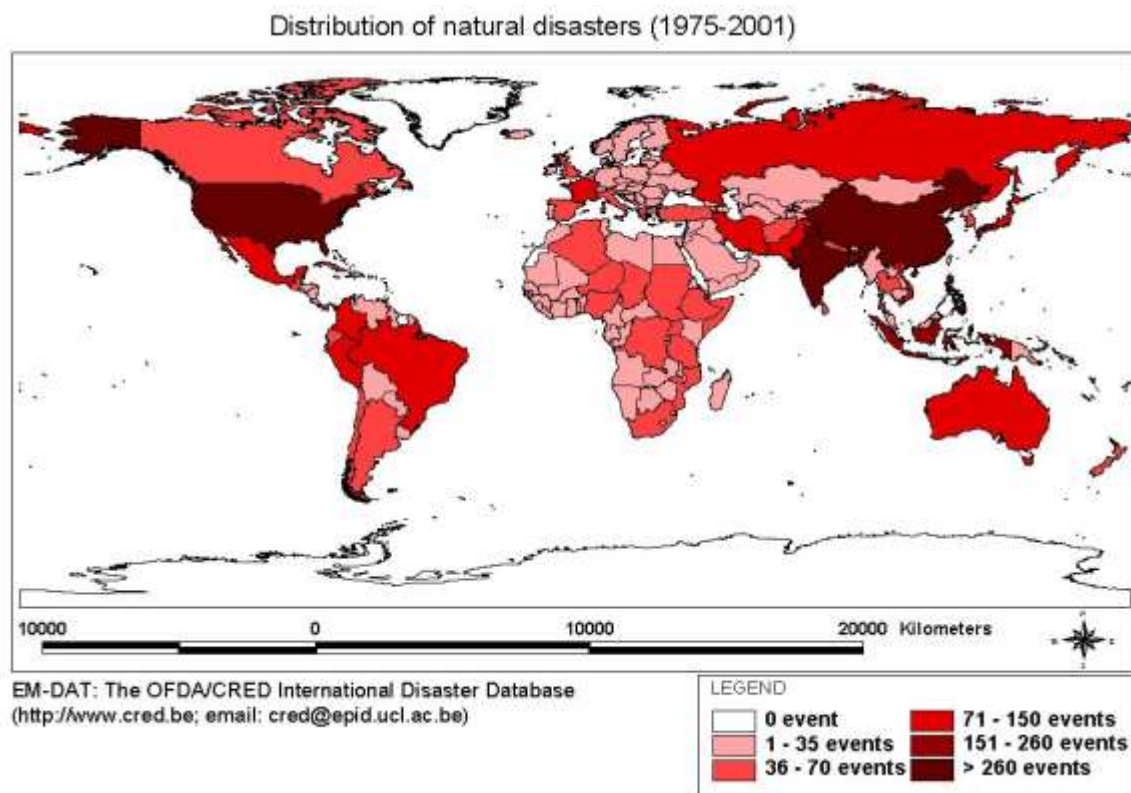
#### ***Disaster events globally between 1900 and 2009***



*Source: Disaster Management in India, Ministry of Home Affairs*

disasters has increased by 7.4% per year on average. Unfortunately developing countries bear the brunt of natural and man-made disasters (90% of the people affected live in Asia) and

these countries lack the resources and capacities to respond effectively. Disasters pose a major threat to sustainable development and the attainment of the Millennium Development Goals. Disasters disrupt progress and destroy the outcome of developmental efforts over several years, often pushing nations in quest for progress back by several decades. Thus, efficient reduction of disaster risks rather than mere response to their occurrence has in recent times, received increased attention both within India and abroad. Therefore, at the global level and within our country, there has been considerable concern over natural disasters.



**Source : Presentation on “ Disaster Response In India” by Amit Jha, Joint Secretary, National Disaster Management Authority, India at “Asia Pacific Senior Leader Civil Military Seminar”, Honolulu, USA on August 30 – September 1, 2010.**

Even as substantial scientific and material progress is made, the loss of lives and property due to disasters has not decreased. In fact, the human toll and economic losses have mounted.

It was in this background that the United Nations General Assembly, in 1989, declared the decade 1990-2000 as the International Decade for Natural Disaster Reduction with the objective to reduce loss of lives and property and restrict socio-economic damage through concerted international action, especially in developing countries. With a vision to build a safe and disaster resilient India the Government has adopted a holistic, proactive, and multi-hazard oriented and technology driven strategy by promoting a culture of prevention, mitigation, preparedness and response. While disasters have traditionally been viewed as dramatic natural occurrences over which passive victims have little or no control, many more people are at risk from hazards other than cataclysmic events. Hunger, disease, other man-made disasters claim many more lives than floods or earthquakes. Yet these disasters pass largely unnoticed in less developed countries.

On the other hand natural disasters are rarely just one-off events, but more often the result of deep-rooted long-term failures of development which exacerbates the situation. Very often



the impact is to drive the poor from a state of vulnerability to one of total destitution.

On account of its multilayered vulnerability, India has witnessed an increase in the frequency and intensity of disasters in the past resulting in widespread devastation. This inference is drawn only on the basis of disasters which have been reported. Many of the disasters, particularly in remote areas, go unreported because local administration lack the technical and human resources for community-level disaster monitoring and are not able to fully identify or map potential local hazards or develop the appropriate disaster management plans. Losses from low-intensity, but more extensive disaster events continue to affect housing, local infrastructure, and large numbers of people. These disasters at the local level are so frequent that many communities accept them as an integral part of their existence and, with varying degrees of success, learn to live with them.



During 2011-12, 14 States and one Union Territory reported damage due disasters like cyclones, heavy rains, floods, landslides, earthquakes, etc. in varying degrees. These states were Assam, Bihar, Goa, Gujarat, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Odisha, Punjab, Sikkim, Uttar Pradesh, Uttarakhand, West Bengal and Union territory of Puduchery. The provisional extent of damage is as follows:

|                            |                     |
|----------------------------|---------------------|
| Number of human lives lost | 1432                |
| No of cattle perished      | 6266                |
| Houses damaged             | 6,84,901            |
| Cropped area affected      | 16.28 lakh hectares |

(Source: Ministry of Home Affairs, Government of India)

## 1.1 PROFILE OF MAJOR DISASTERS

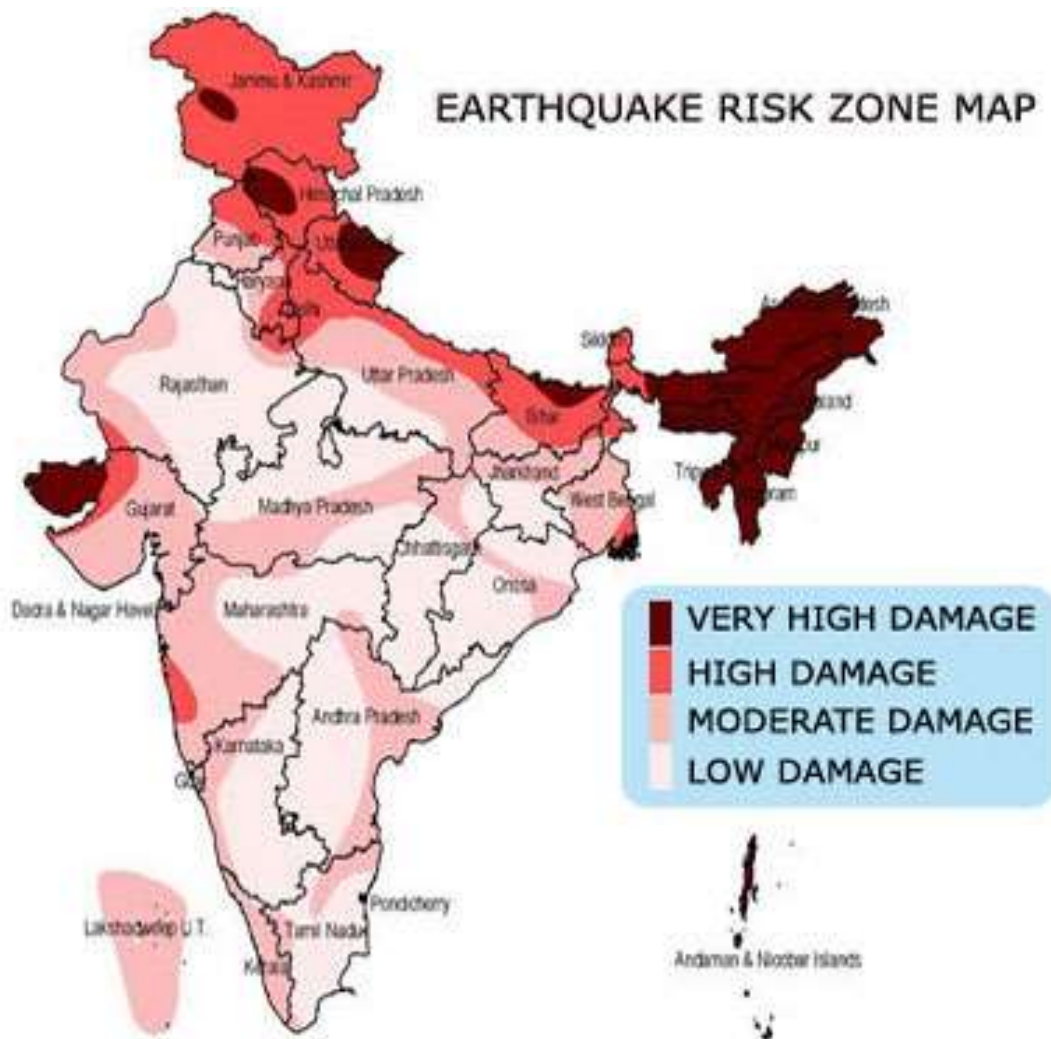
### a. Earthquake

Earthquakes have caused huge damage to life and property worldwide and pose a significant threat to India. 59% of its geographical area is prone to earthquake. The most clearly observable impacts of an earthquake are the loss of human lives and property, economic & social losses and environmental degradation. Over the last century, about 75% of fatalities attributed to earthquakes have been caused by the collapse of buildings. A great number of victims die in the collapse of non-engineered weak masonry buildings, which make up a large proportion in India's existing building stock. India's substantial percentage of population of earthquake vulnerable zones continue to live in these structures due to absence of knowledge in earthquake resistant construction & retrofitting techniques at the grassroots and non-compliance of appropriate building regulations and town planning legislations for earthquake safe guided physical development in towns. Besides, ignorance of basic tips of earthquake survivability in the mindset of common people during shaking of earth increases the casualty in many folds. Further, least expertise by rescuers in search & rescue in collapse buildings and no knowledge of first-aid technique for earthquake victims make the situation worst during any post earthquake scenario.



### Some major earthquakes and their impact in India (Source: IMD)

| Date              | Earthquake        | Time  | Magnitude | Max. Intensity | Deaths in India |
|-------------------|-------------------|-------|-----------|----------------|-----------------|
| 16 June 1819      | Great Kachchh     | 11:00 | 8.3       | IX             | 1,500           |
| 12 June 1897      | Great Shillong    | 17:11 | 8.7       | XII            | 1,500           |
| 8 February 1900   | Coimbatore        | 03:11 | 6.0       | VII            | Not Known       |
| 4 April 1905      | Great Kangra      | 06:20 | 8.0       | X              | 19,000          |
| 15 January 1934   | Great Bihar-Nepal | 14:13 | 8.3       | X              | 11,000          |
| 26 June 1941      | Great Andaman     | ??    | 8.1       | X              | Thousands       |
| 15 August 1950    | Great Assam       | 19:31 | 8.6       | XII            | 1,530           |
| 21 July 1956      | Anjar             | 21:02 | 6.1       | IX             | 115             |
| 10 October 1956   | Bulandshahar      | ??    | 6.7       | VIII           | Many            |
| 28 December 1958  | Kapkote           | ??    | 6.3       | VIII           | Many            |
| 2 September 1963  | Badgam            | 07:04 | 5.5       | VII            | Hundreds        |
| 10 December 1967  | Koyna             | 04:30 | 6.5       | VIII           | 200             |
| 23 March 1970     | Bharuch           | 20:56 | 5.2       | VII            | 30              |
| 19 January 1975   | Kinnaur           | ??    | 6.5       | VIII           | Not Known       |
| 29 July 1980      | Pithoragarh       | 18:28 | 6.8       | ??             | >150            |
| 31 December 1984  | Silchar           | 04:53 | 5.6       | ??             | 20              |
| 26 April 1986     | Dharamshala       | 13:05 | 5.5       | ??             | 6               |
| 21 August 1988    | Bihar-Nepal       | 04:39 | 6.6       | IX             | 1,004           |
| 20 October 1991   | Uttarkashi        | 02:53 | 6.4       | IX             | 768             |
| 30 September 1993 | Killari (Latur)   | 03:53 | 6.2       | VIII           | 7,928           |
| 22 May 1997       | Jabalpur          | 04:22 | 6.0       | VIII           | 38              |
| 29 March 1999     | Chamoli           | 00:35 | 6.6       | VIII           | 63              |
| 26 January 2001   | Bhuj              | 08:46 | 7.7       | X              | 13,805          |
| 14 September 2002 | Diglipur          | 03:58 | 6.0       | VII            | -               |
| 26 December 2004  | Great Sumatra     | 06:28 | 9.3       | XII            | 10,749          |
| 08 October 2005   | Kashmir           | 09:20 | 7.4       | X              | 1,308           |
| 14 February 2006  | Sikkim            | 06:25 | 5.7       | VII            | 2               |
| 18 September 2011 | Sikkim            |       | 6.9       |                | 107             |
| 2 October 2011    | Nepal / Sikkim    | 16.15 |           |                |                 |



## b. Flood

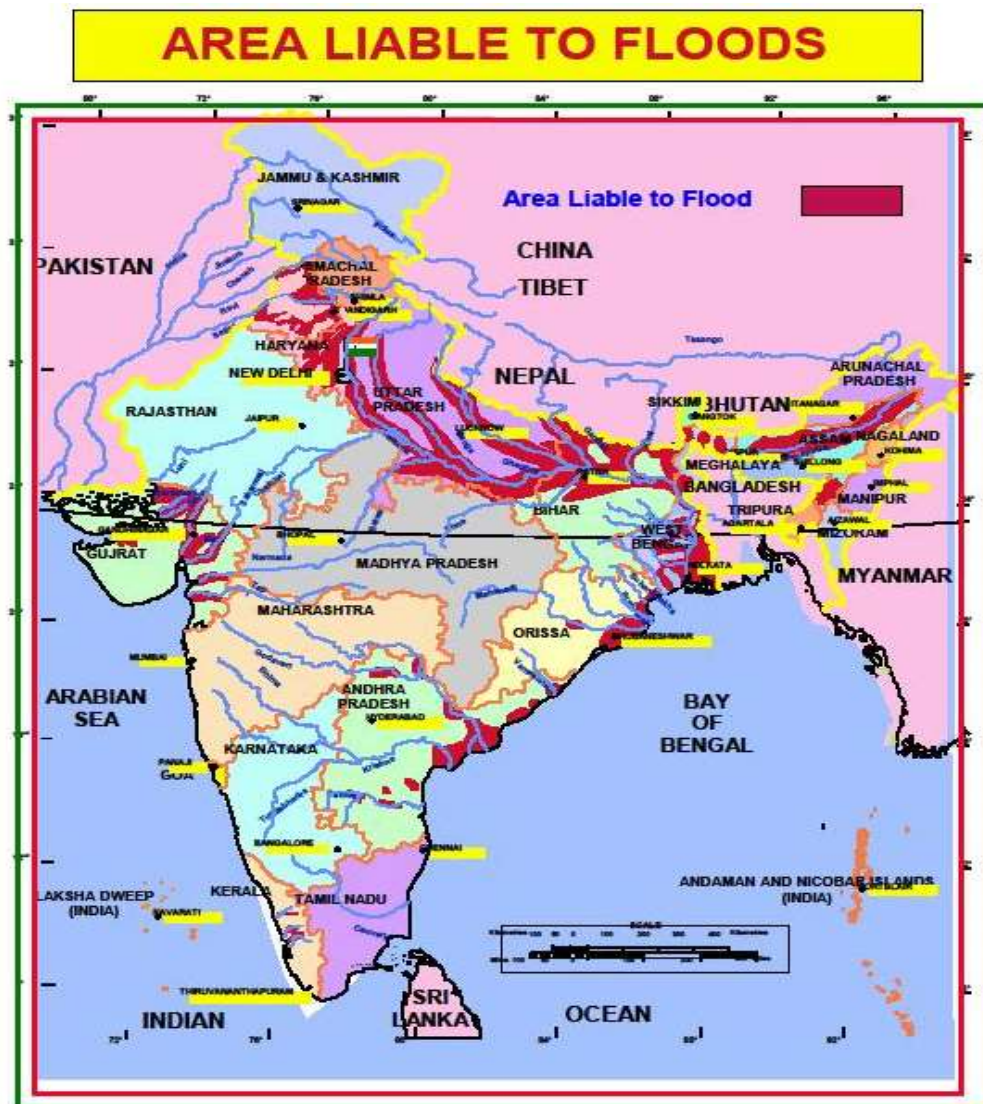
India is highly vulnerable to floods and out of the total geographical area of 329 mha, more than 40 mha is flood prone. Floods are recurrent phenomenon, which cause huge loss of lives and damage to livelihood system, property, infrastructure and public utilities. It is a cause for concern that the flood related damages are showing an increasing trend. The average annual flood damage during the last 10 years (1996-2005) was Rs. 4745 crore as compared to Rs. 1805 crore, the corresponding average for the last 53 years. This can be attributed to many reasons including rapid increase in population and urbanisation coupled with growing developmental and economic activities in the flood plains and global warming.

Flooding in the cities and the towns is a recent phenomenon caused by increasing incidence of heavy rainfall in a short period of time, indiscriminate encroachment of waterways, inadequate capacity of drains and lack of maintenance of the drainage infrastructure. Keeping in view the fact that the problem is becoming more severe and losses are mounting every year, the subject of urban flooding has been recognised by the NDMA.

The following regions are flood prone;

1. The Brahmaputra River Region
2. The North-west River Region
3. The Ganga River Region
4. The Central India and Deccan Region

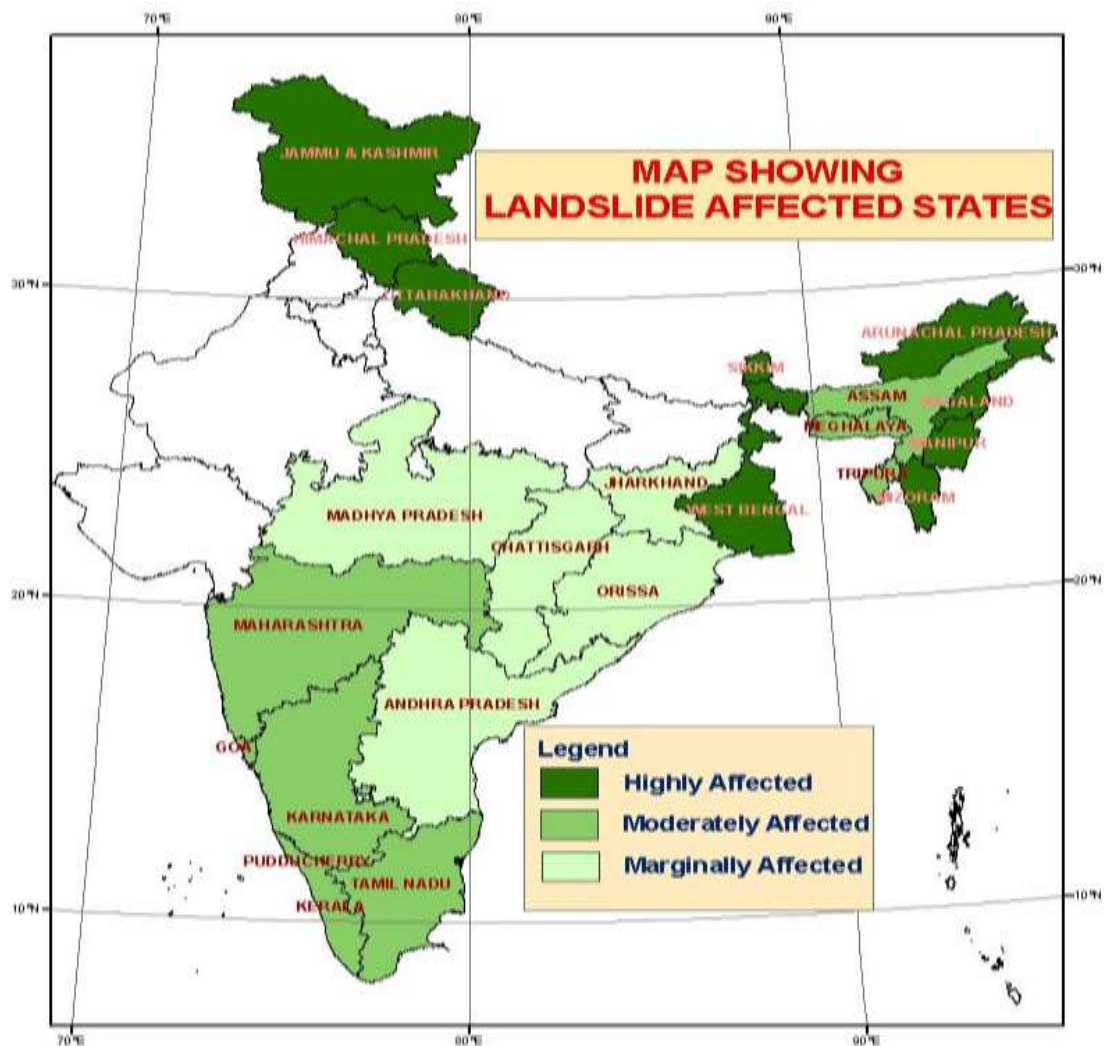
## INDIA



### c. Landslide

India has a sensational record of catastrophes due to landslides. Landslides & Avalanches are among the major hydro-geological hazards that affect large parts of India, especially the Himalayas, the Northeastern hill ranges, the Western Ghats, the Nilgiris, the Eastern Ghats and the Vindhyas, in that order. In the Himalayas alone, one could find landslides of every

fame, name and description- big and small, quick and creeping, ancient and new. The northeastern region is badly affected by landslide problems of a bewildering variety. Landslides in the Darjeeling district of West Bengal as also those in Sikkim, Tripura, Meghalaya, Assam, Nagaland and Arunachal Pradesh pose chronic problems causing recurring losses. There are landslides in the Western Ghats in the south, along the steep slopes overlooking the Konkan coast. Landslides are also very common in the Nilgiris, characterized by a lateritic cap, which is highly landslide prone.



#### d. Cyclone

More cyclones occur in the Bay of Bengal than the Arabian Sea and the ratio is approximately 4:1. Cyclones occur frequently on both the coasts (The west coast - Arabian Sea; and the east coast - Bay of Bengal). An analysis of the frequencies of cyclones on the east and west coasts of India between 1891 and 1990 shows that nearly 262 cyclones occurred (92 severe) in a 50 km wide strip on the east coast. Less severe cyclonic activity has been noticed on the west coast, with 33 cyclones occurring in the same period, out of which 19 of these were severe.

Tropical cyclones occur in the months of May-June and October-November. The disaster potential is particularly high at the time of landfall in the north Indian Ocean (Bay of Bengal and the Arabian Sea) due to the accompanying destructive wind, storm surges and torrential rainfall.

Cyclones vary in diameter from 50 to 320 km but their effects dominate thousands of square kilometers of ocean surface and the lower atmosphere. Nearer the eye, winds may hit 320 kmph. Thus tropical cyclones, characterized by destructive winds, torrential rainfall and storm surges disrupt normal life with accompanying the phenomena of floods due to the exceptional level of rainfall and storm surge inundation into inland areas.



#### e. Tsunami

Most Tsunamis are caused by earthquakes (of magnitude more than 6.5 on the Richter Scale), with a vertical disruption of the water column generally caused by a vertical tectonic displacement of the sea bottom along a zone of fracture in the earth's crust which underlies or borders the ocean floor. Tsunamis are also generated by volcanic eruptions and submarine landslides, nuclear explosions, and even due to impact or fall of large size meteorites, asteroids, and comets from outer space.

Tsunamigenic zones that threaten the Indian Coast have been identified by considering the historical tsunamis, earthquakes, their magnitudes, location of the area relative to a fault, and also by tsunami modeling. Both the east and west coasts of India and the island regions are

likely to be affected by tsunamis from the five potential source regions, viz., the Andaman-Nicobar- Sumatra island arc, Indo-Burmese zone, Nascent Boundary (in the central Indian Ocean), Chagos archipelago and the Makran subduction zone.

Even though tsunamis occur very rarely in the Indian Ocean region, in the last 300 years, this region recorded 13 tsunamis and 3 of them occurred in the Andaman and Nicobar region. Overall, the run-up levels in the Indian Ocean tsunamis varied from 1 to 13 metres. The three tsunamis which affected Andaman and Nicobar islands occurred on 19th August 1868, 31<sup>st</sup> December 1881 and 26<sup>th</sup> June 1941.

Tsunamis generated in the Indian Ocean pose a great threat to all the countries of the region. Countries most vulnerable to tsunamis in the Indian Ocean region are - Indonesia, Thailand, India, Sri Lanka, Pakistan, Iran, Malaysia, Myanmar, Maldives, Somalia, Bangladesh, Kenya, Madagascar, Mauritius, Oman, Reunion Island (France), Seychelles, South Africa and Australia. The 1945 tsunami following an earthquake of magnitude 8.2 Ms in the Arabian Sea had a maximum run up of 13 metres in Pakistan and resulted in the death of 4,000 people.

#### **f. Windstorm, Thunderbolt and Hailstorm**

#### **g. Drought**

Out of the total geographical area of India, almost one-sixth area with 12% of the population is drought prone; the areas that receive an annual rainfall up to 60 cm are the most prone. The Irrigation Commission (1972) had identified 67 districts as drought prone. These comprise 326 talukas located in 8 states, covering an area of 49.73m ha. Subsequently, the National Commission on Agriculture (MOA 1976) identified a few more drought prone areas with slightly different criteria. Later, based on detailed studies, 74 districts of the country have been identified as drought prone.

Moreover, India is increasingly getting susceptible to man-made disasters related to industrialisation, transportation, environmental degradation and terrorist attacks. Besides, there is no legal ratification either at the Union or the state government's level to deal with such disasters in comprehensive manner as the subject of disaster management is not specified under any of the three lists (Central, state and concurrent) of Seventh Schedule of the Indian Constitution.

The super cyclone in Orissa in October, 1999 and the Bhuj earthquake in Gujarat in January, 2001, Kosi embankment breach disaster in 2008 and other serious disasters/ emergencies have underscored the;

-  Need to adopt multi disciplinary and multi sectoral approach,
-  Incorporation of risk reduction in the developmental plans and strategies,
-  A multi dimensional approach involving diverse scientific, engineering, financial and social processes,
-  Need for effective response mechanism.

## 1.2 STATUS OF DISASTER RESPONSE IN INDIA

### **DISASTER**

- *Affects & Threatens Lives*
- *Loss of Property*
- *Dislocates Livelihood*
- *Creates Trauma & Deprivation*

Is India adequately ready to face those natural calamities? Civil administration tasked with the responsibility is ill-equipped for undertaking disaster response activities in the event of major disasters; they rely on the armed forces and police including specialized disaster response police forces. Indian armed forces, being one of the most dedicated, professional, modernized armed forces in the world, are adequately equipped with the necessary technical competence, man power and material resources to

undertake rescue and relief operations of any disaster. For instance, when tsunami occurred in December 2004, the Indian army, navy and the air force executed the relief, rescue and evacuation assignments under Operation Sea Ware, and also extended aid to Sri Lanka and Maldives under Operation Rainbow and Operation Castor at the request of their respective governments. The role played by the Indian armed forces, National Disaster Management Force and the state police in Kashmir earthquake of 2005, the cyclone in Bangladesh on 15th of November, 2007, the fire breakout at Burrabazar in Kolkata on 12th of January, 2008, and Kosi disaster 2008, is commendable.

Above and beyond its primary role, i.e. to defend the nation against any external aggression, the Indian armed forces are inevitably involved in serious emergencies, both natural and manmade. They were requisitioned for the Kosi disaster 2008 and lately helped the state government of Assam in controlling ethnic riots in some parts. The armed forces are always in the state of operational readiness to move to any disaster-affected areas and have the organisational capacity to work under adverse ground and climatic conditions, which is of immense help in assisting the civil authority during disaster. Their performances in rescue and response action after disasters have been exemplary. With the ever increasing frequency of disasters in the South Asian region, they will continue to play a vital role in the years to come. The governments being aware of its primary role ie, defence of the nation, are engaged in formation of specialized forces like NDRF and State Disaster Response Force (SDRF).

India is not adequately prepared as yet; there are few tsunami warning systems established in Indian Ocean. Few places can boast of functional EOCs. While large part of our country is in Zone IV & V, most of us are not aware/sensitive to mitigation requirements and thereon earthquake mitigation measure is more violated than followed. Construction in many parts is being done ignoring earthquake resistant technology. Changes in the environment due to developmental works etc are increasing the vulnerability to earthquakes. Our metropolitan cities where skyscrapers are increasing at rapid pace are highly vulnerable to earthquake. Is there any rescue operation plan for a city? No, probably not. Due to global warming there are drastic changes in the climate. We could see the monsoon failure in the recent past.

Monsoons are erratic- too much rains in wrong places. Green fields are changing into a desert and barren land. Metropolitan cities do not sustain heavy rains due to poor drainage system. There is no space left for water accumulation so the water fills the drains and then blocks the roads and streets. Improper drainage system leads to flood like situation in the cities.

Even though Government of India and state governments are aware of the urgent need for better disaster response mechanism, but the overall trend in the nation has indicated that the level of preparedness is extremely uneven and requires considerable strengthening. Fortunately, the Government of India and number of states have displayed growing appreciation for the need of effective disaster management strategies. The country has a nodal ministry for coordinating the response. The nodal agency for coordination of relief, response and overall natural disaster management is Union ministry of Home Affairs.

Over the past few years, the Government of India has brought about a paradigm shift in the approach to disaster management. The new approach proceeds from the conviction that development cannot be sustainable unless disaster mitigation is built into the development process. Another corner stone of the approach is that mitigation has to be multi-disciplinary spanning across all sectors of development. The new policy also emanates from the belief that investments in mitigation and preparedness are much more cost effective than expenditure on relief and rehabilitation. Globally, there is an increasing recognition that disasters affect growth and the poorer section of society takes a major share of the impact. We should aim at sustainable development rather than growth.

***Therefore, there is a consensus that investing in prevention and mitigation is economically and socially more beneficial than expenditure in relief and rehabilitation. In a recent World Bank study, it has been established that one dollar spent on prevention is more than ten times more valuable than a dollar spent on relief in net present value.***

Disaster management occupies an important place in this country's policy framework as it is the poor and the under-privileged who are worst affected on account of calamities/disasters. The approach has been translated into a National Disaster Framework covering institutional mechanisms, disaster prevention strategy, early warning system, disaster mitigation, preparedness and response and human resource development. The expected inputs, areas of intervention and agencies to be involved at the National, State and district levels have been identified and listed in the Framework. Ministries and Departments of Government of India, and the State Governments/UT are developing their respective disaster management plans taking the national disaster management framework as a broad guideline. There is, therefore,

now a common strategy underpinning the action being taken by all the participating stakeholders.

Thus it is imperative to think of the system which leads to Disaster Risk Reduction. Disasters cost lives, destroy infrastructure, disrupt livelihoods and leave a major impact on the survivors' physical and psychological wellbeing. Over the past decades there has been a substantial increase in the number of people affected by disasters and the subsequent socio-economic losses. Last year's data of reported disasters confirmed the global upward trend in natural hazard-related disasters. The incidents are mainly driven by the increase in the number of hydro-meteorological disasters. In recent decades, the number of reported hydrological disasters has increased by 7.4% per year on average. Accordingly institutions and response force have been established and there is considerable focus on capacity building.

The approach has been translated into a National Disaster Framework (road map) covering,

- ❖ **institutional mechanisms,**
- ❖ **disaster prevention strategy,**
- ❖ **early warning system,**
- ❖ **disaster mitigation,**
- ❖ **preparedness and response and**
- ❖ **Human resource development.**

The paradigm shift in approach to disaster management included enactment of the National Disaster Management Act 2005 at the national level followed by similar action by states. The Act created institutions at national, state & district levels namely, National Disaster Management Authority headed (NDMA) headed by the Prime Minister, State Disaster Management Authority (SDMA) headed by the state Chief Minister and District Disaster Management Authority (DDMA). The Act also envisages formation of specialist disaster management forces such as National Disaster Management Force and State Disaster Management Force. They are policy making bodies and represent a framework for planning, executing mitigation, preparedness & response activities. NDMA has been active and has brought out several guidelines on different types of disasters, which form the basis for action at state & district level. It is actively involved in strengthening planning, preparedness at state and district levels. In addition, departments of the state govt. hitherto known as Relief department are renamed as Dept. of Disaster Management signifying shift from relief centric approach to more holistic approach, encompassing all aspects of disaster management. The issue will be discussed at length in later chapter. NDMA and State govt. departments have issued policy guidelines, SOPs for various kinds of disasters thereby developing a culture of preparedness in all departments/agencies.

## **POLICE**

- *Symbol of State Authority*
- *Arms of Law Enforcement*
- *Performs Sovereign Task of the State of Protecting Life*
- *Tool for Implementing State Policies*
- *Trained & Disciplined Human Resource*

Disaster management is highly complex issue. While the present response system is handled by our well developed administrative machinery, the same has number of difficulties. These are being discussed subsequently. Some of them can be overcome by ensuring availability of locally trained responders. Here comes the role of the police. Policemen posted in police stations are closest to the society and are the first responder after the community. People understand that they are the first agency whom to approach in any disaster/emergency. The policemen are the most visible face of the government and people too identify police with the role of saviours in distress. Police with its organizational strength, resource capability and training is expected to protect/help people in difficult times. They can, and do play prominent role in all phases of

emergency management i.e. rescue, relief and recovery in particular situation. But are they adequately prepared for this? No, certainly not. Governments are creating specialized forces like National Disaster Response Force (NDRF), Odisha Disaster Response Force (ODRF), Bihar Disaster Response Force (BDRF) etc to respond to emergencies. But such forces have their inherent limitations: few in number: located at 2-4 locations in a state and therefore they can reach any site with a time lag which at times may be critical & significant in the context of distance of unit from the site, availability of the unit, accessibility of the area and availability of transport etc. Poor/ inadequate or absence of response during 'golden hour' will have far reaching implications in terms of loss of life and damage to property. On the other hand the local police has host of advantages.

The Police are among the first responders in any crisis because,

- LOCAL POLICE ARRIVE FIRST
- POSSESS WELL DEVELOPED COMMUNICATION SYSTEM
- FAMILIAR WITH LOCAL TERRAIN
- WIDER REACH, EVERY VILLAGE COVERED
- BETTER KNOWLEDGE OF LOCAL PEOPLE FEELINGS AND MIND-SETS
- PEOPLE RECOGNISE POLICE AS FIRST RESPONDER
- UNIFORMED, DISCIPLINED

### 1.3 INDIAN DISASTER MANAGEMENT POSITIVE FEATURES

The institutional and policy mechanisms for carrying out response, rescue, relief and rehabilitation have been established in the country. This relates to enactment of the National Disaster Management Act, 2005 followed by the state acts and subsequent formation of the disaster management authorities at national, state and district levels. This is being discussed in detail in chapter 3. Consequent to this the orientation for handling disaster situations has been changed from a relief-centric to a holistic, multi-dimensional and multi-disciplinary approach involving diverse scientific, engineering, social and financial processes. The new approach encompasses the entire gamut of disaster management activities, i.e. prevention, mitigation, preparedness, response, relief and rehabilitation. This approach stems from the conviction that development is not sustainable unless disaster mitigation and response is mainstreamed and inbuilt into the development process. Keeping in view the vision articulated under the National Disaster Management Act, 2005 for building a safe and disaster resilient India, the Disaster Management Policy was announced in 2009.

India has a well defined administrative structure extending up to the village level which is quite robust and time tested. This also handles disasters of all kinds. Well defined and clearly designated, coordinating authorities exist at all level. Line departments (police, health, PWD, power, civil supplies etc) function under chief executives at various levels. All are being coordinated by district magistrate / collector/ deputy commissioner. This obviously facilitates deployment of resources for responding to emergencies. Basic infrastructure in terms of EOC/ control rooms, communication and transport exist. However, this needs to be modernized.

### 1.4 WEAKNESSES IN INCIDENT MANAGEMENT

Lack of accountability, including unclear chain of command and supervision, freelancing by individuals with specialized skill during an incident without coordination with other first responders.

- Lack of an orderly, systematic planning process. *Disaster management operations often take place without any appropriate plans.*
- Designated authorities are not backed by professional response teams for various functional assignments. Lack of adequate competencies and capability among disaster managers/responders result in delay in operational deployment. If and when teams are constituted it is on ad hoc basis. Authority and responsibility are position based / and not backed by professional training.

- *Poor/lack of resources/ inventory management* to leading to non /sub optimal deployment of men and material. Hence no tracking possible. Response is at higher cost. There is clear absence of professional supply management.
- Even though resource mapping has to be done as per Indian Disaster Response Network (IDRN) and State Disaster Response Network (SDRN) , delay in mobilization of men, material, relief stores and machines takes place since the mapping is not being done. Often resources are not available on pre contracted rates.
- Often onsite authorities do not have clarity of their roles and responsibilities and therefore duplication and overlapping of efforts, resulting in excessive costs and delay in response itself.
- Lack of use of common terminology for different resources resulting in improper requisitioning and inappropriate resource mobilization etc.
- Breakdown of communication both at electronic and surface level. No communication plan. Poor communication due to both inefficient uses of available communication systems and conflicting codes and terminology.
- Lack of standard organizational structures
- Poor concern /appreciation of Costing/ financial management.
- Lack of documentation.
- Lack of professional technology support- Remote sensing, GIS, GPS application and Digital maps.
- Integrated community support management. Lack of coordination between the first responders and individuals, professionals and NGOs with specialized skill during the response phase.
- Community mostly unaware and unprepared.

## 1.5 FUTRE CHALLENGES

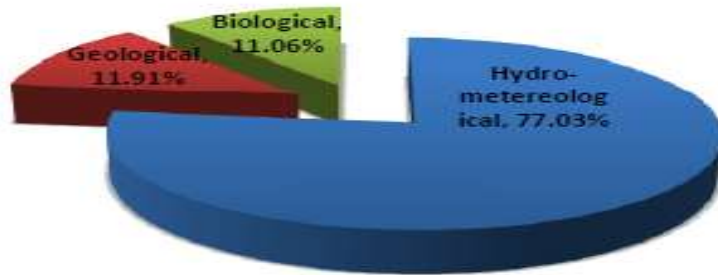
*"Taken as a whole, the range of published evidence indicates that the net damage costs of climate change are likely to be significant and to increase over time."*

*- Intergovernmental Panel on Climate Change*

We have introduced the level of vulnerability that own country is exposed to and the status of our response system to understand how well we are prepared. While the country is susceptible to various types of disasters for which the preparation for response is not so much encouraging given the weaknesses in the response system, the forecasts/prognosis for future is not all that bright either. The environmental changes arising out of global warming may pose serious challenges for disaster management managers in days to come. Frequency and intensity of disasters are likely to increase. At the same time

response management is becoming increasingly difficult due to variety of reasons including population growth, climate change and democratization of information, which makes incumbent upon us to bring about changes in approach, policy, legislation etc.

### **Disaster Events Globally (1900-2009)**



**Source: Centre for Research on Epidemiology of Disasters (CRED) published in report of the working group on disaster management, Planning Commission, Government of India)**

#### **Population Pressure**

Rapid population growth particularly in urban areas of developing nations is posing serious problems for disaster management. Demand on urban facilities resulting in unplanned growth of cities, inadequate infrastructure, insensitivity to disaster risk reduction measures in planning & host of other reasons make disaster response in urban seeing much more difficult.

#### **Democratisation of information**

Now days, flow of information from site of incident site is extremely fast. Hundreds of TV channels and newspapers are in business of providing information/news to people. Their reporters reach the site as early as responders and there is 24X 7 coverage of the event. As such response has to be not only timely but adequate & appropriate too. This would require preparedness of highest order where response agencies can not afford to make mistakes.

#### **Climate Change**

Climate change is likely to make it more difficult and therefore disasters may be more intense in future. Studies on climate change paint a very dismal picture of future world. As it is we are witnessing erratic weather every year. Some of the instances of damaging impact of erratic weather are; The floods that devastated Pakistan, Venezuela and Colombia in 2010, the wildfires that gripped Russia and Japan, absence of snowfall followed by sudden record breaking snowfall in February 2012 in Europe and China witnessing hottest summer to date in the year 2011. They are a wake-up call for us.

#### **Impact of Climate Change – Uncertain Times**

Trend of developments on climate change indicate a fairly grim picture. Global warming will melt snow thereby flooding glacier fed rivers including Ganga, Brahmaputra, Kosi thereby

causing not only flooding in cities along their course and raise sea levels, but also threatening the very existence of large geographical areas including several islands. In the arena of climate change, the list of vulnerable nations is long, and growing. Tuvalu, Maldives, Kiribati, Vanuatu are looking for ways to evacuate their entire population because of salt water intrusion and rising sea levels. Sooner rather than later, island nations will have to seek refuge in other, higher lying countries. Their fate is a wake-up call to all of us. As per some studies, floods will be followed by severe draught in Gangetic plain, the granary of India. Estimates suggest that 50% reduction in volume of water in rivers due to snow melting will impact agricultural production in Indo-Gangetic plain badly. There may be drop in wheat production by 4-5 MTs which will make it difficult to feed our billion plus population. Moreover, it will adversely impact hydroelectric power generation in Himalayan rivers. With less water, the fate of 200 odd projects that are planned may be uncertain.

## 1.6 OBJECTIVES OF THE STUDY

- The paper aims at building up a holistic, coordinated and prompt response to any disaster situation. The objective of this study is to suggest ways to quicken the emergency responses and to increase the effectiveness of the machinery to meet a crisis situation and enhance crisis management.
- The police role will be studied not only in the context of immediate response in terms of rescue but also in different stages of relief and recovery. While NDRF may have been created for organized response but the initial response has to come from the local police. NDRF/specialized forces are basically for rescue work, while there are whole lot of other functions that have to be performed over a long period of time. During Kosi it was almost 6 months.
- Similar disasters have taken place in other parts of the country such as Kashmir, earthquake, Kosi and Orissa floods and Bhuj earthquake. It would be useful to study the functions performed by the police during these events.
- Various states/ organisations including Orissa and SSB have evolved role for its police forces. They do not seem to be documented. Study of the best practices would be helpful in defining role for the police in such disasters.
- Different structures are in place. Some of the states have established institutional role for the police. Attempt would be made to study the arrangements of different states and on that basis make suggestions.
- Since the police have to function along with the community, attempt would be made to determine what role it could play in preparing the community.
- Whether police can have a significant role in disaster preparedness.

- Human resource development issues. Assess the training capability and preparedness of the police in handling major disasters.
- Whether institutional and legal frameworks need to be strengthened or changed and if yes how e.g. suggest changes in police manuals, Acts etc.
- Discuss and evaluate the existing Role of Armed Forces, National Disaster Response Force, Police, Civil Defence and others.
- Discuss the efficacy of NDRF keeping in mind the vast geographical area of our country, magnitude and intensity of disasters in the recent past.

## 1.7 REVIEW OF LITERATURE

DGP, Maharashtra while commenting on role played by police when Mumbai was hit by communal riots in 2007 has been quoted in rediff.com 'Police is not in the disaster management plan'. *“To be very frank, the police were also directionless. Nobody had thought of this kind of disaster. Now everyone has been taught a lesson. Disaster is something unforeseen and can happen anytime. Disaster management is basically the job of the municipal corporation. In the disaster management plan, the police are not there at all. The police do not figure in the disaster management committee. Good you have asked me that question and the police is expected to do everything. Whenever there is a problem, it is the police that respond first”*.

Policy documents including **Administrative Reforms Commission** (ARC), **National Police Commission** (NPC), Disaster management acts and policies including National Disaster Management Act and those of various states including Assam, Gujrat, Karnataka, Kerala, Bihar, Jharkhand, Model Police Act, police acts of progressive states such as Bihar, Kerala, National Disaster Management Authority SOPs were studied. Police, home guards and civil defence have been made responsible for search and rescue, relief operations during disaster response. The relevant extracts are:

**1. Administrative Reforms Commission** in its report published in 2006 mentions that “The police are among the first responders in any crisis. This response normally comes from the nearest police station or police outpost. Their immediate responsibility is to communicate the information and mount rescue and relief efforts with whatever resources those are available with them. It is essential therefore, that policemen at level field who would be the responders are sufficiently trained. The training need not be generic but specific to the types of crisis anticipated in an area. More importantly, they should be fully involved in the preparation of the local crisis/disaster plan and they should be fully conversant with the area”. (**Administrative Reforms Commission**, 2006, Crisis Management)

**2. Model Police Act, 2006. Chapter VI** of the act prepared by BRR&D prescribes the Role, Functions, Duties and Responsibilities of the Police. Section 57 of the Act mentions “ to provide, as first responders, all possible help to people in situations arising out of natural or man-made disasters, and to provide active assistance to other agencies in relief and rehabilitation measures”.

### **3. National Police Commission- Second Report: Role of Police:**

The basic role of the police is to function as a law enforcement agency and render impartial service to law, without any heed to wishes, indications or desires expressed by the government which either come in conflict with or do not conform to the provisions contained in the constitution or laws. This should be spelt out in the Police acts. The Commission then speaks of ‘Service-oriented functions’.

“Lastly we come to an important area of police work which is presently not recognised in law. That relates to service-oriented functions of police, which are meant to provide relief to persons in a distress situation. Even now policemen do render service of a general nature outside their statutory responsibilities connected with prevention and investigation of crimes as such, but this depends largely on their own initiative and interest and not considered by them as a necessary part of their role. Situations of collective distress arise out of natural calamities such as cyclones and floods during which police perform numerous activities that are not related to either enforcement of law or maintenance of order. Examples are the rescue of the marooned, rendering first aid to the injured, clearing the debris, opening the roads, disposing of corpses and carcasses and helping in the distribution of food and clothing.

*When a function is not duly recognised as important no preparation is made to discharge it well. For example, police have always been coming to the help of people during flood situations but no State Police in India is really equipped for it: boats for rescue work do not exist in flood-prone districts, there is no disaster planning and policemen are never trained on it. While a State Police Manual may generally speak of police having to help a destitute, what precisely is the nature of help that may be rendered and what are the resources for rendering this help are unknown to many police officers. We recommend the police be trained and equipped properly to perform these service-oriented.”*

The Commission recommended that the new Police Act may spell out the duties and responsibilities of the police to-

*“Provide other appropriate services and afford relief to people in distress situations.”*

**4. Kerala Police Act 2011.** Chapter II of the act prescribes duties and functions of the police.

The functions of the police.- The Police Officers shall, subject to the provisions of this Act, perform the following functions, namely:-

- (a) to enforce the law impartially;

- (b) to protect the life, liberty, property, human rights and dignity of all persons in accordance with the law;
- (c) to protect the internal security of the nation and act vigilantly against extremist activities, communal violence, insurgency, etc;
- (d) to promote and protect arrangements ensuring public security and maintain public peace;
- (e) to protect the public from danger and nuisance;
- (f) to protect all public properties including roads, railways, bridges, vital installations and establishments;
- (g) to prevent and reduce crimes exercising lawful powers to the maximum extent;
- (h) to take action to bring the offenders to the due process of law by lawfully investigating crimes;
- (i) to control and regulate traffic at all public places where there is movement of people and goods;
- (j) to strive to prevent and resolve disputes and conflicts which may result in crimes;
- (k) ***to provide all reasonable help to persons affected by natural or manmade disaster, calamity or accident; And others.***

**5. Role of Police in Gujrat Disaster Management Act.** Chapter XI contains duties of police force, gram rakshak dal, home guards, civil defence and fire services.

Where an area is declared under clause (a) of sub-section (2) of section 32 as an affected area, the members of—

- a. Police Force,
- b. Gram Rakshak Dal,
- c. Home Guards,
- d. Civil Defense, and
- e. Fire Services.

shall perform the following functions under the supervision of the Commissioner and the Collector, namely:-

- (i) Giving of warning;
- (ii) Carrying out search and rescue operations, and
- (iii) Carrying relief and rehabilitation operations.

## **6. Mumbai police Plan**

- Cordoning of area to restrict movement of vehicular and pedestrian traffic
- Shifting the rescued/affected people to hospitals
- Providing easy access to rescue and relief personnel/vehicles
- Corpse disposal

- Law and order
- Divert traffic on alternate routes as and when necessary in co-ordination with BEST
- Request MPT for providing access through MPT roads during emergencies for specific time duration and monitor the requirement of such an access
- Set-up an information centre to organise sharing of information with mass media and community

#### **7. Role of Police in West Bengal Disaster Management plan is**

- Rescue operation
- Supply of boats (launches for rescue and relief operation in consultation with relief Deptt.
- Supply of MCEF personnel and homeguards
- Supply of wireless set, where necessary in addition to the existing ones and receiving of R.T. messages for Relief department in the flood/ cyclone season by wireless authority.
- Deployment of Police personnel where necessary
- Deployment of Disaster Management Group of Kolkata Police

**8. Delhi Police** has issued standing order No. Ops. -34 in respect of responsibilities of the police in any disaster/crisis (natural or man made) and terrorist attacks by using chemical weapons/biological agents/radio active materials as well as aftermath of a nuclear attack. They are :

- To ensure smooth handling of a crisis or disaster situation from the law and order point of view.
- To ensure the required diversions and traffic control.
- To ensure crowd control and secure the property of the victims and other affected people.
- To undertake immediate evacuation of injured persons to nearby hospitals on priority.
- To ensure crowd control at the affected places, and also at concerned hospitals.
- To prevent riots, looting and other crimes within the affected area and the periphery.
- To ensure all possible assistance to the fire service, medical and other para-medical personnel in reaching the area and carrying out their functions of rescue and relief.
- To cordon off the area to restrict movement of onlookers and other vehicular and pedestrian movement and the accumulation of crowds.

- (ix) To collect intelligence regarding the incidents and affects connected with the disaster or crisis.
- (x) To ensure liaison and coordination with officials of apex/civic bodies and other expert teams handling the disaster.
- (xi) To ensure accurate identification of the dead and injured.
- (xii) To ensure information to the relatives, speedy inquests and disposal of the deceased.
- (xiii) To ensure adequate mobile patrolling in and around the affected areas.
- (xiv) To provide adequate safety, physical protection and security to dignitaries as well as the general public.
- (xv) To divert the arcades of dignitaries to contingency routes and safe houses. Other guide?

## **9. Role of Police in NDMA Flood Management Guidelines**

“The police play an important role in the aftermath of floods in maintaining law and order, assisting in search and rescue, and in the transportation and certification of casualties. It is equally important that the police forces are properly equipped and trained”. (8.7.3 Police Force)

The Home Guards serve as an auxiliary arm of the police force and support the district administration in various tasks. They are trained for carrying out search, rescue and relief operations on occurrence of floods. (8.7.4 Home Guards)

**10. Not much literature could be found** on specific role played by police elsewhere. However, study of book Policing Katrina: Managing Law Enforcement in New Orleans, Mathieu Deflem on handling Katrina reveals that different roles that police perform in normal times and during disaster.

**Study of literature available from US, Australia, New Zealand and Other countries suggest that police perform the following functions:-**

The NOPD did not adopt a clear plan, and no well-defined roles were established for the officers dealing with various elements of the disaster. Structurally, the police and other major components of the local criminal justice system had a relatively unstable infrastructure and historically performed poorly in the face of considerable crime concerns, problems the consequences of which would show them tragically during the hurricane.

When Hurricane Katrina made landfall, the differential impact of the storm across the city could not be adequately handled by the New Orleans police because of problems with communication and transportation. These technological factors, as well as the added stress of police officers, contributed to difficulties in securing a necessary functional shift in police duties from law enforcement to rescue and relief. A special problem is posed during natural

disasters by the fact that emergency responders, whose primary duty is to assist others, also face personal challenges as a result of the disaster. How to cope on an emotional level, during and in the immediate and long-term aftermath of a disaster, becomes a central concern for police and other rescue workers (Person 2006).

Additional problems in the Katrina response stemmed from poor coordination among local and various federal police and emergency units. Following the storm, looting and other violence erupted, necessitating police to return back to traditional crime control duties at a time when the necessary infrastructure was sorely lacking and officers themselves were victimized by the storm. With the entire criminal justice system in New Orleans in disarray, military troops had to be called in to deal with unrests as well as recovery operations.

Lessons can be learnt from the Katrina experience in New Orleans in at least four critical areas:

First, in view of the potential of a major disaster, it is most imperative that police organizations have a clearly thought out plan to anticipate all necessary organizational and functional adaptations to adequately deal with an emergency situation (Falk 2007; Hicks 2007; Rojek and Smith 2007; Roman et al. 2007). Such a plan ought to minimally include strategies for evacuation, the coordination of communications, and the organization of transportation. Since Katrina, the NOPD has developed such a plan, which proved valuable when Hurricane Gustav hit the Louisiana coast on September 1, 2008.

Second, in terms of the functional orientation of police activities, it is most critical that police officers can adapt to changes in operational matters, specifically shifts back and forth between emergency and crime control situations, involving such varied tasks as rescuing stranded citizens and controlling violence (Rojek and Smith 2007).

Third, police organizations need to be equipped in technical and other relevant respects to deal with a variety of needs (Garrett 2005; Rojek and Smith 2007; Sims 2007). Attention must go to maintain and establish adequate communication systems (among police, between police and other first responders, and between police and citizens), means of transportation and other equipment and a proper police command infrastructure (makeshift police stations and temporary jails). From the viewpoint of police personnel, also, special physical and mental health needs of officers have to be anticipated.

Fourth and finally, the coordination among police and other agencies needs to be standardized in clear procedures. Agreements are needed as to how to deploy resources in case of a disaster in a manner that is well-coordinated between local, state, and federal emergency agencies, and military forces. Importantly, as the events of Hurricane Katrina showed, police organizations do not stand alone in doing what is necessary to deal with major disasters. Instead, police agencies must be integrated and be able to cooperate with other police and emergency agencies. (Policing Katrina: Managing Law Enforcement in New

**11. Literatures from Australia, New Zealand and other countries** also suggest that the police have been playing roles in the following area and has been getting praise for the same:

- 1. Traffic regulation** – facilitate the movement of rescue, medical, fire and other essential services;
- 2. Coordination with cooperating agencies** - Involves coordinating the activities of agencies having roles or responsibilities in response to emergencies.
- 3. Casualty Information-** The identification/ tracing of missing persons and notification to their next of kin of people involved in accidents/emergencies is a Police responsibility. All enquiries could be handled by a Police Casualty Bureau and by the hospital information service following agreed procedures.
- 4. Public Information** - Police officers play role of the Police Press Officer at the scene of any major emergency will co-ordinate the response to all media enquiries. As the incident develops the Press Officer will arrange briefings for senior County and District Council personnel and will work closely with the County and District Press Officers.
- 5. Family Liaison Officers** - The Police could appoint family liaison officers (FLOs) to the families of those who have died. The FLOs are specially trained police officers who, if requested, will liaise between the families and the media as a way of minimizing intrusion and distress.

Review of literature reveals that starting from National Police Commission to the Model Police Act of 2008 all of them recognise role of police to provide all reasonable help to persons affected by natural or manmade disaster, calamity or accident (Model police Act), and “service-oriented role in providing relief to people in distress situations ( National Police Commission). Even the Administrative Reforms Commission in its report in 2006 clearly enunciated the primary role of police forces as first responder in any disaster situation. Be that may, police could not obtain that mandate to perform this function adequately since they were neither trained nor equipped appropriately. The governments have gone ahead with creation of specialized response forces such as NDRF. But the local police which can provide the initial relief have remained untouched.



## METHODOLOGY

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The methodology of the study includes structured questionnaire along with secondary data collection sources and focused discussion with specific target groups.

**Primary Source:** Different Schedules will be used for collecting data from community, government functionaries involved in disaster management and the policemen. While direct interview approach with schedule will be preferred for community and junior level police and other officers; focused approach will be adopted for obtaining information from senior level officers involved in formulation, execution and evaluation levels including SP, DIG and IG of police.

**Secondary Sources:** National Police Commission report, a disaster management instruction Reform Commission report 2008, Model Police act prepared by BPR&D, National Disaster Management Act, 2005, State Police acts / manuals, Disaster Management plan/ policies of different state governments, guidelines, SOPs prepared by MHA, NDMA, state governments and police would be studied to understand the disaster management set up in place in the better governed states and also to gather whether the police has been enabled by mandate and provided with adequate manpower and training etc.

### 2.1 SCOPE OF THE STUDY

The study would be primarily based on Bihar. It will cover the states of Karnataka, Orissa and Assam which are known to have well established structures and practices. It will be based on focussed discussion with the senior officers of the police and disaster management department including functional level people of the state response forces in these states other than Bihar where primary data has also been examined. Study will also include member of disaster management and officials of the disaster management, and NDRF, both at the headquarter level and the executing level.

## 2.2 THE HIGHLIGHT OF THE METHODOLOGY

- The focus of the entire approach is on secondary data, focused discussions, feedback collected from different states mentioned above and literature from country as well as from abroad.
- Primary data collection will have been done. Towards this end, we have prepared a detailed data collection plan. This plan will be executed with precision.
- The team will be given training for the data formats to be used. We will conduct periodic /intermediate validations and consistency / accuracy checks of the field data to ensure that the field data is error free.
- Discussion will be held with all concerned during collection of data to get in depth insight into the system.
- Following tools will be used for data collection:
  - Specially designed Data Capturing Formats/Questionnaire.
  - Use of Templates and Schedules for interview with concerned

Pre testing of questionnaires /schedules will be done in district. Based on the pre-testing, questionnaires /schedules will be modified. A copy of questionnaire/schedule is enclosed as annexure-1.

## 2.3 METHOD OF DATA COLLECTION

Data collection will be done through a detailed data collection template/questionnaire (Annexure-1). The template covers both quantitative/objective and qualitative/subjective aspects of disaster management and role of police, infrastructures, activities, resources, etc. The template allows the data collection team to capture specific numerical data as well as overall impression on quality, activity, etc.

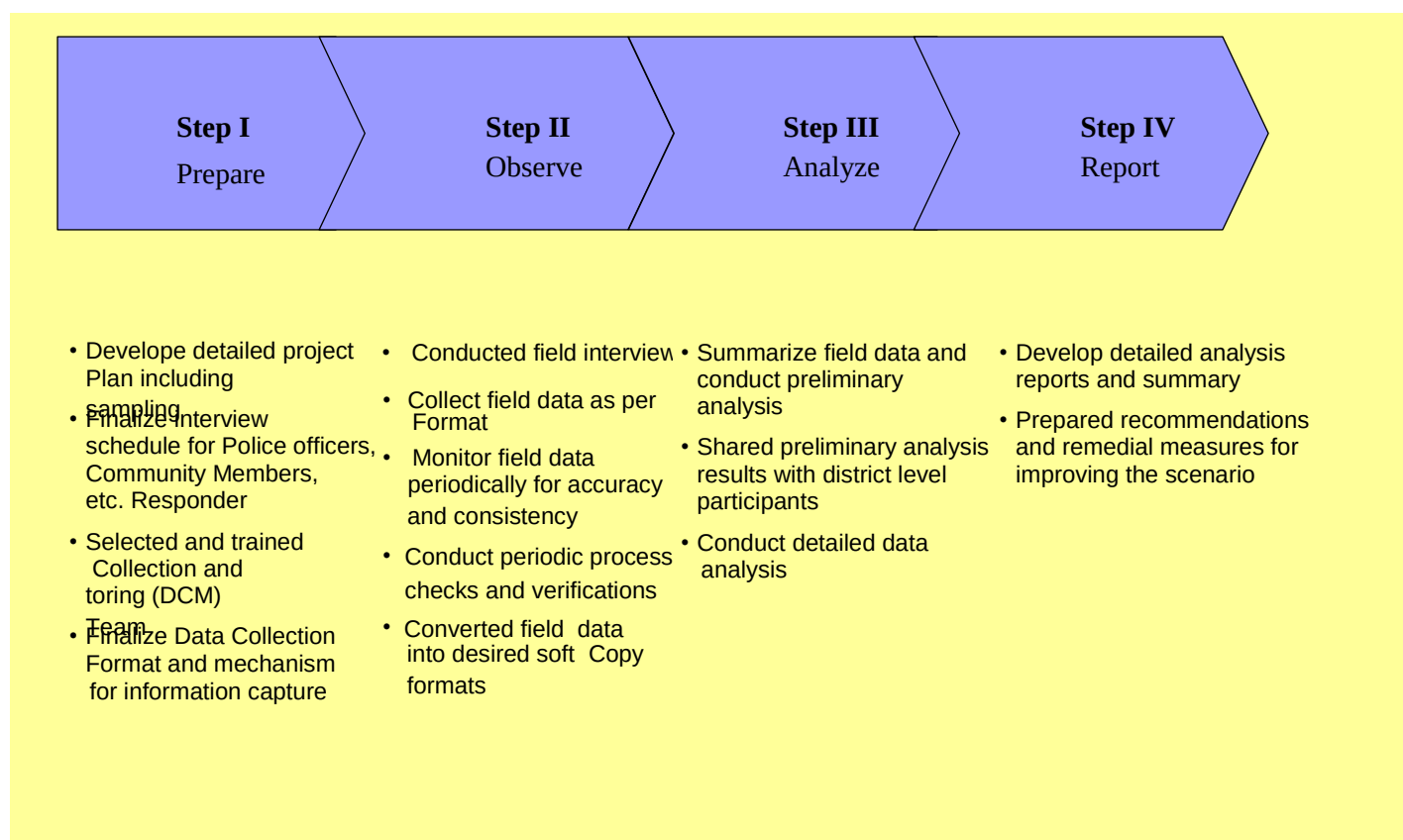
Specific care has been taken in identifying the field investigators and coordinators as per the requirement. Persons, with at least graduate degree and more than 3 years of research experience, will be identified as field investigators and coordinators. They will be given training for data collection and then placed in the field for actual data collection. Beside this, 4 coordinators were identified from Parent department to oversee and monitor the process of data collection. The coordinators will make regular field visits during the process of data collection, check accuracy and solve the problems of field investigators, if any.

On the field, data will be collected in hard-copy templates and then this information will be processed and converted into desired soft-copy format. For data collection,

responders/managers of different villages blocks invited for training in BIPARD on the subjects of research and other would be the target group. Similarly, government functionaries attending various training programme in BIPARD would be interviewed for response. In addition civil, defense, BHS, Police, NSS, NCC, Disaster Management etc stationed in Patna would be four core groups of responders for in-charge. Support of faculty of CDNC would also be taken.

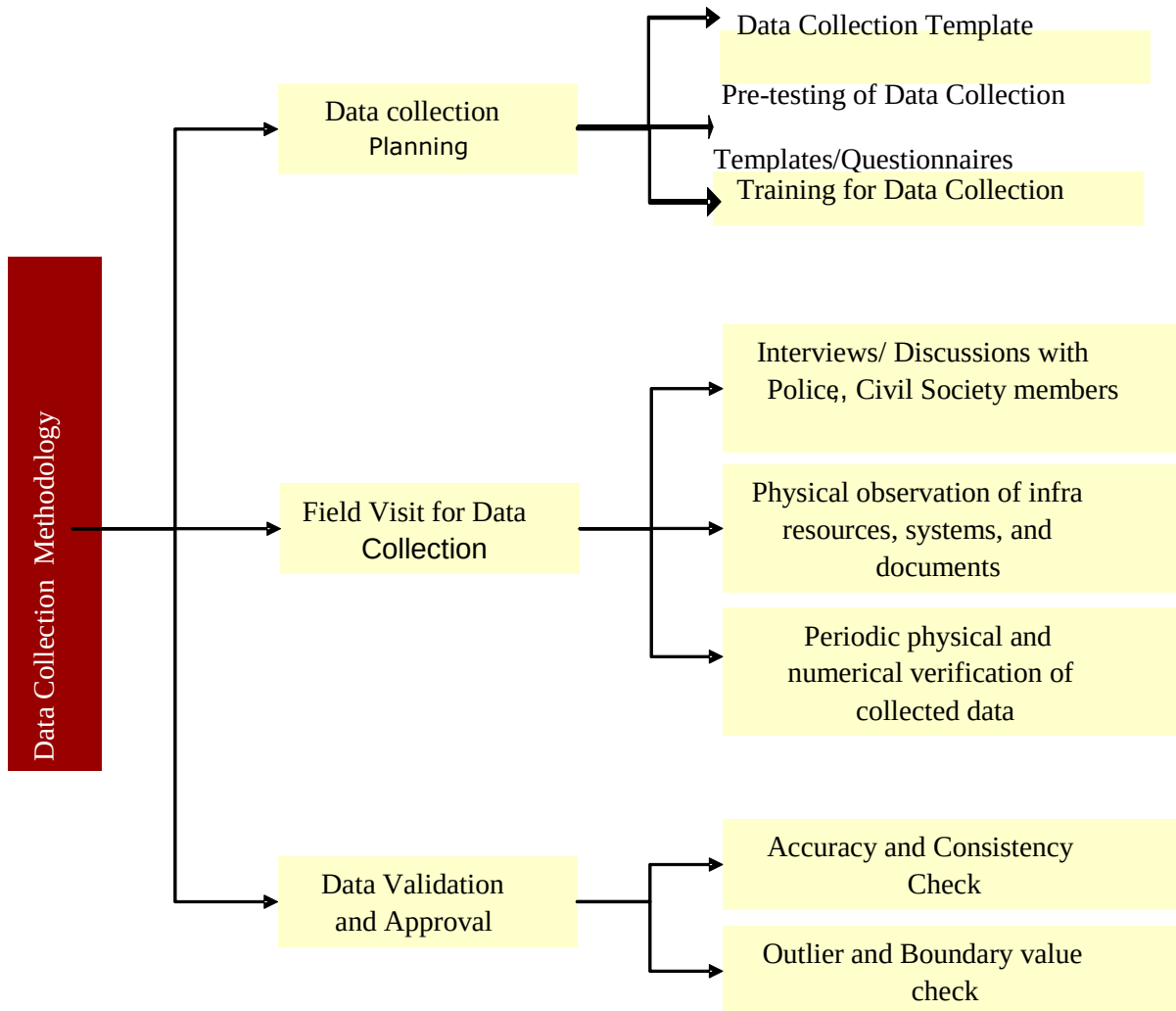
The faculty team periodically validated the data collection accuracy and process to ensure that all the guidelines for data collection are adhered to adequately.

A four-step methodology has been adopted for the study, as shown in Exhibit 1:



**Exhibit 1: The four-step methodology for study**

## Exhibit 2: Data Collection Method and Approach

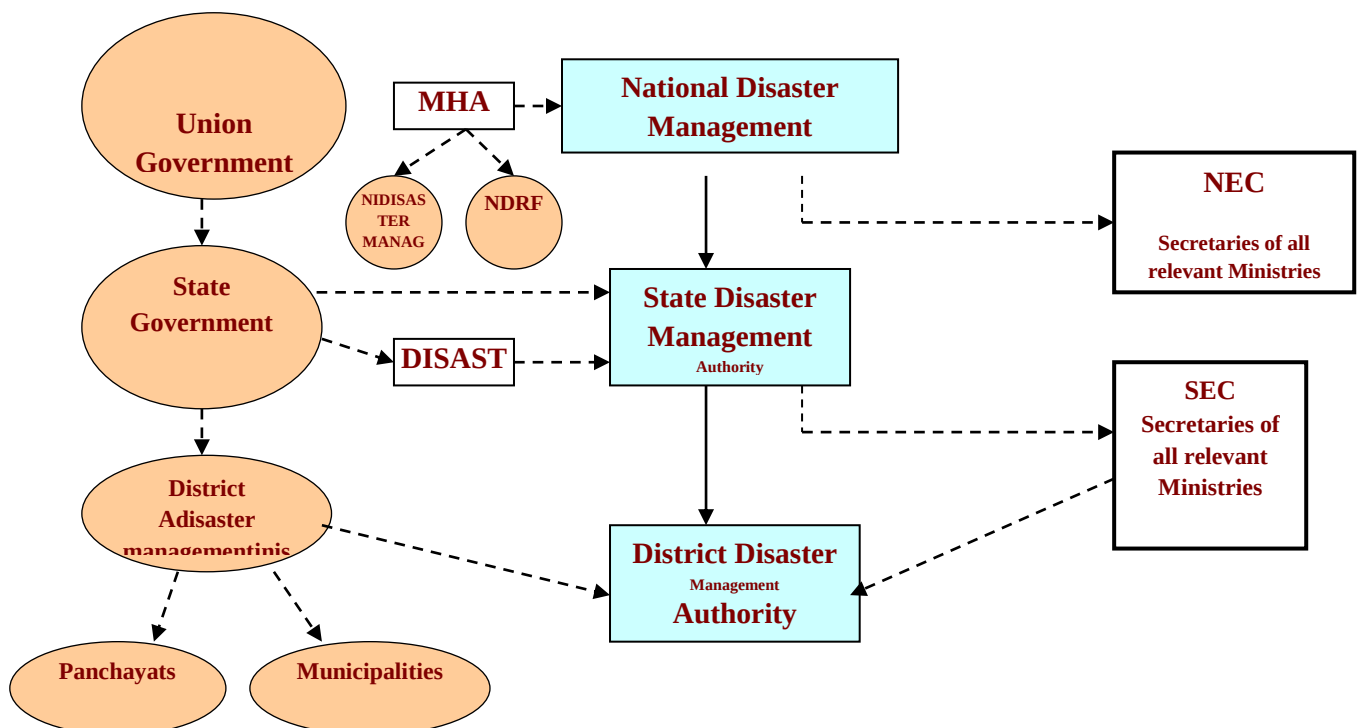


## INSTITUTIONAL SETUP FOR DISASTER RESPONSE IN INDIA

### 3.1 INTRODUCTION

The basic responsibility for undertaking rescue, relief and rehabilitation measures in the event of a disaster rests with the concerned State Government. The Central Government supplements the efforts of the State Governments by providing logistic and financial support in case of severe natural calamities. The logistic support includes deployment of aircrafts, specialist teams of Armed Forces, Central Para Military Forces and personnel of National Disaster Response Force (NDRF), arrangements for relief materials & essential commodities including medical stores, restoration of critical infrastructure facilities including communication network and such other assistance as may be required by the affected States to meet the situation effectively.

### 3.2 INSTITUTIONAL SETUP FOR DISASTER RESPONSE



*"More effective prevention strategies would save not only tens of billions of dollars, but save tens of thousands of lives. Funds currently spent on intervention and relief could be devoted to enhancing equitable and sustainable development instead, which would further reduce the risk for war and disaster. Building a culture of prevention is not easy. While the costs of prevention have to be paid in the present, its benefits lie in a distant future.*

*Moreover, the benefits are not tangible; they are the disasters that did NOT happen. "*

**- Kofi Annan**

### **3.3 EXISTING INSTITUTIONAL ARRANGEMENTS**

#### **3.3.1 CENTRAL GOVERNMENT**

In accordance with the provisions of the disaster management Act 2005, the Central Government has the responsibility of taking measures as it deems necessary or expedient, for the purpose of disaster management and will coordinate actions of all agencies. The Central Ministries and Departments will take into consideration the recommendations of the State Governments while deciding upon the various pre-disaster requirements and for deciding upon the measures for the prevention and mitigation of disasters. It will ensure that the Central Ministries and departments integrate measures for the prevention and mitigation of disasters into their developmental plans and projects, make appropriate allocation of funds for pre-disaster requirements and take necessary measures for preparedness and to effectively respond to any disaster situation or disaster. It will have the power to issue directions to NEC, State Governments/SDMA, SECs or any of their officers or employees, to facilitate or assist in disaster management, and these bodies and officials will be bound to comply with such directions.

The Central Government will extend cooperation and assistance to the State governments as required by them or otherwise deemed appropriate by it. It will take measures for the

deployment of the Armed Forces for disaster management if required. The role of the Armed Forces will be governed by the instructions laid out in Instructions on Aid to Civil Authorities 1970. The Central Government will also facilitate coordination with the UN Agencies, other international organisations and Governments of foreign countries in the field of disaster management. Ministry of External Affairs, in co-ordination with MHA, will facilitate external co-ordination and cooperation.

**Cabinet Committee on Management of Natural Calamities (CCMNC) and the Cabinet Committee on Security (CCS)** was constituted to oversee all aspects relating to the management of natural calamities including assessment of the situation and identification of measures and programmes considered necessary to reduce its impact, monitor and suggest long term measures for prevention of such calamities, formulate and recommend programmes for public awareness for building up society's resilience to them. The Cabinet Committee on Security (CCS) deals with issues related to the defense of the country, law & order and internal security, policy matters concerning foreign affairs that have internal or external security implications, and economic and political issues impinging on national security.

### **3.3:2 HIGH LEVEL COMMITTEE (HLC)**

In the case of calamities of severe nature, Inter-Ministerial Central Teams are deputed to the affected States for assessment of damage caused by the calamity and the amount of relief assistance required. The Inter Ministerial Group (IMG), headed by the Union Home Secretary, scrutinises the assessment made by the Central teams and recommends the quantum of assistance to be provided to the States from the National Calamity Contingency Fund (NCCF). NDRF/SDRF However, assessment of damages by IMG in respect of drought, hail-storms, and pest attacks continue to be carried out by the Secretary, Ministry of Agriculture and Cooperation. The recommendations of the IMG are considered and approved by the High Level Committee chaired by the Union Agriculture Minister. The HLC comprises the Finance Minister, Home Minister, Agriculture Minister and Deputy Chairman of the Planning Commission as members. The constitution and composition of HLC may vary from time to time. The Vice Chairperson, NDMA will be a special invitee to the HLC.

### **3.3:3 ROLE OF CENTRAL MINISTRIES AND DEPARTMENTS**

As disaster management is a multi-disciplinary process, all Central Ministries and departments have a key role in the field of disaster management. However, Ministry of Home affairs is the nodal ministry for most natural disasters and emergencies related to internal

security. The Secretaries of the Nodal Ministries and Departments of GOI i.e. the Ministry of Home Affairs (MHA), Agriculture, Civil Aviation, Environment and Forests, Health, Atomic Energy, Space, Earth Sciences, Water Resources, Mines, Railways etc. are all members of the NEC and function as nodal agencies for specific disasters based on their core competencies or as assigned to them.

#### **Nodal Ministries/department for disaster management at the national level**

| <b>DISASTERS</b>                                       | <b>NODAL MINISTRIES/ DEPARTMENTS</b>    |
|--------------------------------------------------------|-----------------------------------------|
| All Natural Disasters<br>(Except Drought and epidemic) | Ministry of Home Affairs (MHA)          |
| Drought                                                | Ministry of Agriculture and Cooperation |
| Epidemics/Biological Disaster                          | Ministry of Health & family welfare.    |
| Chemical or Industrial Chemical                        | Ministry of Environment and Forest.     |
| Nuclear Accident                                       | Department of Atomic Energy.            |
| Railway Accident                                       | Railways                                |
| Air Accidents                                          | Ministry of civil aviation              |
| Civil Strife                                           | Ministry of Home Affairs. (MHA)         |

### **3.3:4 NATIONAL CRISIS MANAGEMENT COMMITTEE (NCMC)**

NCMC, comprising high level officials of the GOI headed by the Cabinet Secretary deals with major crises which have serious ramifications. It will be supported by the Crisis Management Groups (CMG) of the Central Nodal Ministries and assisted by NEC as may be necessary. The Secretary, NDMA is a permanent invitee to this Committee.

### **3.3:5 NATIONAL EXECUTIVE COMMITTEE (NEC)**

**National Executive Committee (NEC)** headed by Home Secretary coordinates the response in the event of any threatening disaster situation or disaster. The NEC has to prepare the national plan for disaster management based on the national disaster management policy.

### **3.3:6 NATIONAL DISASTER MANAGEMENT AUTHORITY**

The NDMA has been formed u/s 3 of the Disaster Management Act of 2005. The Prime Minister of the Country is the chairman. There is a vice chairman with the status of Cabinet

Minister along with 8 other members. The vision of the National Disaster Management Authority is to build a safer and disaster resilient India by developing a holistic, proactive, multi-disaster and technology driven strategy for Disaster Management. This has to be achieved through a culture of prevention, mitigation and preparedness to generate a prompt and efficient response at the time of disasters. This national vision inter alia, aims at inculcating a culture of preparedness among all stakeholders. The mandate is;

- Laying down policies, plans and guidelines for disaster management, coordinating their implementation for ensuring timely and effective response to disasters.
- Approve the national disaster plan and disaster management plans of the central ministries/ departments.
- Measures for prevention, mitigation, preparedness for dealing with a threatening disaster.

### 3.3 :7 STATE GOVERNMENTS

The primary responsibility for disaster management rests with the States. The institutional mechanisms put in place at the Centre, State and District levels will help the States manage disasters in an effective manner. The disaster management Act, 2005 mandates the State Governments, inter alia, to take measures for preparation of state disaster management plans, integration of measures for prevention of disasters or mitigation into state development plans, allocation of funds, establishment of early warning systems and to assist the Central Government and other agencies in various aspects of disaster management.

#### 3.3.7:1 INSTITUTION AND NODAL DEPARTMENTS FOR MANAGEMENT AT THE STATE LEVEL

At state level, the State Disaster Management Authority (SDMA) provides policy framework for disaster management. The **State Executive Committee (SEC)** works as a functional sub-committee of the SDMA. Nonetheless, the State Relief Commissioner/ Secretary disaster management is the nodal officer for co-ordinating between district and national level. He functions as the co-ordinator of the SEC, is responsible for providing funds under state disaster response funds for various disaster management functions and co-ordinates with the Central Government on various aspect of disaster management. The duty officer in-charge of the State Emergency Operating Centre (SEOC) is responsible for providing quick response in case of disasters. He is responsible for various activities under ESF (Essential Support Functions) and reports directly to the SRC.

The **Crisis Management Group (CMG)** at state level is a core committee for disaster management and responsible for various important decisions such as declaration of drought etc. The secretaries/ Principal Secretary of various departments such as Minor Irrigation, Water Resources, Rural Development, Rural Work, Social Welfare, Home, Energy, Animal Husbandry and Fisheries, Health, Finance, Agriculture etc. are members of Crisis Management Group (CMG). The SRC acts as co-ordinator of the CMG. Various departments at the state level have also nominated their nodal officers for disaster management.

### **3.3.7:2 STATE DISASTER MANAGEMENT AUTHORITY (SDMA)**

The Disaster Management Act of 2005 requires the formation of State Disaster management Authority (SDMA) u/s 14. State Disaster management Authorities (SDMAs) are headed by Chief Minister of the State as chairperson except in Gujarat and Orissa. It has vice chairman with the status of a state cabinet Minister. The Disaster Management Act provide for such number of members, not exceeding nine, unless otherwise provided by state government. The main functions of SDMAs are as below:-

- Ensure integration of prevention, preparedness and mitigation measures
- Lay down policies and plans for Disaster Management in the state.
- Approve the state plan in accordance with the guidelines laid down by the NDMA.
- Coordinate the implementation of the state plan.
- Recommend provision of funds for mitigation and preparedness measures.
- Review the developmental plans of the different departments of the state.

### **3.3.7:3 STATE EXECUTIVE COMMITTEE (SEC)**

State Executive committees are formed U/s 20 of disaster management Act 2005. It is headed by the chief secretary of the state. Other members include Principal Secretary, disaster management, State Relief Commissioner, Development Commissioner, Secretary/Principal Secretary water resources Department, Finance of any other secretary as the State Government thinks necessary. It acts as core Committee. It authorizes Secretary, Disaster management / State Relief Commissioner (SRC) to draw funds for various activities of disaster management from State Disaster Response Fund (SDRF).

### 3.3.7:4 DISASTER MANAGEMENT AT DISTRICT LEVEL

- The District Disaster Management Authority (DDMA) provides the policy framework for various activities for disaster management.
- The District Collector is the Responsible officer as per Incident Response System for all types of disasters at the district level. He is the head of District Task Force (DTF) which is responsible for all types of activities during disasters. The district level officers of various departments such as Minor Irrigation, Water Resources, Rural Development, Rural Work, Social Welfare, Police, Energy, Animal Husbandry and Fisheries, Health, Agriculture etc. are its members. The meetings of the DTF are chaired by the District Collector/DM/DC.
- Some states like Bihar have created post of Additional District Magistrate (Disaster Management) at district level as nodal officer of disaster management.

### 3. 3.7:5 DISTRICT DISASTER MANAGEMENT AUTHORITY (DDMA)

It is formed u/s 25 of Disaster Management Act 2005. It is headed by the Collector or District Magistrate (Disaster Management) or the Deputy Commissioner (DC) of the district. The head of the elected local body at the district level is the co-chairperson.

#### **Its functions are-**

- DDMA will act as the planning, coordinating and implementing body for disaster management in accordance with the guidelines laid down by the NDMA and SDMA
- Prepare the district disaster management plan and monitor the implementation of the national/ state policy, and plans concerning its own district.
- The DDMA will also ensure that the guidelines for prevention, mitigation, preparedness and response measures lay down by the NDMA and SDMA are followed by all departments of the state government at the district level and the local authorities in the district.

### 3.3.7:6 DISASTER MANAGEMENT AT SUBDIVISION LEVEL

The Sub Divisional Magistrate is at the helm of the affairs of disaster management at the sub divisional level. He/she co-ordinates between the field level officers and the district authority for various activities of disaster management. A control room is operationalised at the time of disaster under his control and command.

### **3.3.7:7 DISASTER MANAGEMENT AT THE BLOCK LEVEL**

The Block Development Officer (BDO) and the Circle Officer (CO) are the two key officers responsible for management of disaster at the Block level. However, it needs to be mentioned that there is absence of any institutional set up at the block and the village levels in most places. The Block Pramukh who is the head of the Panchyat Samiti at the block level chairs the meetings regarding disaster management. There is urgent need to empower and strengthen the local institutions. The state of Bihar has taken a few initiatives. An amount of Rs. 25000/- is earmarked under the Bihar Panchyati Raj Act 1995 for immediate actions for disaster management. Police station level committees named Bihar State Nagrik Parishad have been formed in Bihar where the police station SHO is the member secretary. The primary function of this committee is to prepare and respond to disasters.

Although institutions mentioned above have taken shape but most have not really become strong/active enough to improve response substantially. Not all states have functional SDMAs. Neither are states supported by professional incident management teams. Moreover, machinery at the executive level i.e. district, subdivision, block, panchayat/village is non-existent or very weak. Only some states have structures up to village level e.g. West Bengal. Thus there is need to build institutions at district and below with professionals who engage in all aspects in disaster management-preparation, mitigation, response throughout the year and not during the upcoming rainy season or when disaster strikes. Even panchayats should be empowered to prepare vulnerability plan, response etc. Alongside, incident management teams should be constituted at all levels to respond in quickest time.

## **3.4 RESPONSE AGENCIES**

Disaster response management is a multi-agency function coordinated at a nodal point for effective delivery of rescue and relief to the victims of a disaster. Ideally, comprehensive assessment of the required response to a disaster or impending disaster is needed. This will facilitate deployment of the necessary resources i.e., armed forces, NDRF, Police, Civil defense, home guards without loss of time to limit the damage and losses to a minimum.

### **3.4:1 ARMED FORCES**

Emergency response for a catastrophic event is an enormous responsibility involving the full coordination of nearly all of the government's agencies. The community is always the first

responder to a disaster situation being proximate to disaster site. However, devastations caused by disasters resulting in disruption of essential infrastructure and services limit the coping capacity of the community to the situation. In disaster situations, relief, rescue and response operations have to be undertaken immediately and in the most appropriate manner. The development oriented civil administration is presently not well equipped for undertaking large scale disaster response activities in the event of major and wide spread disasters. The capability of an affected community is required to be reinforced by the civil administration which requires a cadre of specialists, trained, disciplined and dedicated personnel who can render rescue and relief services in best of the manner in worst of the situations. The armed forces and central paramilitary forces are found to be the most suited for such situations. The armed forces are requisitioned under the 'Aid- to- civil administration only when the situation is beyond the capability of the civil administration. In practice, however, the armed forces have formed the core of the government response capacity and are the crucial immediate responders in all high intensity disaster situations. On their part, the Indian Army has earmarked lead formations in each Command. They have disciplined manpower and they are equipped with state-of-the-art technology. Air force & Navy / Coast Guard have been supplementing the efforts of army. They have specialist work force like engineering corps, medical corps, veterinary corps, and bomb disposal squad. The Indian Armed Forces are one of the most dedicated, professional and modernized armed forces in the world. They have made rapid strides in technology development and are adequately equipped with the necessary technical competence, man power and material resources to undertake any major disaster rescue and response operations. The Armed Forces are always in a state of operational readiness to move quickly to any disaster affected area and their ability to work under adverse ground & climatic conditions is of immense help to any civil authority during disaster situations. So far in India, the role' played by the Armed Forces & other specialized forces during disaster rescue and response operations has been exemplary. In view of increased frequency of disasters, the Armed Forces will continue to play a major role in providing rescue and response operations in the disaster situations in the years to come. The armed forces have the capability to meet nuclear, biological and chemical (NBC) threats.

The Armed Forces/Central Para Military Forces have traditionally rendered yeomen service to the affected communities. This has been appreciated. This was most evident in the statement of the Indian Prime Minister during a seminar on fresh memories of tsunami, avalanche and snow storm, followed by earthquake in J&K, he said;

“The world over, without exception, all governments has involved the Armed Forces whenever a disaster strikes. They are invariably the first to respond and quickest to reach the affected area. As has been increasingly observed in recent cases across the world, the men in uniform have played a stellar role in mitigating and alleviating the suffering caused by disasters.”

The Central Government has invariably deployed the Air Force helicopter/Army boats, Army columns, and Medical Teams from the Armed Forces to assist the affected States in rescue and relief operations. Military aircrafts are used in transportation of rescue teams and essential commodities from far of places in short span of time. The Government of India has

also deployed Naval ships, military aircrafts, mobile hospitals etc. to render assistance to the neighboring countries hit by natural calamities. Prompt mobilization of essential commodities and other resources for disaster response has been forte of Armed Forces/Central Para Military Forces.

For the reasons stated above, whether it was devastating Bhuj earthquake of 26th January 2001 or Tsunami of December 26th, 2004, the Armed Forces/Central Para Military Forces were the first one to respond to the situations and assist the civil administration providing succor to the affected people. Thus the military is a key supporter and partner in emergency response, but the overall tasks of assessing needs, inter-agency coordination, search and rescue, and overall management of the disaster response has come to NDMA within MHA. The majority of the tasks and skills that are the key functions for emergency management fall outside the scope and mission of the military whose primary functions are to provide military forces to deter war and provide security for the country. These responsibilities are best left to civilian institutions.

### **3.4:2 SPECIALIST DISASTERS RESPONSE FORCES**

However, it has been appreciated that the armed forces primary function in defence of the country and that they should not be burdened with too much of deployment in non core functions like doing rescue and relief work. The Government of India has realized the necessity of having specially trained agencies specifically for response specially searches and rescue during natural and manmade disasters. Following this the Government of India formed the National Disaster Response Force and advised the states to form State level force.

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

The Disaster Management Act, 2005 has mandated constitution of National Disaster Response Force (NDRF), a specialist response force, for the purpose of specialized response to natural and man-made disasters. This Force will function under the National Disaster Management Authority which has been vested with its control, direction and general superintendence. This will be a multi-disciplinary, multi-skilled, high-tech force for all types of disasters capable of insertion by air, sea and land. All the eight battalions of National Disaster Response Force (NDRF) are equipped and trained for all natural disasters. Four of these battalions are trained in combating nuclear, biological and chemical disasters.

#### **Present Organization**

At present, National Disaster Response Force (NDRF) is constituted of eight battalions, two each from the BSF, CRPF, CISF and ITBP. Each battalion will provide 18 self-contained specialist searches and rescue teams of 45 personnel each including engineers, technicians, electricians, dog squads and medical/paramedics. The total strength of each battalion is

approximately 1,149. All the eight battalions are being equipped and trained to combat all natural disasters including four battalions in combating nuclear, biological and chemical disasters. Basically NDRF has three units: MFRT which is medical first aid team to rescue injured people at the time of emergency: CSSR is another part which is Collapse Structure Search & Rescue. The last is NBC i.e. Nuclear Biological Chemical disaster management team.

The force is gradually emerging as the most visible, vibrant multi-disciplinary, multi-skilled, high-tech, elite force capable of dealing with all types of natural and man-made disasters. After the performance of NDRF was seen in responding the disasters all over the country, the Government approved 2 more battalions at Patna and Vijayawada. The vision of the National Disaster Management Authority is to build a safer and disaster resilient India by developing a holistic, proactive, multi-disaster and technology driven strategy for Disaster Management. This has to be achieved through a culture of prevention, mitigation and preparedness to generate a prompt and efficient response at the time of disasters. This national vision inter alia, aims at inculcating a culture of preparedness among all stakeholders.

NDRF has proved its importance in achieving this vision by highly skilled rescue and relief operations, regular and intensive training and re-training, familiarization exercises within the area of responsibility of respective NDRF Bns., carrying out mock drills and joint exercises with the various stakeholders.

In the previous years, NDRF has proved its efficacy with its commendable performance during various disasters including the drowning cases, building collapses, landslides, devastating floods and Cyclones. NDRF has saved 133,192 human lives and retrieved 276 dead bodies of disaster victims in 73 response operations in the country. Some of the major response operations of NDRF as below:

([wikipedia.org/National Disaster Response Force NDRF](http://wikipedia.org/National%20Disaster%20Response%20Force%20NDRF))

### **2007**

- Flood in Bhavnagar, Gujarat– July 3-05, 2007 –Rescued 291 people; distributed 3,750 food packets
- Flood in Rajkot, Gujarat– July 3-05, 2007 –Rescued 291 people; distributed 3,750 food packets

### **2008**

- Kosi breach in Bihar – Aug 20, 2008 –Saved over 105,000 people including women, children & aged; distributed medicines and water bottles
- Flood in Puri, Cuttack, Kendrapara & Jagatsinghpur, Orissa – Sept, 2008 – Saved over 1,000 people
- Flood in Chennai, Tamil Nadu – Nov 26-Dec 02, 2008 – Rescued 1,550 people

### **2009**

- Cyclone Aila (24 Pargana North & South, West Bengal) – May 25- June 10, 2009 – Rescued 2,000 people; distribution of medicine to 30,000 victims & food packets to 16,000 homeless victims

- Flood in Junagarh and Porbandar, Gujarat – July 16–29, 2009 – Saved 2,225 people
- Flood in Howrah & Hooghly, West Bengal – Sep 08-14, 2009 – Rescue 675 people

## **2010**

- Building collapse at Bellary, Karnataka – Jan 27, 2010 – Saved 20 human lives and recovered 27 dead bodies
- Flood in Guwahati, Assam – April 20–25, 2010 – Saved 300 human lives
- Cyclone LAILA in Andhra Pradesh & Karnataka – May 18, 2010

During the Kosi breach in Bihar in August 2008, which was declared national calamity by Prime Minister Shri Manmohan Singh, NDRF personnel actively engaged themselves in rescue operations and relief duties on a war footing in districts Supaul, Madhepura, Araria and Purnia. About 780 NDRF personnel trained in flood rescue operations along with 153 high capacity inflatable boats and other rescue equipments were deployed in the flood affected areas. The swift and highly skilled operations of NDRF saved more than 100,000 people trapped in swirling waters of river Kosi. NDRF personnel distributed relief supplies including drinking water to the stranded flood victims. Medical camps were also established to provide medical care to the flood affected people. NDRF's commendable rescue operations were no less appreciated during the 2008 floods in Orissa, Maharashtra, Kerala and Assam.

## **State Disaster Response Force**

To augment the capacities of the states, state governments are constituting from within their armed police force and other channels adequate strength of personnel for the SDRF with appropriate disaster response capabilities. Several states have either raised such force, or are in process. This will be equipped and trained force. They will also include women members for looking after the needs of women and children. NDRF battalions and their training institutions will assist the States/UTs in this effort. Bihar has opted for ex servicemen/policemen of CPMF while recruiting SDRF.

## **3.4: 3 POLICE FORCES**

### **POLICE**

- *Symbol of State Authority*
- *Arms of Law Enforcement*
- *Performs Sovereign Task of the State of Protecting Life*

- Police forces have been recognized as first responder or lead player in recommendations of National Police Commission, Administrative Reforms Commission and Model Police Act. This has been discussed in Chapter 1. Though there are many different types of disasters/emergencies-both man-made and natural police has direct role in those related to internal security. However, their role in natural disasters needs further

clarification. Man-made disasters, such as bombs and arson, cause a sense of vulnerability. Natural disasters, such as floods, and earthquake cause specific damage and chaos. A strong police presence in both situations can help ease victims' fears and help prevent others from taking advantage of the disaster situation. The central perception is that Police has role only in crime and Law and Order duties and Disaster Management is responsibility of Revenue Deptt. Whereas the ground Situation is that police is recognized as the first Responder after community. **Hon'ble PM in his address to IPS Probationers (New Delhi Jan 5, 2010) said “Underlining the importance of law and order for sustained development of the country, the Prime Minister asked budding police officers to be well-versed in handling new challenges like cyber crimes and disaster management.”**

The Police Act of 1861 establishes fundamental principles of organisation of police forces in India. Police forces are functionally divided into civil (unarmed) police and armed contingents. They are the first responder to any calamity after the community.

Policemen posted in police stations are closest to the society. The policemen are the most visible face of the government and people too identify police with first responder. Police with its organizational strength, reach with the local people, resource capability and training is expected to help people in difficult times. But they are not adequately prepared for this. Specialized agencies like NDRF and state response forces would surely improve the response. However, they have their limitation- reach any site with a time lag which at times may be considerable & significant in the context of distance of unit from the site, availability of the unit, accessibility of the area and availability of transport etc. This period may be critical loss of ‘golden hour’, and this must be highly avoided.

Some of these functions performed during Kosi disaster 2008 has been discussed in detail in next chapter **‘EXPERIENCE OF KOSI DISASTER 2008.**

- POLICE ARRIVE FIRST
- WIDER REACH, EVERY VILLAGE COVERED
- BETTER KNOWLEDGE OF LOCAL PEOPLE FEELINGS AND MIND-SETS
- PEOPLE RECOGNISE POLICE AS FIRST RESPONDER
- UNIFORMED, DISCIPLINED
- POSSESS WELL DEVELOPED COMMUNICATION SYSTEM

They are mobilised to reach the disaster site immediately with a view to carry out rescue operations and are also the initial coordination work. Police personnel perform many functions i.e. support the local administration in mobilizing all kinds of resources, rescue, prevent commission of cognizable offences including offences against property, human body and public tranquility. It has a critical role during all phases of response even relief and recovery such as providing security to relief personnel, relief material during transport and storage, logistic help to outside agencies and protection during visit by VIPs.

The police wireless communication system is used for transmission and receipt of messages in connection with disaster and also to regulate movement of victims, for rescue and relief, medical assistance and supplies etc. Apart from the strong wireless & landline network, every Police Station is provided with mobile phones with CUG plans carried by SHOs and supervisory officers are accessible round the clock. These mobile numbers are published in media for information of general public. The police also have certain equipments: Sniffer dog, gas cutters, anti-sabotage team, search lights, life saving jackets, boat, portable generators, reflector batons & jackets and boomer light.



The onslaught of the unsparing Tsunami on December 26, 2004 was unprecedented and unimaginable, catching administration unawares in the Andaman & Nicobar Islands. This was a classic case where the police personnel were themselves sufferers of the Tsunami yet had to cast away tremors of the horrific spell from their minds and take over the **role as first responders** to manage the disaster.

The experience has brought about a paradigm shift in the role of Police, adding yet another important dimension of Disaster Management apart from law and order maintenance and prevention and detection of crime.

### 3.4: 4 PARA- MILITARY AND POLICE FORCE

The para-military police forces act as support to the armed forces and state police. 11 organisations have been identified as being part of para-military forces. They are (i) Assam rifles (ii) Border Security Force (BSF) (iii) Central industrial security force (CISF) (iv) Central Reserve Police Force (CRPF) (v) Rapid Action Force (RAF) (vi) Indo-Tibetan Border Police (ITBP) (vii) Rastriya Rifles (viii) Defence Security Corps (DSC) (ix) Railway Protection Force (RPF) (x) Indian Coast Guard (xi) Special Security Bureau. They generally support the local authorities wherever they are stationed. During Kosi 2008, SSB units located on the Indo Nepal border chipped in few boats. Later on they provided tents for camps.

Police based CPMF forces are subordinate to ministry of Home Affairs. But coast guard and defence security force are subordinate to the Ministry of Defence. Similarly, Railway protection Force is subordinate to Indian Railway. In addition to security and guard duties, PMF assist local and state level police in maintaining public order and shield the army from excessive use in “aid to the civil- power”. They play important role during civil strife or during counter insurgency operations, riot control and in mammoth disastrous situations like Orissa super cyclone 1999, Bhuj earthquake of 2007, Kosi 2008. The present NDRF is formed of components drawn from some of the CPMF.

### 3.4: 5 FIRE BRIGADE/SERVICE

During earthquakes, building fires, accidents they play very important role. That is why fire brigade personnel are deployed during all festivals and similar events. They are a disaster management agency administered by the states/UTs as fire management is a state subject. They mostly work along with police forces. However at places they are with municipal agencies. They have deep presence. Bihar state is planning to have them at block levels too. Efforts are on to integrate fire services with the disaster management departments. However,

MHA renders technical advice to states/UTs. The National Fire Service College, Nagpur conducts training for fire officers. There is a standing fire advisory council to examine technical problems related to fire services and to formulate National Fire Code.

Fire services play extremely significant role during any emergency. They have a deep set up. Bihar state intends to have it at subdivision and block level.

**Strengthening of Fire and Emergency Services:** A Scheme for Strengthening of Fire and Emergency Service in the country was launched in 2009 with an outlay of 200 crore. The scheme is being implemented as a Centrally Sponsored Scheme with the Central and State contribution for procurement of equipment in the ratio 75:25 and for north-eastern states in the ratio 90:10 within the Eleventh Five Year Plan period. The Office of DG, NDRF & CD, Government of India, has been designated as the implementing agency. The scheme is regularly monitored by a High Level Empowered Committee constituted under the chairmanship of Secretary (Border Management), MHA. The objective is to strengthen the fire and emergency services in the country and progressively transform the Fire Services into a multi-hazard response force capable of acting as first responder in all types of emergency situations during period 2009 to 2012.

**(Source: DM Booklet on strengthening of disaster management in India, Initiatives of Home Affairs, GOI)**

### 3.4: 6 HOME GUARDS

Home guards are recruited from the community itself both rural and urban. Hence they can form backbone of community based response system. They can and should play major role in response. A clear mandate compiled with capacity building can do wonders in preparing the community as well as responding in better manner. They can mobilise community resources and mount support action. The role of Home Guards is to serve as an auxiliary to the police in maintenance of law and order, help the community in any kind of emergency such as fire, cyclone, earthquake, epidemic, etc., help in maintenance of essential services and perform various other duties as per local requirements for which they need to be trained for carrying out search, rescue and relief operations on occurrence of floods and other disasters. While some are actually working at any particular point of time, a larger number remain present within the community all the time. They can be built as an asset. In Australia, forest fires which is their worst emergency is mostly managed by such volunteers. Home Guards were raised as a voluntary force for the first time in 1946 to assist the police in controlling civil disturbance and communal riots.

The total approved strength of Home Guards in the country is 5,73,793 against which the raised strength is 4,91,415. The organisation is spread in all States and Union Territories, except in Kerala. Eighteen Border Wing Home Guards (BWHG) Bns. have also been raised in the border States viz. Punjab (6 Bns.), Rajasthan (4 Bns.), Gujarat (4 Bns.) and one each

Bn. for Assam, Meghalaya, Tripura and West Bengal to serve as an auxiliary to Border Security Force for preventing infiltration on the international border/coastal areas, guarding of vulnerable areas/vulnerable points and lines of communication in vulnerable areas at the time of external aggression. All citizens of India, who are in the age group of 18-50, are eligible to become members of Home Guards. Normal tenure of membership in Home Guards is 3 to 5 years. Home Guards, whenever called out for duty/training, are paid duty/training allowance at prescribed rates to meet out-of-pocket expenses. Members of Home Guards with three years service in the organisation are trained in police establishments for maintenance of law and order, prevention of crime, border patrolling, prohibition, flood relief, fire-fighting, election duties and social welfare activities. In the event of national emergency, some portion of Civil Defense work is also entrusted to the Home Guards. Expenditure on Home Guards is generally shared between the Centre and the State Governments as per the existing financing policy. During 2006-07, Rs.50 crore was reimbursed to various States on raising, training and equipping of Home Guards.

Bihar government has created Special battalion which has well trained home guards for response in emergencies.

### **3.4:7 CIVIL DEFENCE**

Civil Defence is primarily a voluntary organisation. It has its presence in all major urban centers. The requirement for this organisation is based on the vulnerability analysis by the particular state. Major works of this organisation include communication restoration, rescue and casualty management, depot and transportation, supply services, salvage and corpse disposal etc. In 1968 this organisation became statutory with main objectives as- (i) to minimise loss of life and damage to property, (ii) to keep up the morale of the people, (iii) to restore normalcy as soon as possible.

Lately due to the changing global geo-political scenario where chances of occurrence of traditional wars has reduced whereas threats from natural and man-made disasters has envisaged greater role seem to be increasing the Civil Defence (CD) to include a holistic role in all the facets of Disaster Management in the country. The Civil Defence being a community-based voluntary organization can, in addition to rescue, relief and rehabilitation, also play a stellar role in the field of community capacity building and public awareness to face any disaster situation, as is being done by Civil Defence set-ups in many other countries. In addition to the role assigned under the Civil Defence Act 1968, it can play a major role in assisting the District Disaster Management Authority (DDMA) with the help of its volunteers at grass roots level, in different phases of disaster, particularly in pre-disaster (public awareness, community capacity building and community preparedness) and mid-disaster phases (response and relief) phases.

According to the proposal for revamping, the primary role of CD will be community capacity building and creating public awareness in pre-disaster phase. The proposal envisages

converting the town specific setup of CD to a district specific set up. Plan includes, extending its coverage to all the districts in the country.

Integration of the CD organisation into disaster management can work as a great catalyst for organising community capacity building. CD has been authorised in 225 designated towns in the country out of which 121 have already been activated where volunteers have been recruited and trained.

### 3.4: 8 YOUTH ORGNISATIONS

- (i) National Cadet Corps (NCC)- It came into existence on 16<sup>th</sup> July 1948 under NCC act XXI of 1948. It lays stress on physical fitness, first aid training etc. which is suitable for assistance during emergencies. They can play huge role given their disciplined character if given adequate training.
- (ii) Bharat Scout & Guide- It started in 1909-10 and has volunteers to work during disasters in rescue operations. They also assist police in their functions such as traffic management, security etc.
- (iii) National Service Scheme (NSS)- Although NSS was formalised in 1969 but National Policy on Education 1986 recognised its role in serving the community. It is useful for community based disaster management.
- (iv) Nehru Yuva Kendra (NYK)- It is the largest grass root level organisation of its own kind in the world. These Kendras aim to harness and channelise the power of youth on principle of volunteerism, self help and participation.

### 3.4:9 INTERNATIONAL AGENCIES

There is urgent need to develop a larger role to these organization due to their high potential not only in preparing the community, but also in assisting the community and state regards in wake of any disaster. International Agencies provide assistance in four stages, namely, pre-disaster assistance for capacity building and awareness generation, assistance in response operations, in recovery programmes and for futuristic development programmes. In India the United Nation function with the system of eighteen agencies, important among them are UNDP, ILO, UNESCO, UNFPA, UNHCR, UNICEF, WHO etc.

UNDP- DRM programmes in 169 multi-hazard prone districts in 17 states of the country to provide support to set an institutional frame work for disaster preparedness, response and mitigation plan for disaster risk management at state, district, block, and village and ward levels.

### **3.4:10 NON GOVERNMENT ORGANISATIONS (NGOs)**

NGOs are a vital link between government and the community. They perform varied role in pre-disaster, during disaster and after disaster stage. They contribute in positive manner in establishing close and informal links with the community providing dedicated, motivated personnel, mobilising financial and natural resources and professional and technical services. Some important NGOs are-Co-operative Assistance and Relief Everywhere (CARE) working since 1950, UNICEF, FAO ( UNO),Oxfam, Abhiyan (formed in aftermath of the cyclone that hit Kutch in May 1998 and provided effective service during Bhuj earthquake of 2001), Voluntary Agencies for Sustainable Universal Development and Emergency Voluntary Action (VASUDEVA) etc. On such occasions large number of charitable bodies and public sector undertakings also engage themselves in providing relief.



## EXPERIENCE OF KOSI DISASTER 2008

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Here it may be useful to present an overview -impact, evacuation, relief and recovery of the Kosi disaster, appropriately called “National Disaster” by Prime Minister of India. During Kosi, it was observed that different functions were performed by the police as we went along with evacuation and relief work. These functions will be dealt in detail after the presentation of the impact and the activities related to rescue, relief and recovery.

As Special Secretary in the department of Disaster Management, I had the opportunity to organize response-both evacuation and relief to the disaster that struck the state following the breach in the embankment of river Kosi wherein the river started following on a totally new course affecting more than 30 lac people. It involved, perhaps the largest evacuation operation involving all wings of the defense services, specialized disaster response forces including NDRF and state disaster management agencies organizing rescue, relief and shelter for the affected population under extremely adverse conditions. At one point of time over 4 lac people were housed in 362 relief camps.

### 4.1 IMPACT

Kosi river, the ‘sorrow of Bihar’ breached (18<sup>th</sup> August, 2008) its embankment at Kusaha 10 km inside Nepal bordering Supaul district of Bihar and started flowing along a new course approximately 15 to 20 km wide and 150 km long affecting 35 blocks, 407 Panchayats and 980 villages in five districts with population of over 33 lac.

#### Impact during Kosi, 2008:

- |                              |           |
|------------------------------|-----------|
| • No. of blocks affected     | - 35      |
| • No. of Panchayats affected | - 412     |
| • No. of villages affected   | - 993     |
| • Population affected        | - 3329423 |
| • Live stock affected        | - 712140  |
| • Area affected in hectare   | - 368000  |
| • No. of human deaths        | - 527     |
| • No. of live stock death    | - 19323   |
| • No. of houses damaged      | - 220174  |

More than 33 lac people and their houses spread in 110258 ha land fell in the path of the new course. The entire country side within this 3000 sq. km swathe was totally devastated by the rapid surging flow of the river along its new course. Houses, school buildings, roads, health centers, bridges, telephone towers and railway tracks were all flooded and severely damaged/ swept away. Several banks closed their branches in the affected area causing problems in distribution of cash dole. There was complete disruption of road connectivity and as such boats became the only source of reaching the people.

Since the area affected was non-traditional flood area, neither the people nor the disaster management inistration was prepared for the calamity. The responders themselves were in need of rescue and relief.



## 4.2 RESPONSE

**4.2:1 Search and Rescue:** It was a calamity in pure sense and the Prime Minister during his visit to the affected area declared it as ‘National Disaster’. One of the largest ever evacuation operation in the history of the country was (If not largest) launched with the help of resources available in the state. Boats and rescue personnel were rushed from the districts having boats—those that experience floods frequently. More than 1000 such boats were sent to affected areas of 5 districts in quick time. Army was requisitioned and their columns moved to the area quickly. It boosted the rescue efforts. Several State government including Gujarat, Rajasthan, Central Paramilitary forces including Shashtra Seema Bal (SSB), BSF and CARE

chipped in with their rescue teams. NDRF, which was in its infancy, was rushed by NDMA. They were, in fact the first outside rescue force to reach the area. In the final analysis, 35 columns of Army, 4 units of Navy coast Guard, 855 National Disaster Response Force personnel, at 3500 police personnel deployed and approximately 5000 civilian personnel were put on the job for evacuation. More than very 1500 country boats and 561 motor boats were deployed for evacuation.



More than a million people were evacuated under conditions of terrible handicaps. Roads, rail tracks, bridges and telephone lines were thrown out of use. Families of those responsible for the rescue operations stood marooned.

**4.2:2 Relief and recovery:** As many as 362 relief camps were setup within a matter of days to house 4, 38,324 people. Of this, there were 35 mega relief camps with a population of more than 5000 in each. Arrangements were made for food, water, sanitation, health, education and recreation and cultural programmes in these camps. The huge scale of the relief work could be understood by the box below:

#### **Brief of Relief Operations**

- 1, 21,892 food packets along with 1, 74,387 water bottles and 4, 38,680 halogen tablets were air dropped by 12 helicopters in 314 sorties in one month.
- 2, 48,929 food packets also distributed by boats and other means.
- Relief Camps established in schools/college buildings, polythene sheets, tents and GCI sheet.
- At peak, 362 relief camps for 400,000 peoples. 119 food centers in interior area for the persons who could not / did not come to the relief camps themselves.
- 35 mega relief camps having population of more than 5000 in each. 12000 Tents from CPMF, army etc.
- Breach closure not expected before Jan/Dec. therefore 168 semi permanent camps with GCI sheets.

The victims were housed in government run relief camps. The management of the camps was an unique experience for us. The number of camps and the range of activities would provide insight into the gamut of functions that the police was expected to perform.

### **Camp Management**

- 3 meals a day. The inmates given break-fast, lunch and dinner.
- Milk for children twice a day and fruits and milk for pregnant and lactating mothers. There was special thrust on women, newly born baby and elderly persons.
- Clothes and utensils given to each camp inmate from the chief minister's relief fund.
- 2155 hand pumps, 7 water purification plants for safe drinking water in relief camps.
- Proper sanitation - 3750 temporary toilets were constructed.
- 241 health centers and a number of mobile medical teams/ sub centers for smaller camps and those outside. 514 doctors, 1588 Para-medical staff. 112 ambulances were deployed.
- Halogen tablets were distributed in approx 3, 42,000 houses, 2,53,908 hand pumps and 5,956 well were chlorinated.
- Bleaching powder sprayed in above 3.20 lac houses. Vaccination, immunization program were undertaken to prevent epidemic.
- 175000 blankets, 75000 bed sheets, 200200 new clothes, 75,000 carpets (dari), and 50,000 kitchens.
- 57 High Capacity Generator sets, more than 150 Other Generator sets and over 950 solar lamps were installed for lighting in relief camps.

### **Summary of Relief Distribution in KOSI Calamity – 2008**

#### **Phase-I-(22nd Aug – 30th Nov 2008)**

- Distribution of one 100kg of grain, Rs. 1000/- each for clothes and utensils and Rs. 250/- for medicines to 838443 flood affected family
- Distribution of kits which includes Dhoti/ Lungi/ Saree, scarf, garments for children, one plate, one Glass from Chief Ministers Relief Fund.

#### **Phase-II-(6th Jan – 25th Feb 2009)**

- Distribution of cash @ 1590/- in lieu of one 100kg of grain and Rs.250/- as cash dole for every flood affected family. Rs. 13211.5 lac against grains and Rs. 2077.28 lac against cash dole distributed..
- Payment of Rs. 250/- each for blankets from CMRF, Rs. 2161.75 lac distributed.

- Distribution of educational assistance from CMRF for students @ 800/- upto class 8th 1000/- for class 10th and 1200/- for class 12th Rs. 3420.01 lac distributed amongst 422671 students.

### 4.3 FUNCTIONS PERFORMED BY THE POLICE DURING RESCUE AND RELIEF OPERATIONS

- **Resource mobilization:** Police was of immense help in mobilizing all resources. Police had played significant role in locating, loading and transporting these boats. Moreover those boats had to be operated under the guidance and protection of police.
- **Mobilize Boats:** Boats had to be mobilized from all over the state since the affected areas had either no boat or the available boats had been washed away. Policemen descended on all the river fronts to collect boats. It is true that the revenue officials had to develop contracts with the boat owners in the beginning of the season itself. This either is not done or even if pre contracts are in place, it is extremely difficult to get the boat owners on the contracted rates. In this particular case, the boats had to be sent to different area far away from the owner's residence and therefore, they were very reluctant to go. Thus, police had to make extra effort to locate those boats, arrange for trucks/tractors to carry them which itself was a difficult task and then escort them to the affected districts to make sure that they don't run away on the way. The police station having the best reach in rural areas, become the focal point for such activities. Moreover, at many/most places, coercion became essential.



- **Provide security to boats:** The issue of reaching the boats to the affected areas has been dealt above. The responders were themselves seeking shelter and protection and therefore, they were unavailable to operate those boats. Unfortunately, many of the boat owners/operators escaped during transit and therefore, the issue of operating those boats. Many unscrupulous elements hijacked local boats and the boats sent from outside and started operating them for pecuniary benefits and therefore, the boats were put in charge of policemen. Later on, when army units and NDRF arrived they also required police protection to make sure that they was no overcrowding which would have caused loss of life in fast currents. The

operational centers created on the water fronts in the five districts were also given police protection as boats and diesel were kept there.

✚ **Communication with rescue teams:** Telephonic communication broke down since the towers/offices of BSNL and towers got destroyed with the result that landline and mobile phones stopped working. In such circumstances communication with rescue/relief teams had to be maintained. Phones stopped working after 2-3 day as towers were washed away and they could not charge their batteries as no electricity was there- electricity poles uprooted.

✚ **Wireless communication was established on all the boats:** Similar communication with wireless has to be established in relief camps. As mentioned earlier, local responders of village, panchayat level were not available and therefore, the bulk of the rescue work was undertaken by outsiders, be it army, NDRF, navy or any other rescue team. The rescue teams were operating in unknown territories and adverse conditions where disaster managements were either washed away or destroyed and therefore, they were no reference points. Many a times, these boats got lost and they had to spend nights outside the camps. The new course of the river had very fast current as a result of which, they could not reach their locations by end of the day. Several times, these boats got capsized. Therefore for rescue teams to provide immediate support to respond, wireless was used to direct the rescue teams to affected people whenever their location was known through phone. The army, navy and the NDRF had their own communication systems but it needed to be integrated with the district communication setup so that information of any emergency could be disseminated quickly and support reached at the earliest. Wireless sets communication was established on all the boats. Later on, all the units were given SIM cards by the state government to facilitate unitary communication among themselves and with district and state level officials.

- **Safety in houses vacated/ abandoned by people:** People left their houses with or without belongings and animals. This provided opportunity for thieves and robbers. Therefore, boats were earmarked for police patrolling and to secure their belongings. This was a very difficult task. Unfortunately, there are always those who will take advantage of a chaotic situation. When people are evacuated from their homes or neighbourhoods, houses are left unsupervised and opportunities to commit crime can be rampant. Police presence can help to ensure that looting doesn't happen. When looting does occur, the police will be ready to apprehend and arrest the suspects.
- **Traffic regulation:** Facilitate the movement of rescue, medical, fire and other essential services. During Kosi, National highways had to be kept free for movement of rescue teams and relief material. Check posts were established for ensuring safety of relief material. Road patrol for safe passage of army convoys and boats and other resources sent from outside and arranging vehicles for army etc. Within no time NHs

became deserted. Each column required one small vehicle, 2 buses and 4 trucks for 35 columns, 850 NDRF and equal number of outsiders. The requirement of vehicles huge.



- **Coordination with cooperating units like NDRF, Army:** Police can function as link with external agencies since most are uniformed. NDRF today is the most visible trained emergency response force made up of personnel of CRP, BSF and CISF. Rescue teams from other states also policemen based. So are the Army, Coast Guard and IAF.
- **Security during Relief Management:**
  - ✚ Security of personnel and material engaged in distribution of relief in designated centers (relief centers) in affected areas. Many of centers were located in interiors where large people took shelter on high grounds, rail lines, embankments etc.
  - ✚ Many banks branches got closed and therefore cash was sent from far off places. During such work police has to ensure security of cash. Dedicated escorts sent from the chests to storage/ distribution centers.



- ✚ Security of grains being transported from different places to distribution centres – Security at railway stations where relief material was received by special trains and stored before being dispatched to destination.
- ✚ Security of Relief material sent/ distributed by the NGOs/organisations and several state governments – Many NGOs, charitable bodies, religion and social groups, PSUs arrived for relief work. The food and clothes get looted in the early days.
- ✚ Security of food godowns – Many instances of looting in initial period when police not enough and not relief available.
- ✚ Maintenance of law and order and security in relief camps – During Kosi disaster over 400 relief camps had people from many villages with different religious, political and caste backgrounds and thus had potential for friction. This required deployment for law & order maintenance. Equally important was the security of camp inmates, camp managers and doctors etc.

- **VIP Security, Law & Order:**

VIPs visit the affected area and relief camps frequently. Many a times, politically opposed/ dissatisfied resort to protests thereby posing threat to VIP and law and order. This must be handled by police. Tardy distributions again provide opportunity for beating up rescue or disrupt traffic where police has to intervene. During such times of distress, police cannot be expected to resort to force and this makes the task of maintaining law & order that much difficult.

## EMPIRICAL FINDINGS

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This chapter relates to findings of the structured questionnaire and focused discussion with specific target groups.

This section deals with two separate sets of data gathered from two sets of universe from the five districts: (a) respondents from the disaster-prone districts and (b) the state government functionaries working either in the sampled districts or at the state level. As stated earlier, altogether 127 respondents from five districts and 41 government officials involved in disaster management provided two set of data. They were subject to analysis based on SPSS V16. A few items of the questionnaire were weeded out as they were not meaningful in terms of analysis. Some basic questions were asked to ascertain the level of awareness of the non-government respondents. A few questions were framed to probe the expectations from local police and their actual involvement in disaster response. This section has been divided into two sub-sections. The Ist sub- section deals with the non-government respondents of the disaster prone-districts while the IInd sub-section covers the govt. functionaries. At the end of each sub-section the emerging trend has been discussed.

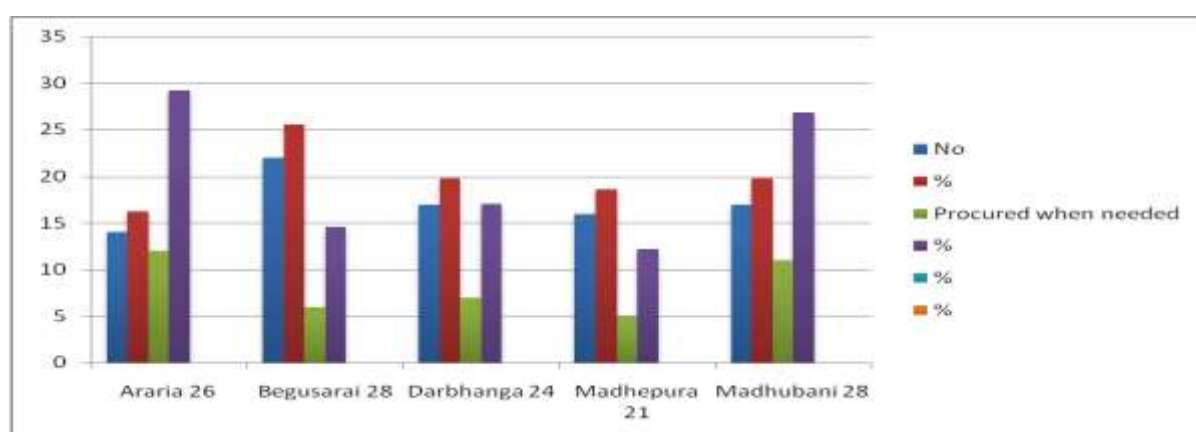
### SUB-SECTION I: THE NON-GOVERNMENT RESPONDENTS IN DISASTER-PRONE DISTRICTS

**5.1: Understanding of disaster among respondents.** Table 4.1 explains the understanding of disaster among the community. Disasters are categorized into three groups: (a) natural phenomenon (b) man-made and (c) resultant of the both. Variation in responses was reported. About 35 per cent respondents across sample districts believed disaster to be natural phenomenon. On the other side 15 per cent respondents perceived it as man-made phenomenon. Significantly large number of them (50 per cent) considered disaster as the result of both- natural causes being aggravated by inefficient management by government functionaries and unresponsive community which is exploiting local resources without thought and their indifference to preparation and mitigation activities. Chi square (4) =3.02,

$p > 0.05$  was found insignificant meaning that they did not differ across districts. **NOTE: graphs have been prepared to exhibit the findings shown in the table form.**

| District     | Natural Phenomenon | %     | Man-made Phenomenon | %     | Both | %     |
|--------------|--------------------|-------|---------------------|-------|------|-------|
| Araria 26    | 8                  | 17.78 | 6                   | 31.58 | 12   | 19.05 |
| Begusarai 28 | 10                 | 22.22 | 4                   | 21.05 | 14   | 22.22 |
| Darbhanga 24 | 9                  | 20.00 | 2                   | 10.53 | 13   | 20.63 |
| Madhepura 21 | 10                 | 22.22 | 3                   | 15.79 | 8    | 12.70 |
| Madhubani 28 | 8                  | 17.78 | 4                   | 21.05 | 16   | 25.40 |
| Total 127    | 45                 | 35.43 | 19                  | 14.96 | 63   | 49.61 |

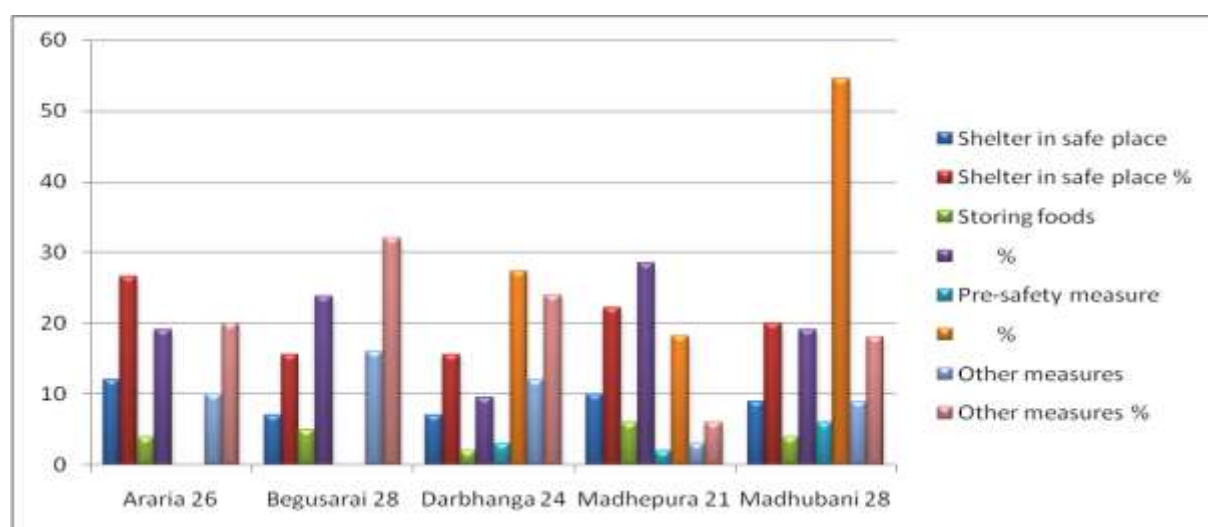
**Table 5.1: Meaning of disaster as understood by the respondents**



**5.2: Preparation for countering disaster by the respondents.** Community being the first responder, study tried to assess their preparedness level. In order to assess the level of preparation for responding to disaster a few prominent measures ( as option) were given to them. They were asked to anchor their responses as per their importance. Table 4.2 revealed that 35 per cent respondents took shelter in safe place during the disaster. About 17 per cent resorted to storing food. Hardly 9 per cent adopted any pre-disaster safety measures. About 39 per cent preferred to adopt local measures which seemed indigenous and varied from district to district. Chi-square (12) was found insignificant ( $p > .05$ ) reflecting least variation in response pattern.

**Table 5.2: Preparedness for responding to disasters**

| District         | Shelter in safe place | %            | Storing foods | %            | Pre-disaster safety measure | %           | Other measures | %            |
|------------------|-----------------------|--------------|---------------|--------------|-----------------------------|-------------|----------------|--------------|
| Araria 26        | 12                    | 26.67        | 4             | 19.05        | -                           | 0.00        | 10             | 20           |
| Begusarai 28     | 7                     | 15.56        | 5             | 23.81        | -                           | 0.00        | 16             | 32           |
| Darbhanga 24     | 7                     | 15.56        | 2             | 9.52         | 3                           | 27.27       | 12             | 24           |
| Madhepura 21     | 10                    | 22.22        | 6             | 28.57        | 2                           | 18.18       | 3              | 6            |
| Madhubani 28     | 9                     | 20.00        | 4             | 19.05        | 6                           | 54.55       | 9              | 18           |
| <b>Total 127</b> | <b>45</b>             | <b>35.43</b> | <b>21</b>     | <b>16.54</b> | <b>11</b>                   | <b>8.66</b> | <b>50</b>      | <b>39.37</b> |

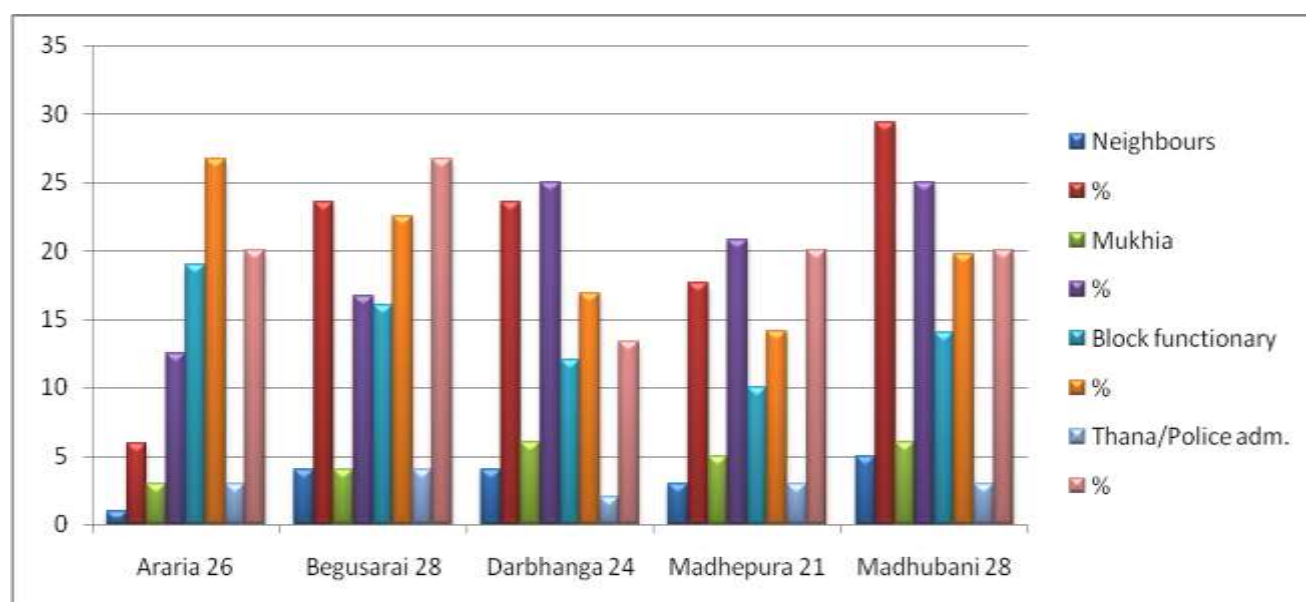


**5.3: Assistance from other agency.** An attempt was made to find out pattern of assistance provided by different agencies during disaster. People had high expectation from block functionaries (56 per cent) as they were quite aware of the role of block offices during disaster. Since the responses have come in context of natural disasters particularly floods, it is understandable. They had least expectation from thana/police administration (15 per cent). This is explained by the fact, one, people have more interface with block than thana and two, that people are mostly affected by routine floods where relief distribution is the major task of the government departments which is handled by block office. Rescue work which is of smaller proportions too is handled by boats arranged by block only. As floods are a recurring phenomena for them, they do not treat it as disaster where there is significant role for the police. In routine floods there is no urgent need to save the lives of the people. But Kosi was different- it was a disaster in true sense. Here lies the significance of creating awareness and capacity building in the police such that they can play a more active role and lead the rescue operations. People do not perceive them as major player as they see them incapable of due to absence of training and equipment (which is

reflected in later tables). Similarly, they had moderate expectation from the mukhia (24 per cent). Chi-square (12) was found significant ( $p < 0.05$ ) indicating variation in the responses.

**Table 5.3 : Who provides them assistance**

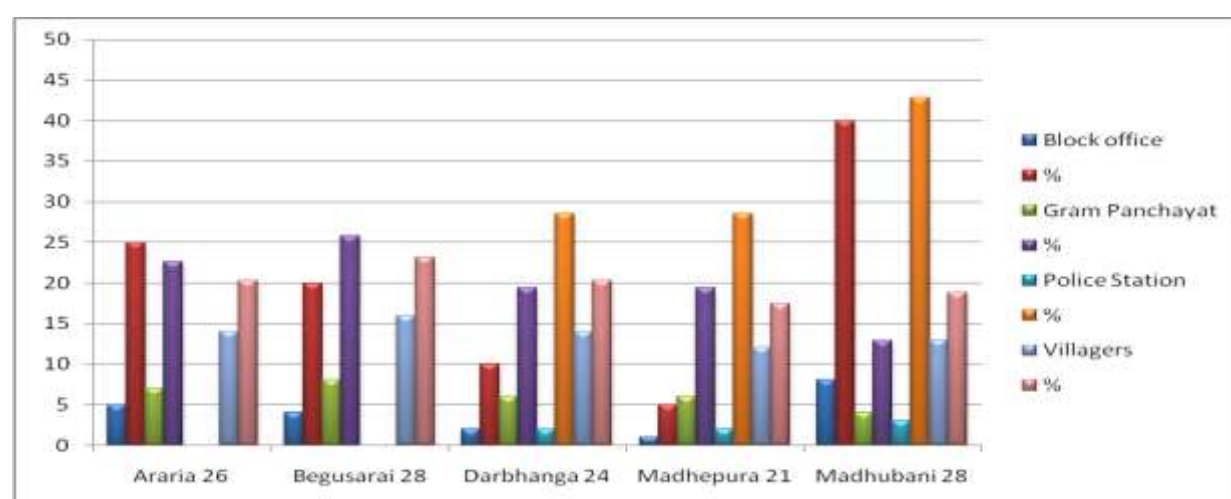
| District         | Neighbours | %            | Mukhia    | %            | Block functionary | %            | Thana/Police adm. | %            |
|------------------|------------|--------------|-----------|--------------|-------------------|--------------|-------------------|--------------|
| Araria 26        | 1          | 5.88         | 3         | 12.50        | 19                | 26.76        | 3                 | 20.00        |
| Begusarai 28     | 4          | 23.53        | 4         | 16.67        | 16                | 22.54        | 4                 | 26.67        |
| Darbhanga 24     | 4          | 23.53        | 6         | 25.00        | 12                | 16.90        | 2                 | 13.33        |
| Madhepura 21     | 3          | 17.65        | 5         | 20.83        | 10                | 14.08        | 3                 | 20.00        |
| Madhubani 28     | 5          | 29.41        | 6         | 25.00        | 14                | 19.72        | 3                 | 20.00        |
| <b>Total 127</b> | <b>17</b>  | <b>13.39</b> | <b>24</b> | <b>18.90</b> | <b>71</b>         | <b>55.91</b> | <b>15</b>         | <b>11.81</b> |



**5.4: Information about disaster received from agencies.** Table 4.4 disclosed the role of various agencies in dissemination of information about the disaster. Remarkably, responses showed prominent role of block in informing people about disaster (54 per cent) reflecting active role of block, personal contact or informal nexus that overshadowed other agencies. At the grassroot level gram panchayat (24 per cent) had a significant role in disseminating information about disaster. This is good. The police missed to play a significant role in passing information to the respondents though they were capable of doing it (6 per cent). Police and block office, both have grassroot work force in form of choukidar, village level functionaries etc who could be great source for informing affected people.

**Table 5.4: Information about disaster received from agencies**

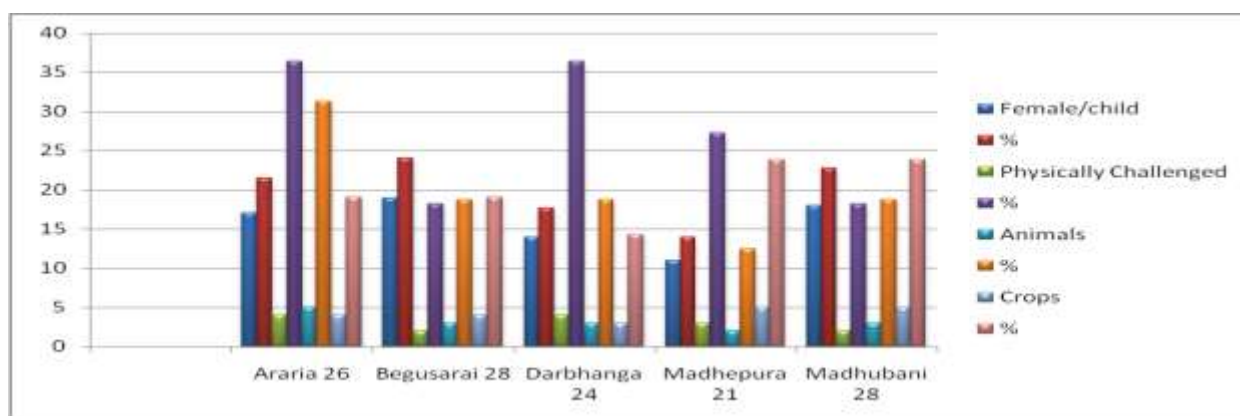
| District         | Block office | %            | Gram Panchayat | %            | Police Station | %           | Villagers | %            |
|------------------|--------------|--------------|----------------|--------------|----------------|-------------|-----------|--------------|
| Araria 26        | 5            | 25           | 7              | 22.58        | 0              | 0.00        | 14        | 20.29        |
| Begusarai 28     | 4            | 20           | 8              | 25.81        | 0              | 0.00        | 16        | 23.19        |
| Darbhanga 24     | 2            | 10           | 6              | 19.35        | 2              | 28.57       | 14        | 20.29        |
| Madhepura 21     | 1            | 5            | 6              | 19.35        | 2              | 28.57       | 12        | 17.39        |
| Madhubani 28     | 8            | 40           | 4              | 12.90        | 3              | 42.86       | 13        | 18.84        |
| <b>Total 127</b> | <b>20</b>    | <b>15.75</b> | <b>31</b>      | <b>24.41</b> | <b>7</b>       | <b>5.51</b> | <b>69</b> | <b>54.33</b> |



**5.5: Most vulnerable sections of community.** Another analysis was made to identify the most vulnerable sections that get affected by disaster. (Table 4.5). The most affected victims were female, children and aged-persons (62 per cent). Victims are also affected by damage/loss of crops (17%) and animals (13%) as it is the villages that bear the brunt of floods as agriculture and animals are their livelihood.

**Table 5.5: Most vulnerable sections of population**

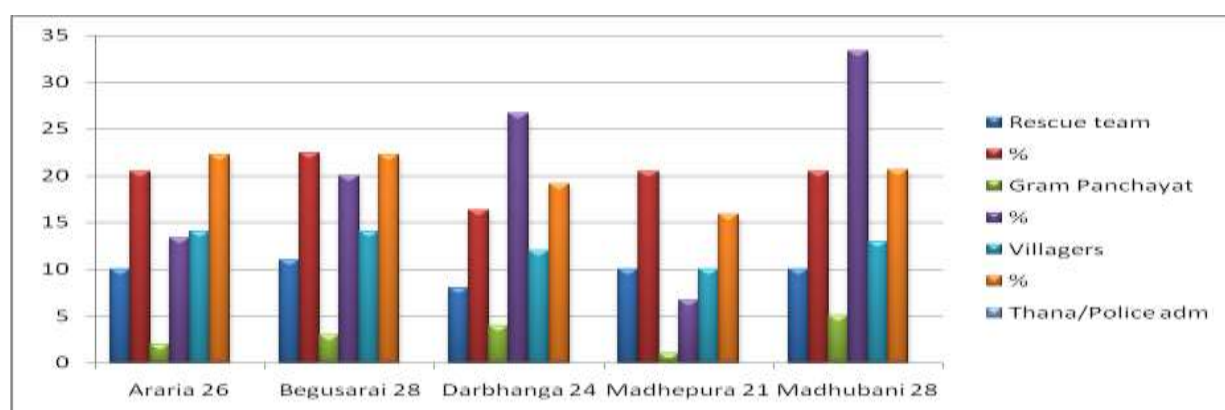
| District         | Female/child/aged | %            | Physically Challenged | %           |           |
|------------------|-------------------|--------------|-----------------------|-------------|-----------|
| Araria 26        | 17                | 21.52        | 4                     | 36.36       | 5         |
| Begusarai 28     | 19                | 24.05        | 2                     | 18.18       | 3         |
| Darbhanga 24     | 14                | 17.72        | 4                     | 36.36       | 3         |
| Madhepura 21     | 11                | 13.92        | 3                     | 27.27       | 2         |
| Madhubani 28     | 18                | 22.78        | 2                     | 18.18       | 3         |
| <b>Total 127</b> | <b>79</b>         | <b>62.20</b> | <b>11</b>             | <b>8.66</b> | <b>16</b> |



**5.6: Response of agencies in rescue operation.** Villagers, gram panchayat members and rescue teams have been found to have helped in rescue. Table 4.6 revealed that villagers (50 per cent) were the first responders. This needs to be encouraged by training and equipping them. After all community is the first responder. This is followed by rescue teams from outside. They are mostly units of NDRF which has significant presence in Bihar with deployment of 1 batallion. Gram panchayat too has helped but not much. The panchyat must be empowered to have own trained rescue and other teams. Surprisingly, the respondents did not perceive thana or the police as rescuer, signifying their insignificant role in this area of disaster management.

**Table 5.6: Who comes for assistance?**

| District         | Rescue team | %            | Gram Panchayat | %            | Villagers | %            |
|------------------|-------------|--------------|----------------|--------------|-----------|--------------|
| Araria 26        | 10          | 20.41        | 2              | 13.33        | 14        | 22.22        |
| Begusarai 28     | 11          | 22.45        | 3              | 20.00        | 14        | 22.22        |
| Darbhanga 24     | 8           | 16.33        | 4              | 26.67        | 12        | 19.05        |
| Madhepura 21     | 10          | 20.41        | 1              | 6.67         | 10        | 15.87        |
| Madhubani 28     | 10          | 20.41        | 5              | 33.33        | 13        | 20.63        |
| <b>Total 127</b> | <b>49</b>   | <b>38.58</b> | <b>15</b>      | <b>11.81</b> | <b>63</b> | <b>49.61</b> |

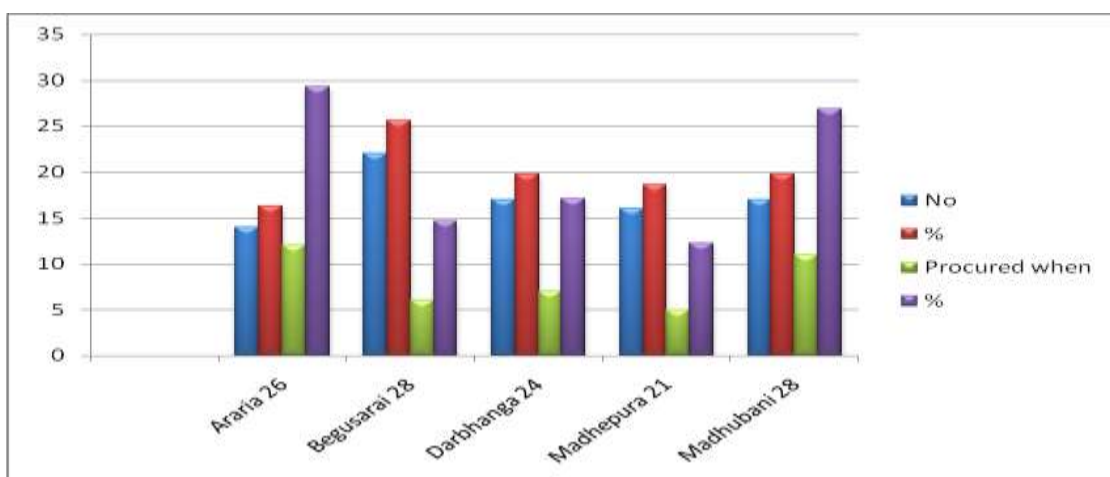


**5.6: Awareness of phone number of the police station.** Table 5.7 and 5.8 were generated to know whether the community was aware of the phone number of the local police station and whether they inform the police. About 68 per cent respondents did not have their telephone number. *However 65 per cent respondents informed the nearest police station about the disaster.* Apparently they must have obtained at that point of time.

Table 5.9 was designed to assess awareness of wireless system among respondents. Wireless system was an important instrument of communication for use by police as well as general administration. Respondents were expected to know about it as alternative channel of information gathering and dissemination specially when telephone lines both basic and mobile get disrupted during disaster. But 57 per cent respondents were not aware of it. People in affected regions must be kept aware of this wireless channel so that it could be used to advantage.

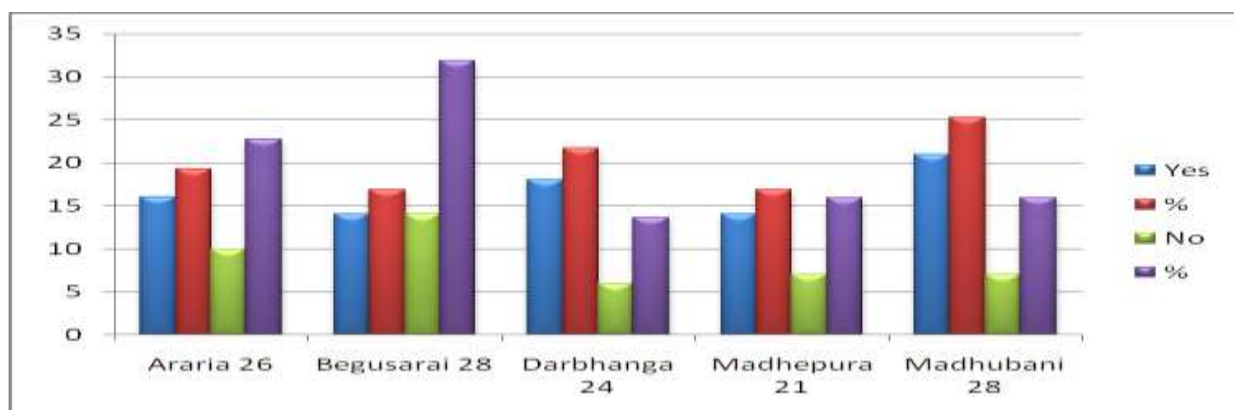
**Table 5.7: Knowledge of phone number of the nearest police station**

| District         | No        | %            | Procured when needed | %            |
|------------------|-----------|--------------|----------------------|--------------|
| Araria 26        | 14        | 16.28        | 12                   | 29.27        |
| Begusarai 28     | 22        | 25.58        | 6                    | 14.63        |
| Darbhanga 24     | 17        | 19.77        | 7                    | 17.07        |
| Madhepura 21     | 16        | 18.60        | 5                    | 12.20        |
| Madhubani 28     | 17        | 19.77        | 11                   | 26.83        |
| <b>Total 127</b> | <b>86</b> | <b>67.72</b> | <b>41</b>            | <b>32.28</b> |



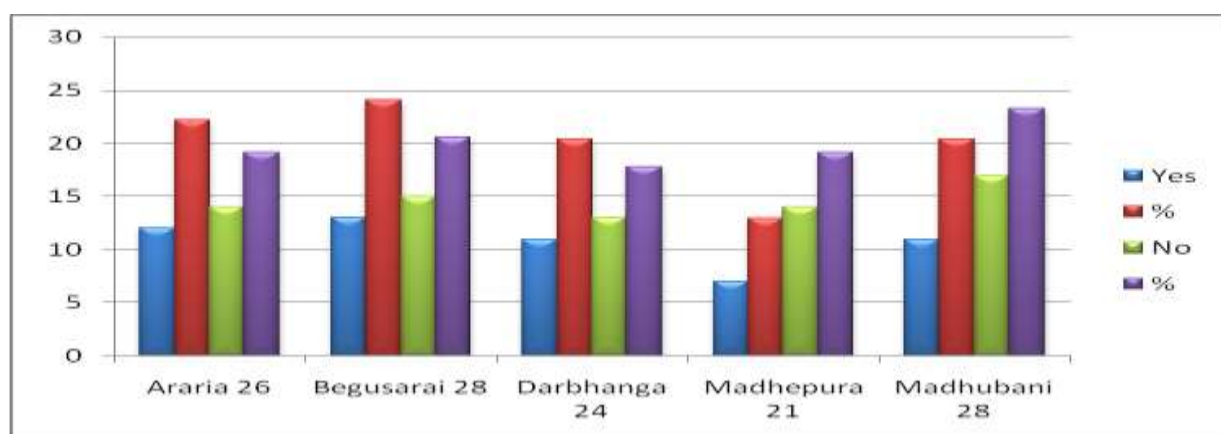
**Table 5.8: Did they inform the nearest police station**

| District         | Yes       | %            | No        | %            |
|------------------|-----------|--------------|-----------|--------------|
| Araria 26        | 16        | 19.28        | 10        | 22.73        |
| Begusarai 28     | 14        | 16.87        | 14        | 31.82        |
| Darbhanga 24     | 18        | 21.69        | 6         | 13.64        |
| Madhepura 21     | 14        | 16.87        | 7         | 15.91        |
| Madhubani 28     | 21        | 25.30        | 7         | 15.91        |
| <b>Total 127</b> | <b>83</b> | <b>65.35</b> | <b>44</b> | <b>34.65</b> |



**Table 5.9: knowledge of Wireless system at police station**

| District         | Yes       | %            | No        | %            |
|------------------|-----------|--------------|-----------|--------------|
| Araria 26        | 12        | 22.22        | 14        | 19.18        |
| Begusarai 28     | 13        | 24.07        | 15        | 20.55        |
| Darbhanga 24     | 11        | 20.37        | 13        | 17.81        |
| Madhepura 21     | 7         | 12.96        | 14        | 19.18        |
| Madhubani 28     | 11        | 20.37        | 17        | 23.29        |
| <b>Total 127</b> | <b>54</b> | <b>42.52</b> | <b>73</b> | <b>57.48</b> |

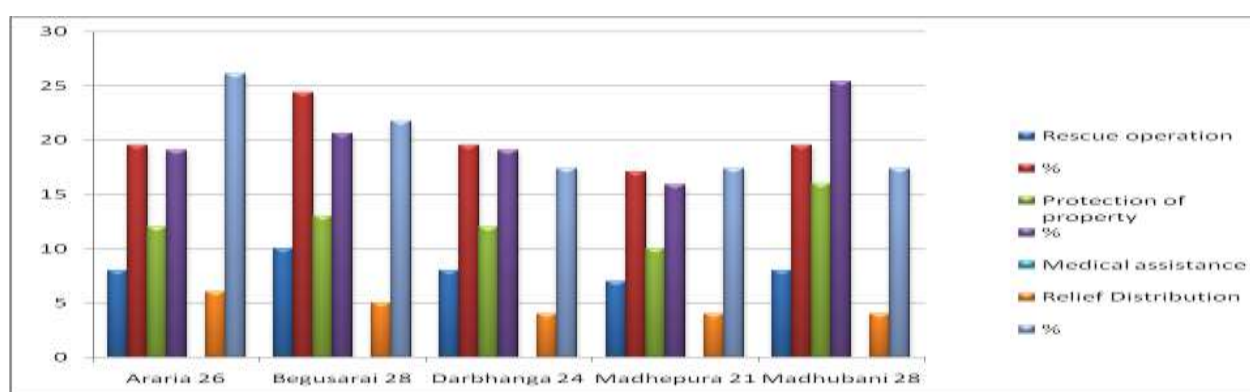


### 5.10: Expectation from the police

Expectation from the police was assessed to determine its future role in disaster management. Table 5.10 made it apparent that respondents (50%) expected police to protect property of victims followed by help during relief distribution (18 per cent). Chi-square substantiated the result ( $p < .01$ ). Respondents also expected involvement of police in rescue operation (32 per cent). Another analysis was done to ascertain the presence of police in relief work (table 5.11a and 5.11b). 74 per cent respondents admitted the fact that the police did not show its presence during relief work. But they also mention that Chowkidar (40 per cent) followed by the constable (27 per cent) were present during relief work. This is quite understandable. These two represent the police system. The presence of higher level officials was less ( $< 20$  per cent) for this work. It was difficult to attend all sites of relief distribution by the police officers.

**Table 5.10: Expectation from the police**

| District         | Rescue operation | %            | Protection of property | %            | Medical assistance | Relief Distribution | %            |
|------------------|------------------|--------------|------------------------|--------------|--------------------|---------------------|--------------|
| Araria 26        | 8                | 19.51        | 12                     | 19.05        | 0                  | 6                   | 26.09        |
| Begusarai 28     | 10               | 24.39        | 13                     | 20.63        | 0                  | 5                   | 21.74        |
| Darbhanga 24     | 8                | 19.51        | 12                     | 19.05        | 0                  | 4                   | 17.39        |
| Madhepura 21     | 7                | 17.07        | 10                     | 15.87        | 0                  | 4                   | 17.39        |
| Madhubani 28     | 8                | 19.51        | 16                     | 25.40        | 0                  | 4                   | 17.39        |
| <b>Total 127</b> | <b>41</b>        | <b>32.28</b> | <b>63</b>              | <b>49.61</b> | <b>0</b>           | <b>23</b>           | <b>18.11</b> |



**Table 5.11(a): Presence of police during relief work**

| District         | Yes       | %            | No        | %            |
|------------------|-----------|--------------|-----------|--------------|
| Araria 26        | 8         | 24.24        | 18        | 19.15        |
| Begusarai 28     | 7         | 21.21        | 21        | 22.34        |
| Darbhanga 24     | 7         | 21.21        | 17        | 18.09        |
| Madhepura 21     | 5         | 15.15        | 16        | 17.02        |
| Madhubani 28     | 6         | 18.18        | 22        | 23.40        |
| <b>Total 127</b> | <b>33</b> | <b>25.98</b> | <b>94</b> | <b>74.02</b> |

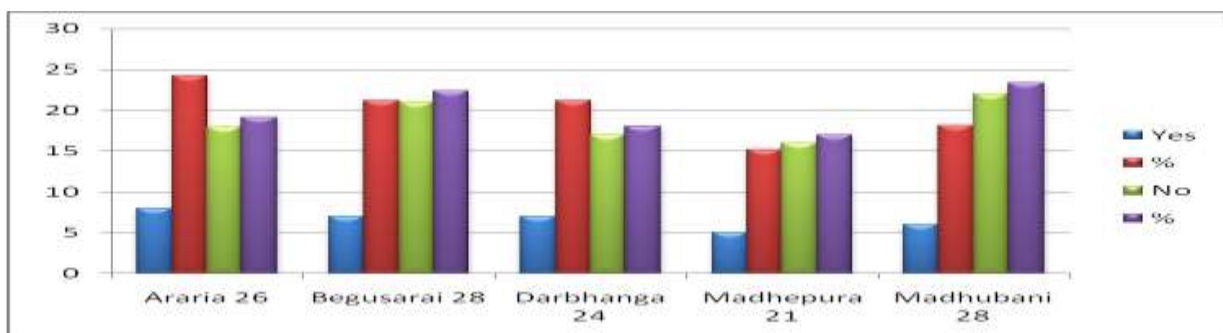


Figure 11(a)

Table 5.11(b): Presence of police during relief work

| District         | Chowkidar | %            | Constable | %            | Sub-Inspector | %            | Above rank | %            |
|------------------|-----------|--------------|-----------|--------------|---------------|--------------|------------|--------------|
| Araria 26        | 9         | 17.65        | 7         | 20.59        | 6             | 24           | 4          | 23.53        |
| Begusarai 28     | 11        | 21.57        | 7         | 20.59        | 6             | 24           | 4          | 23.53        |
| Darbhanga 24     | 10        | 19.61        | 7         | 20.59        | 4             | 16           | 3          | 17.65        |
| Madhepura 21     | 9         | 17.65        | 5         | 14.71        | 5             | 20           | 2          | 11.76        |
| Madhubani 28     | 12        | 23.53        | 8         | 23.53        | 4             | 16           | 4          | 23.53        |
| <b>Total 127</b> | <b>51</b> | <b>40.16</b> | <b>34</b> | <b>26.77</b> | <b>25</b>     | <b>19.69</b> | <b>17</b>  | <b>13.39</b> |

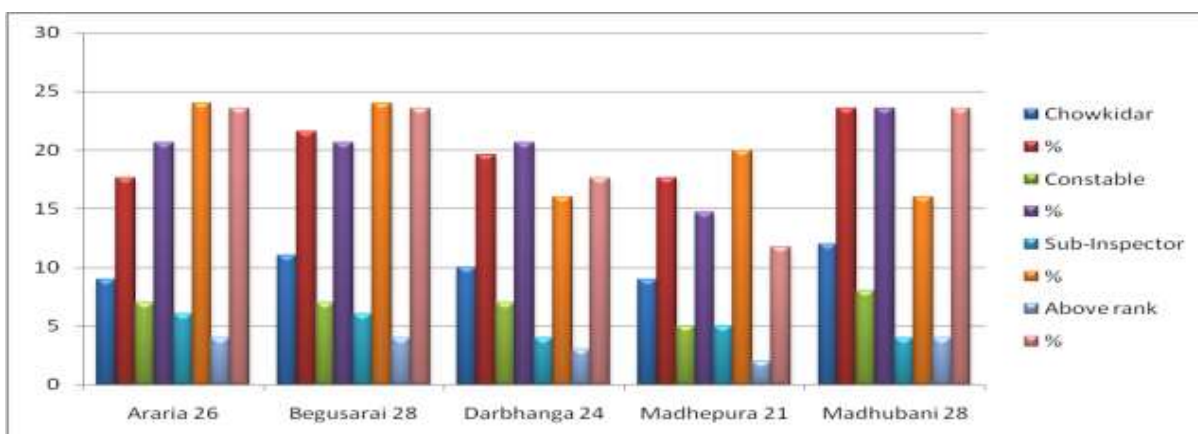


Figure 11(b)

### 5.8: Patrolling of embankments during floods

An important function performed by the police is protection of embankments. 54 per cent respondents mentioned patrolling by the police during the flood (table 5.12a). But they could do better. 23 per cent respondents felt that the police were deployed for patrol after a rumour (table 5.12b) and (16 percent) said patrolling was started following complaint by villagers. This is not fully correct as arrangements for protection of embankment is initiated before the onset of monsoon.

**Table 5.12(a): role of police in preventive action-Patrolling of barrage**

| District         | Yes       | %            | No        | %            |
|------------------|-----------|--------------|-----------|--------------|
| Araria 26        | 11        | 15.94        | 15        | 25.86        |
| Begusarai 28     | 17        | 24.64        | 11        | 18.97        |
| Darbhanga 24     | 13        | 18.84        | 11        | 18.97        |
| Madhepura 21     | 14        | 20.29        | 7         | 12.07        |
| Madhubani 28     | 14        | 20.29        | 14        | 24.14        |
| <b>Total 127</b> | <b>69</b> | <b>54.33</b> | <b>58</b> | <b>45.67</b> |

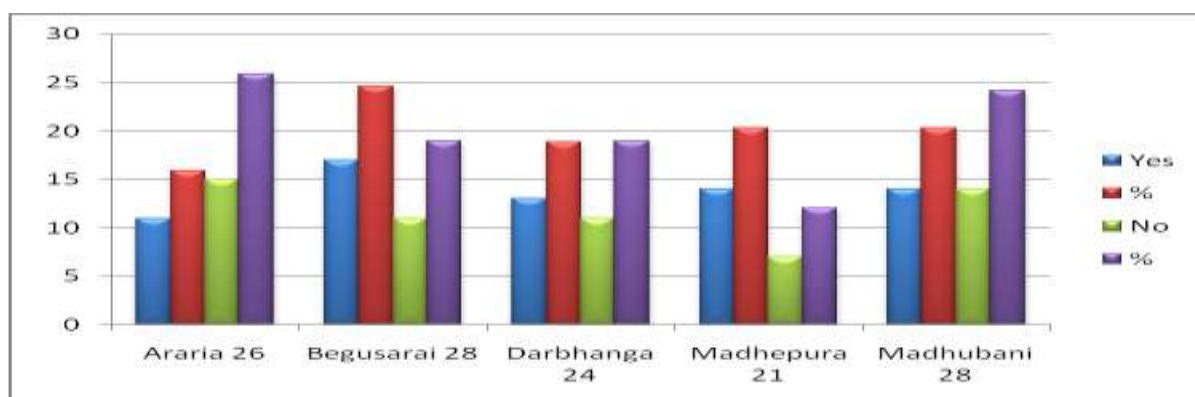


Figure 12(a)

**Table 5.12(b): Frequency of patrolling on barrage**

| District         | Often     | %            | After rumor | %            | After complain | %            | Always    | %           |
|------------------|-----------|--------------|-------------|--------------|----------------|--------------|-----------|-------------|
| Araria 26        | 14        | 20.90        | 7           | 24.14        | 3              | 15           | 2         | 18.18       |
| Begusarai 28     | 16        | 23.88        | 6           | 20.69        | 3              | 15           | 3         | 27.27       |
| Darbhanga 24     | 11        | 16.42        | 5           | 17.24        | 6              | 30           | 2         | 18.18       |
| Madhepura 21     | 11        | 16.42        | 6           | 20.69        | 3              | 15           | 1         | 9.09        |
| Madhubani 28     | 15        | 22.39        | 5           | 17.24        | 5              | 25           | 3         | 27.27       |
| <b>Total 127</b> | <b>67</b> | <b>52.76</b> | <b>29</b>   | <b>22.83</b> | <b>20</b>      | <b>15.75</b> | <b>11</b> | <b>8.66</b> |

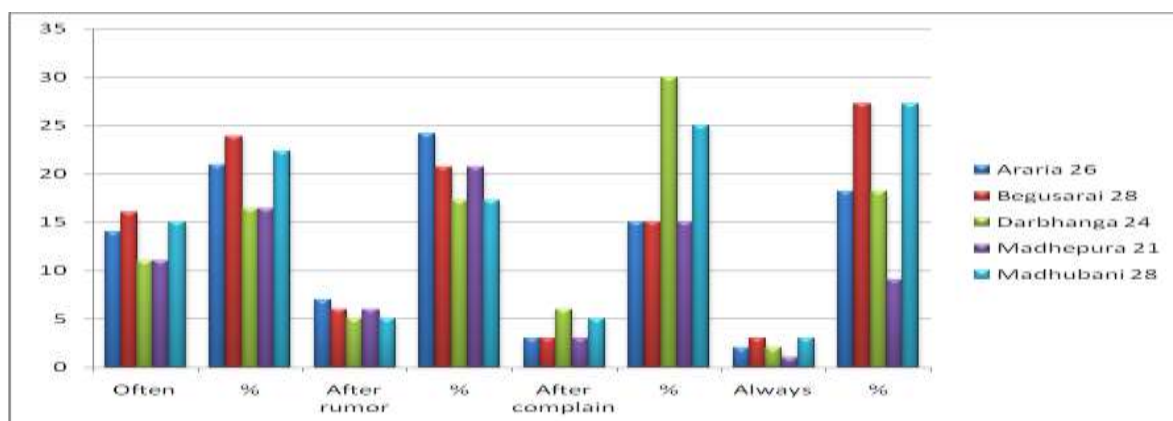


Figure 12(b)

### 5.9: Rescue operation by the police

The police intervened in rescue operation (74 per cent) after getting order from the higher authority (table 5.13). This intervention came late. Majority (80 per cent) mentioned that police were good in their original work – protection/ safety.

**Table 5.13: Rescue operation by the police**

| District         | Immediately | %           | After instruction by authority | %            | Very late | %            |
|------------------|-------------|-------------|--------------------------------|--------------|-----------|--------------|
| Araria 26        | 2           | 22.22       | 20                             | 21.28        | 4         | 16.67        |
| Begusarai 28     | 2           | 22.22       | 22                             | 23.40        | 4         | 16.67        |
| Darbhanga 24     | 0           | 0.00        | 19                             | 20.21        | 5         | 20.83        |
| Madhepura 21     | 2           | 22.22       | 15                             | 15.96        | 4         | 16.67        |
| Madhubani 28     | 3           | 33.33       | 18                             | 19.15        | 7         | 29.17        |
| <b>Total 127</b> | <b>9</b>    | <b>7.09</b> | <b>94</b>                      | <b>74.02</b> | <b>24</b> | <b>18.90</b> |

**Table 5.14: Protection by the police for the victims during camp**

| District         | Yes        | %            | No        | %            |
|------------------|------------|--------------|-----------|--------------|
| Araria 26        | 20         | 19.80        | 6         | 23.08        |
| Begusarai 28     | 23         | 22.77        | 5         | 19.23        |
| Darbhanga 24     | 20         | 19.80        | 4         | 15.38        |
| Madhepura 21     | 16         | 15.84        | 5         | 19.23        |
| Madhubani 28     | 22         | 21.78        | 6         | 23.08        |
| <b>Total 127</b> | <b>101</b> | <b>79.53</b> | <b>26</b> | <b>20.47</b> |

With regard to preparedness and training of policeman, it has been revealed that they have not come across mock drills by the police.

**Table 5.15: Participation of the police in mock drill**

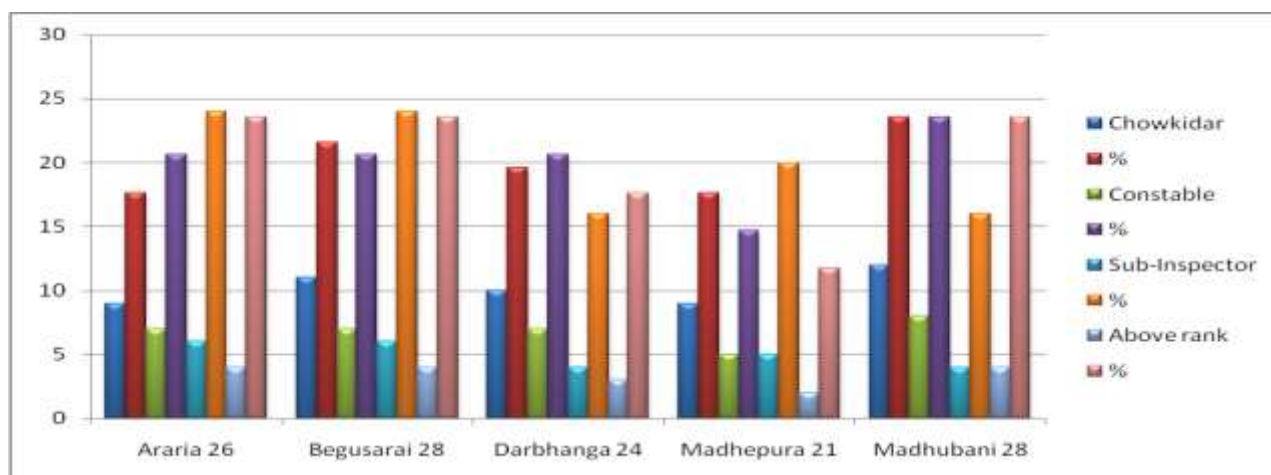
| District         | Yes       | %            | No         | %            |
|------------------|-----------|--------------|------------|--------------|
| Araria 26        | 6         | 26.09        | 20         | 19.23        |
| Begusarai 28     | 6         | 26.09        | 22         | 21.15        |
| Darbhanga 24     | 3         | 13.04        | 21         | 20.19        |
| Madhepura 21     | 4         | 17.39        | 17         | 16.35        |
| Madhubani 28     | 4         | 17.39        | 24         | 23.08        |
| <b>Total 127</b> | <b>23</b> | <b>18.11</b> | <b>104</b> | <b>81.89</b> |

### 5.11: Role of the police in disaster management

Table 5.16 revealed that the police organization was supposed to maintain law and order (44 per cent). They were also expected to assist in relief operation (25 per cent) followed by restoring traffic (20 per cent).

**Table 5.16: Role of the police in disaster management**

| District         | Law and order to maintenance | Rescue operation | Provide medical-aid | Issue death certificate | Restore traffic | Assist in relief operation |
|------------------|------------------------------|------------------|---------------------|-------------------------|-----------------|----------------------------|
| Araria 26        | 42.86                        | 14.29            | 7.14                | 0.00                    | 14.29           | 21.43                      |
| Begusarai 28     | 44.44                        | 5.56             | 0.00                | 0.00                    | 33.33           | 16.67                      |
| Darbhanga 24     | 28.57                        | 0.00             | 0.00                | 0.00                    | 28.57           | 42.86                      |
| Madhepura 21     | 61.54                        | 0.00             | 0.00                | 0.00                    | 0.00            | 38.46                      |
| Madhubani 28     | 43.75                        | 25.00            | 0.00                | 0.00                    | 18.75           | 12.50                      |
| <b>Total 127</b> | <b>44.00</b>                 | <b>9.33</b>      | <b>1.33</b>         | <b>0.00</b>             | <b>20.00</b>    | <b>25.33</b>               |



### The Emerging Trend

- ❖ Hardly 9 per cent adopted any pre-disaster safety measures.
- ❖ Significantly large number of them (50 per cent) considered disaster as the result of both- natural causes being aggravated by inefficient management by government functionaries and insensitivity of community itself.
- ❖ Respondents had stereotyped impression of the role of police in disaster management. They restricted the police organization within the domain of law and order. They did not perceive them as primary role players as they were more concerned with experience they had during floods where block and panchayats play big role in arranging boats and distribution of relief.
- ❖ But large % of respondents (50%) expected police to protect property of victims followed by help during relief distribution (18 per cent). Respondents also expected

involvement of police in rescue operation (32 per cent). Police must play a proactive role in informing people about their phone numbers and what they can do in any disaster.

- ❖ Respondents were aware of protective role of the police in relief camp to house victims. There has been prominent presence in relief work as they have found presence of constable and choukidars. This is quite understandable.
- ❖ Coordination between block functionaries and the police administration was missing ingredient. Villagers (50 per cent) were the first responders. This needs to be encouraged by training and equipping them. After all community is the first responder. This is followed by rescue teams from outside. They are mostly units of NDRF which has significant presence in Bihar with deployment of 1 battalion. Gram panchayat too has helped but not much. The panchayat must be empowered to have own trained rescue and other teams.
- ❖ Absence of training including mock drill for police was a serious lapse in disaster management. It needs to be addressed.
- ❖ Admitted to significant role in prevention – patrolling of embankments by the police. respondents conveyed their SOS to the nearest police station. However very few were aware of the wireless systems at the police station. Quite understandable though.

## SUB-SECTION II: THE GOVT. FUNCTIONARIES IN DISASTER-PRONE DISTRICTS

Table 5.17 - 5.28 contains responses of the govt. functionaries who were directly or indirectly stakeholders in disaster management. Despite their busy schedule they elicited free and frank responses to the investigators. Some common questions were asked simply to compare perceptual variation with the non-govt. respondents.

- ❖ The govt. functionaries were more articulate in indentifying disaster on the basis of certain criteria.
- ❖ They admitted the fact that most (61 per cent) of the emergency operations centres were dysfunctional at the district level.

**Table 5.17: Functioning of emergency centres**

|   | Yes   | No    |
|---|-------|-------|
|   | 16    | 25    |
| % | 39.02 | 60.98 |

- ❖ They underlined that the police wireless was found most useful for communication as other channels got adversely affected during the disaster (table 4.18).

**Table 5.18: Use of wireless in disaster**

|   | Yes   | No   |
|---|-------|------|
|   | 39    | 02   |
| % | 95.12 | 4.88 |

- ❖ Responses revealed that police officers were not involved in flood relief meetings and therefore were not part of decision making, reflecting poor appreciation of their role by the civil administration or their own indifference( if they did not participate if invited). Findings in table 5.19 supports the above view. There is unsatisfactory participation in meetings on disaster management.

**Table 5.19: Participation of high officials in the meeting of disaster management**

|   | Yes   | No    |
|---|-------|-------|
|   | 6     | 35    |
| % | 14.63 | 85.37 |

- ❖ Majority of the respondents (63 per cent) have observed that police is deployed for rescue work and therefore they are able to respond early to a disaster (table 5.20). This shows the significant role of the police in rescue operation as first responder. This differs with response from the non govt respondents and quite understandable since the respondents are part of the government machinery that takes care of the rescue and relief work.

**Table 5.20: Police deployed in rescue operation**

|   | Yes   | No    |
|---|-------|-------|
|   | 26    | 15    |
| % | 63.41 | 36.59 |

- ❖ Respondents (88 per cent) had an impression of the non- inclusion of the police in disaster management team (table 5.21).

**Table 5.21: Is Police included in the disaster management set up?**

|   | Yes   | No    |
|---|-------|-------|
|   | 5     | 36    |
| % | 12.20 | 87.80 |

- ❖ The police force is ill-equipped to face challenges of disaster. They were not trained. Unfortunately no attempt is being made train them either. They had no knowledge of mock exercises (table 5.22-5.24).

**Table 5.22: Is Police equipped with instruments to manage disaster?**

|   | Yes   | No    |
|---|-------|-------|
|   | 6     | 35    |
| % | 14.63 | 85.37 |

**Table 5.23: Is Police trained to manage disaster?**

|   | Yes  | No    |
|---|------|-------|
|   | 4    | 37    |
| % | 9.76 | 90.24 |

**Table 5.24: Training organized for the police force**

|   | Regularly | Often | Not at all |
|---|-----------|-------|------------|
|   | 7         | 24    | 10         |
| % | 17.07     | 58.54 | 24.39      |

- ❖ 39 per cent felt that police has a mandatory role in disaster management, whereas a larger percentage ( 44 percent) believed that they had no role (table 5.25) underlying the given situation wherein police has not been provided clear mandate in government documents – Acts and policies on disaster management as mentioned in earlier chapters.

**Table 5.25: Participation of the police in disaster management**

|   | Mandatory | Volunteer | No role |
|---|-----------|-----------|---------|
|   | 16        | 7         | 18      |
| % | 39.02     | 17.07     | 43.90   |

**Table 5.26: Participation of the police in disaster management exercise, if organized**

|   | Frequently | Sometimes | Rarely |
|---|------------|-----------|--------|
|   | 4          | 5         | 32     |
| % | 9.76       | 12.20     | 78.05  |

- ❖ Respondents also admitted a significant gap in coordination between police and other departments ( Table 5.27-5.28). Remarkably, the police administration was not included in the disaster management team (93 per cent). This could one major reason for non coordination.

**Table 5.27: Police coordination with departments in disaster management**

|   | Frequently | Occasionally | Rarely |
|---|------------|--------------|--------|
|   | 1          | 2            | 38     |
| % | 2.44       | 4.88         | 92.68  |

**Table 5.28: Representation of Police in disaster management institutions**

|   | Yes  | No    |
|---|------|-------|
|   | 3    | 38    |
| % | 7.32 | 92.68 |

The responses should be seen in the background of their experience in the past which is routine floods which they feel they are prepared to handle with little or no actual rescue work. Therefore respondents have stuck to original functions of police in providing safety and maintaining law & order. They have found little role in disaster management even though they expect them to play a big role. This thought is outcome of the background. They, being familiar to floods as a disaster, know and understand the local administration specially the block which organize relief. During such periods, entire administration is engaged mostly in relief work. Rescue is not a big issue as the floods are a recurring phenomenon not so sudden requiring specialised rescue.

A very significant outcome has come from the government respondents. They have observed that there is poor representation of the police in the disaster management team; police officials are not regular participants in meetings on the subject held in the district; they are neither trained nor equipped for handling disasters. Due to poor representation and absence in meetings there is inadequate coordination with the civil administration.

Focused discussion was held with police and civil officials in Karnataka and Assam to understand the systems and practices prevalent there.

### **Assam**

The state faces frequent floods. GOI has put special emphasis on the state. It was picked up for pilot project on the institutionalization of IRS in India. Therefore the Principal Investigator visited Assam during the course of the study, and met police officials including ADG Fire services, ADG Hq, ADG Modernisation, IG Guwahati range, IG training, officials of SDMA, DIG, SP of Tezpur district and Guwahati district disaster management administration. Assam police has not started training its police forces. However, ADG Fire

services is engaged in raising specially trained unit of about 200 personnel within the fire set up. Neither the police have been equipped for disasters. Not everybody was clear about the role that police men are supposed to play during such times. Officials of the district disaster management administration mentioned about the preparation of SOP where police have been given certain functions. Apparently the response mechanism in the state is still in developing stage.

## **Karnataka**

More or less similar situation existed in this state too. The secretary of the dept of Revenue is responsible for disaster management in Karnataka. Discussions with the officials including the secretary showed that there is no document which can indicate specific role given to the police. Moreover, police is not being given any kind of specialized training for response in natural disasters.

## **Bihar**

The Principal Investigator also held focused discussions with officials of host of response agencies. This included Chief Warden of civil defence Shri Shyam, CO of NDRF stationed in Patna, DIG SSB, Bihar sector, State Fire Officer, OSD Dept of Disaster Management, Joint secretary of BSDMA, SSP Patna, and ADM Relief Patna. Very fruitful deliberations were held in which it was felt that police should be empowered to play effective role during natural disasters specially. Everyone agree that, even though police is the first responder in all kinds of emergencies, it is neither trained nor equipped. The audience was informed about inclusion of this function in the Bihar Police Act of 2007. Speakers basically focused on the basic functions of the police as a law enforcing agency. However, during rescue, relief and rehabilitations phases police have to perform many more functions. DIG SSB informed that his organization has developed its own component of disaster response with some basic equipment such as boats for Bihar and stationed them close to the flood prone areas. The state government of Bihar having appreciated the primary role that PS can play has constituted Nagrik Parishad at the PS level wherein the SHO is the convener. The committee includes people of all shades including representatives of the MPs and MLAs. This is the kind of importance given to the police station as response unit. Further, Bihar is engaged in organizing capacity building the PS level police. Training modules are ready. This is being spearheaded by BIPARD. Capacity building of the police personnel would also require strengthening of the training institutions.

## **Odissa**

State has ODRF formed with policemen. This has been a successful and active response force. At present there are 10 teams with total strength of about 300 personnel. Teams are equipped with boats and other equipments too. However there is little training of civil police working in police station/district. This force is located at 10 places.

## FUTURE CHALLENGES IN DISASTER MANAGEMENT

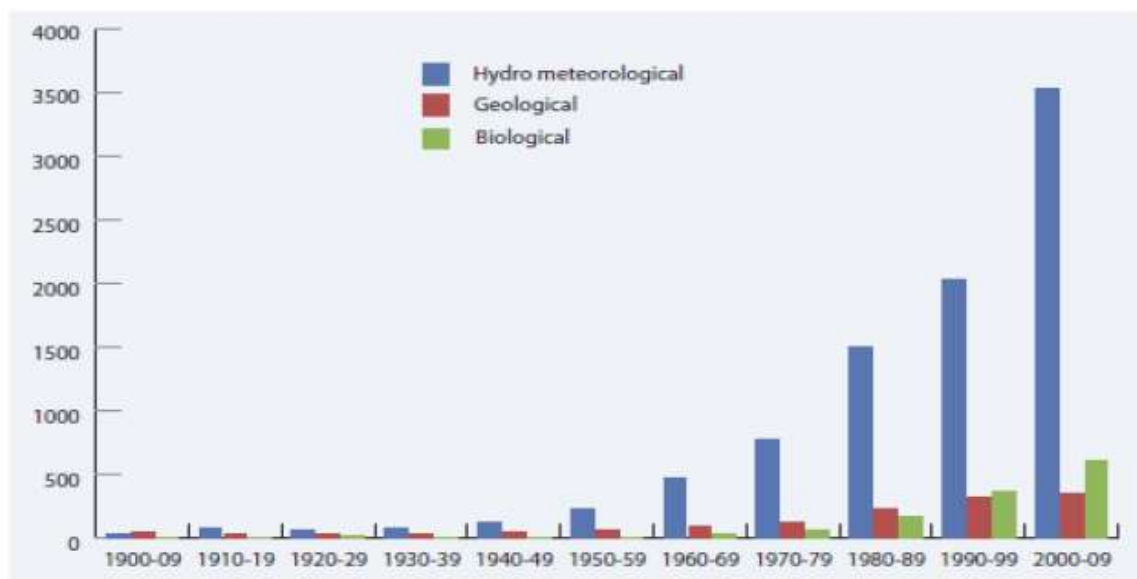
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We are facing difficult times due to global warming and other factors. Some of the challenges that the governments and communities should prepare for are being discussed such that the disaster management managers specially police officers could appreciate the enormous task that they have on hand in future.

Frequency and intensity of disasters are increasing. At the same time response management is becoming increasingly difficult due to variety of reasons including population growth, climate change and democratisation of information, which makes incumbent upon us to bring about recommended changes in approach, policy, legislation etc. Moreover, the future is not all that promising too. Although major countries are making efforts to reduce carbon emission and mitigate the effects of global warming, the declarations have not been translated in real terms so far to have any significant impact.

### 6.1 INCREASING FREQUENCY AND INTENSITY OF DISASTERS IN RECENT TIMES

The graph below indicates the rapidly growing number of incidents in last decades. Number of reported disasters confirmed the global upward trend in natural hazard-related disasters, mainly driven by the increase in the number of hydro-meteorological disasters. In recent decades, the number of reported hydrological disasters has increased by 7.4% per year on average. Both hydro meteorological and geological disasters have shown steep upward trend. This naturally poses serious challenges for future disaster management.



Source: Disaster Management in India, Ministry of Home Affairs

### **Disaster events globally between 1900 and 2009**

India is prone to disasters due to number of factors, both natural and human induced, including adverse geo-climatic conditions, topographic features, environmental degradation, population growth, urbanization, industrialization, flawed development practices, etc. As far as the geographic dimensions of the country are concerned, the five distinctive regions of the country i.e. Himalayan region, the alluvial plains, the hilly part of the peninsula, and the coastal zone have their own specific problems. While on one hand the Himalayan region is prone to disasters like earthquakes and landslides, the plain is affected by floods almost every year. The desert part of the country is affected

**According to the World Bank, direct losses from natural disasters have been estimated to amount to up to 2 per cent of India's GDP and up to 12 per cent of central government revenues.**

by droughts while the coastal zone is susceptible to cyclones and storms. If we analyse the layers of vulnerability statistically, out of 35 States and Union Territories in the country, 27 of them are disaster prone. Almost 58.6 per cent of the landmass is prone to earthquakes of moderate to very high intensity; over 40 million hectares (12 per cent of land) are prone to floods and river erosion; of the 7,516 km long coastline, close to 5,700 km, is prone to cyclones and tsunamis; 68 per cent of the cultivable area is vulnerable to drought.

On account of its multilayered vulnerability, the country too has witnessed an increase in the frequency and intensity of disasters in the past resulting in widespread devastation. The human and economic losses from disasters are enormously high in India as compared to other developing nations of the world.

This inference is drawn on the basis of disasters which have been reported. Many of the disasters, particularly in remote areas, go unreported because local administration lack the technical and human resources for community-level disaster monitoring and are not able to fully identify or map potential local hazards or develop the appropriate disaster management plans. Losses from low-intensity, but more extensive disaster events continue to affect housing, local infrastructure, and large numbers of people. These disasters at the local level are so frequent that many communities accept them as an integral part of their existence and, with varying degrees of success, learn to live with them.

## 6.2 IMPACT OF CLIMATE CHANGE – UNCERTAIN TIMES

There are three major ways in which global warming will make changes to regional climate: melting or forming ice, changing the hydrological cycle (of evaporation and precipitation) and changing currents in the oceans and air flows in the atmosphere. The coast can also be considered a region, and will suffer severe impacts from sea level rise.

The various effects of climate change pose risks that increase with global warming (i.e., increases in the Earth's global mean temperature). The effects of global warming are the ecological and social changes caused by the rise in global temperatures. Evidence of climate change includes the instrumental temperature record, rising sea levels, and decreased snow cover in the Northern Hemisphere. According to the Intergovernmental Panel on Climate Change (IPCC), most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in human greenhouse gas concentrations. Projections of future climate change suggest further global warming, sea level rise and an increase in the frequency of some extreme weather events.

Parties to the United Nations Framework Convention on Climate Change (UNFCCC) have agreed to implement policies designed to reduce their emissions of greenhouse gases to avoid dangerous climate change.

Thus the climatic changes happening due to global warming could have serious challenges for disaster management managers. Climate change is resulting in unusual happenings. Studies on climate change paint a very dismal picture of future world. We are witnessing erratic weather every year. The monsoon is showing extremist tendencies. The amount of water India gets has not changed, but who gets how much and when, is changing. Globally too we have witnessed frightening instances: floods that devastated Pakistan, Venezuela and Colombia in 2011, wildfires gripped Russia. 2011 was the hottest summer to date in Japan and China.

These events are a wake-up call. There could be worse impacts. Climate change has far-reaching implications for managing disaster risk in India, as the frequency and intensity of flash floods, landslides, droughts, cyclones, and storm surges are expected to increase in upcoming decades.

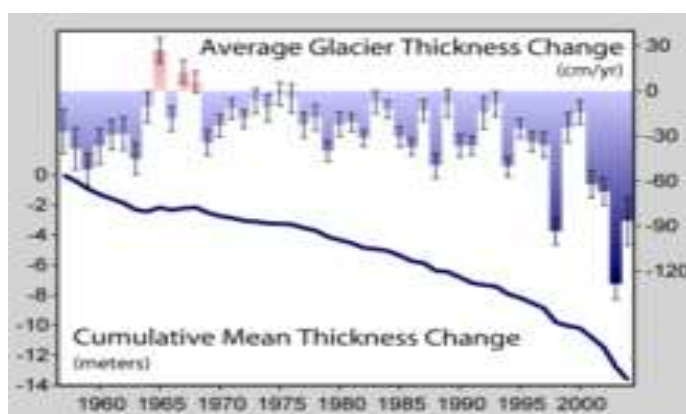
## GOLABAL WARMING – CLIMATE CHANGE

### UNUSUAL HAPPENINGS

- Extreme snow fall in Europe in winter of 2010 – 50/ 60 year record. Breakdown of communication. Airports closed for several days.
- European airports closed for days in 2011 and 2010 due to volcano eruption.
- Helsinki contrasting climate- 7 feet of snow and 37 temp in 2010.
- **Russia - 50 people died due to extreme heat (40 °c). Forest fires in Russia.**
- Repeated droughts, flood in unknown places (Haryana). Rains at wrong time & too much – Mumbai etc. Floods in Hardwar, Moradabad Rajasthan in 2012 are unusual.
- Yamuna river at 32 year high in 2010 and 2012 in Delhi
- Seoul 1256 mm rainfall since 1 Aug till 22 Sep 2010.
- Reports of deaths in US due to extreme heat in 2011.
- Extreme summer in US in 2012 – Many died
- **IS GLOBAL WARMING THE CULPRIT?**

As it is, impact is being felt in our life. We are witnessing untimely rains in unknown places, flooding in thitherto unknown areas eg Rajasthan. Another significant impact has been extreme hot weather in US, Europe, China & other countries which have reported deaths due to extreme heat and wild fires in places previously unknown areas.

✚ Several research studies have established that we are likely to face serious challenges in response in view of the alarming effects of global warming and climate change. Global warming will melt glaciers in Himalayan and Alpine ranges thereby flooding glacier fed rivers including Ganga, Brahmaputra, Kosi thereby causing not only floods along their course, including cities along sea, but also threaten the very existence of several islands. In the arena of climate change, the list of vulnerable nations is long, and growing. Tuvalu, Maldives, Kiribati, Vanuatu are looking for ways to evacuate their entire population because of salt water intrusion and rising sea levels. Sooner rather than later, island nations will have to seek refuge in other, higher lying countries. Their fate is a wake-up call to all of us.



- ✚ Alpine glaciers may shrink by about 75% by the turn of the century, a team of American and Canadian scientists has said in a research published in Nature Geosciences. But the melting of ice sheets in the Arctic regions of Canada and Russia, Alaska, northern Norway and Antarctica are likely to contribute most to the rise in global sea level of an estimated 12 cm by 2100 because of their large size, they said. “The surprising finding for me is that the 12 cm rise by 2100 is only from glacier melting. Our predictions probably present the lower bound (of sea level rise from ice melting),” Valentina Radic, geophysicist at the University of British Columbia, Vancouver, and one of the lead authors( published in Hindustan Times, Patna). As per some studies this will be followed by severe drought in Gangetic plain, the granary of India.



✚ **Arctic sea ice could vanish within 10 years as it is melting much faster than previously believed, thanks to global warming, warn scientists, claiming that the process is 50% faster than the current estimates. Preliminary results from the European Space Agency's CryoSat-2 probe indicate that 900 cubic kilometres of summer sea ice has disappeared from the Arctic Ocean over the past year. (Guardian London)**

### ✚ **Rising Sea Level threatens coastal areas**

"It is estimated that sea level rise by 3.5 to 34.6 inches between 1990 and 2100 would result in saline coastal groundwater, endangering wetlands and inundating valuable land and coastal communities. The most vulnerable stretches along the western Indian coast are Khambhat and Kutch in Gujarat, Mumbai and parts of the Konkan coast and south Kerala," says *India's Second National Communication to the United Nations Framework Convention on Climate Change* – was prepared by multi disciplinary teams and other stakeholders comprising more than 220 scientists belonging to over 120 institutions. Kerala's tranquil stretches of emerald green backwaters and Mumbai are among several locales on the western and eastern coasts facing threat from the rising sea level due to climate change. Deltas of the Ganga, Krishna, Godavari, Cauvery and Mahanadi on the east coast may also be threatened along with irrigated land and adjoining settlements.

- Some studies show that unless we act now, most Himalayan glaciers likely to melt by 2030.
- 1/3 population living along sea. Climate change may raise sea levels followed by flooding & even disappearance of some islands –Vanuatu, Mauritius.
- There will be a sharp rise in water levels of glacier-fed rivers. Coastal cities, including Mumbai, may be compelled to build dykes.
- Increased frequency and intensity of floods. Vulnerability of people in coastal, arid and semi-arid zones of the country.
- Decreased snow cover, drying of rivers in gangetic plain Ganges and Brahmaputra. Adverse affect on agriculture – draught.
- Less rain meant less hydroelectric power.

✚ Climate change will make monsoons unpredictable. As a result, rain-fed wheat cultivation in South Asia will suffer in a big way. Total cereal production will go down. The crop yield per hectare will be hit badly, causing food insecurity and loss of livelihood. The rising levels of the sea in the coastal areas will damage nursery areas for fisheries, causing coastal erosion and flooding. The Arctic regions, Sub-Saharan Africa, small islands and Asian mega deltas, including the Ganga and Brahmaputra, will be affected most. (rediff.com )

#### ✚ **Global warming- 90% of land area faces heat wave**

Earth's northern hemisphere, which comprises of 90% of the planet's land, is likely to experience an extreme summer heat wave compared to a base period from 1951 to 1980, NASA scientists have warned. Researchers analyzed mean summer temperatures since 1951 and showed that the odds have increased in recent decades for what they define as "hot" (orange), "very hot" (red) and "extremely hot" (brown) summers. The study shows how the area experiencing "extremely hot" summers grows from nearly nonexistent during the base period to cover 12% of land in the northern hemisphere by 2011. Heat waves in Texas in 2011 fall into the new 'extremely hot' category. The statistics show that the recent bouts of extremely warm year, could be due summers, including the intense heat wave afflicting the United States Midwest this to global warming, James Hansen of Nasa's Goddard Institute for Space Studies (GISS) has claimed. *"This summer people are seeing extreme heat and agricultural impacts," Hansen said. (PTI)*



- ✚ Northern parts of the country and the Himalayan region will be the worst hit by climate change in India and warming will be greater over land than sea, according to a latest report. The research, conducted by Boston-based University of Massachusetts and Bangalore-based Ashoka Trust for Research in Ecology and Environment (ATREE) points that the average mean temperature during a 25-year period (1982-2006) in the Himalayas has increased by 1.50 degree Celsius."In the 2020s, the projected warming is of the order of 0.5-1.5 degree Celsius , by the 2050s, 3 degree Celsius and by the 2080s, around 4 degree Celsius.
- ✚ Warmer ocean temperatures due to global warming may also increase the severity of droughts. The Indian Ocean and the western Pacific were exceptionally warm between 1998 and 2002, in part because of the overall warming trend in the world's oceans. In the same period, unusually persistent atmospheric flow patterns resulted in below normal precipitation, high temperatures, and drought conditions across wide swaths of North America, southern Europe, and southern and central Asia. A number of researchers have used climate models to examine the underlying causes of the recent drought. **In short, there is mounting evidence that global warming contributed to the vast extent and severity of the recent drought.**

## 6.3 POPULATION PRESSURE

In addition to global warming, rapid population growth particularly in urban areas of developing nations is posing serious problems for disaster management. This phenomenon results in construction of apartments, buildings that do not follow safety laws e.g. building bye laws. The unplanned growth of urban areas makes response much more difficult. Unsafe building practices in rapidly growing urban settlements constitute one of India's greatest challenges for disaster management. A major earthquake in any of India's densely and heavily populated cities in seismic zones would be catastrophic in terms of fatalities.

- 14/19 megacities in respect of population growth are in developing countries.
- It is expected that 3/5 population would be living in urban areas by 2025. Disaster response in urban setting is much more difficult.

## 6.4 DEMOCRATISATION OF INFORMATION

Now a day, flow of information from site of incident/disaster is extremely fast. As such response has to be not only timely but adequate and appropriate too. This would require preparedness of highest order where no response agencies can afford to make mistakes.

- ✓ **Democratisation of information. Mobile phones many with camera increasing @ 15 million per month. Media about 200 news channels today.**
- ✓ **Reporters reach site as early as responder. Visual Instant coverage of the event. Information to public available in real time.**
- ✓ **Forces quick decision making,**
- ✓ **Leaves no chance for making mistakes,**
- ✓ **Forces accountability. Government has to act or seen to act.**

In view of above governments do realize that disaster response must have exclusive mandate. After all armed forces main function is defence of the country. Therefore the emphasis is now on creation of separate and exclusive response forces i.e NDRF, SDRF and capacity building of state police forces and auxiliary agencies such as CD, Home guards etc. The deployment of outside forces has a cost in terms of time lag which may be critical at many times. But the state police especially at the police station level being closest to society reach the site at the earliest point of time. More importantly people

too perceive policemen as their support in distress. Hence there is urgent need to strength the police station along side creation of specialized forces.



## CONCLUSION AND RECOMMENDATIONS

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### 7.1 CONCLUSION

**7.1.1** India has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Floods, droughts, cyclones, earthquakes and landslides have been recurrent phenomena. Its coastal states, particularly Andhra Pradesh and Orissa and Gujarat are exposed to cyclones. 68 percent of the area faces drought threat, 55 per cent of the area is in seismic zones III and IV which falls under earthquakes-prone belt and sub-Himalayan region and Western Ghat and North, North-East states are threatened by landslides. Over 40 million hectares (12 % of land) is prone to flood and river erosion.

**7.1.2** The basic responsibility of undertaking rescue, relief and rehabilitation measures in the event of a disaster is with the concerned State Government. The Central Government supplements the efforts of the State Governments by providing logistic and financial support in case of severe natural calamities. It includes deployment of aircrafts and boats, specialist teams of Armed Forces, Central Para Military Forces and personnel of National Disaster Response Force (NDRF), arrangements for relief materials, medical stores, restoration of critical infrastructure facilities including communication network and such other assistance as may be required by the affected States. The central government also provides financial assistance both for immediate rescue and relief and long term recovery through SDRF.

**7.1.3** The government of India is aware of the urgent need for better disaster response mechanism, but the overall trend in the nation has indicated that the level of preparedness of the Centre as well as the states is extremely uneven and requires considerable strengthening. Fortunately, the Centre and a number of states have displayed growing appreciation for the need of effective disaster management strategies. The nodal agency for coordination of rescue, relief and overall natural disaster management in case of most disasters is Union Ministry of Home Affairs.

Accordingly significant efforts to professionalize disaster management system have been made by Government of India and the states. India has enacted comprehensive legislations that cover the entire cycle of disaster management including response and preparedness of response. Dedicated institutions for disaster response, early warning systems and emergency

operation centres have been set up. Disaster response plans have been prepared and mock drills and exercises are being conducted for better and coordinated response. The government of India has raised specialized National Disaster Response Force (NDRF). States are raising State Disaster Response Force. Other emergency service providers like the Police, fire services, civil defence and emergency medical and trauma care services have been improved and capacities of local communities as first responders enhanced through community based disaster preparedness programmes. All these efforts have contributed to significant reduction in loss of lives and property in disasters in the recent years. However, the disaster management response system in the country is still in formation stage. Even though Government of India has established National Disaster Management Authority (NDMA) and States have State Disaster Management Authority (SDMA) and District Disaster Management Authority (DDMA) at district level, the level of preparedness is far below desired level. The pace of progress on implementation of the various provisions is very slow.

These institutions do issue guidelines for different kinds of disaster / emergencies. But the efforts need to be scaled up to improve the emergency response management. As disasters are projected to be more frequent, intense and complex, improvement of emergency management would be crucial for effective disaster management.

**7.1.4** Notwithstanding above initiatives, the disaster management response in the country is beset with several handicaps/ shortcomings which does not permit for efficient/ effective response. The shortcomings are given in box. These shortcomings need to be addressed. The response today has to be far more comprehensive, effective, swift and well planned based on a well conceived response mechanism. Realisation of certain shortcomings in our response system and a desire to address the critical gaps led the Government of India (GOI) to look at the world's best practices. The GOI found that the system evolved for firefighting in California is very comprehensive and thus decided to adopt Incident

Emergency response to natural and manmade disaster has always remained a challenging task for the national and state governments. While, India has a well defined institutional mechanism at National, State & district level in form of NDMA and SDMA but the response is inadequate due to;

- Absence of appropriate plan for response
- No clarity of roles and responsibilities and therefore duplication and overlapping of efforts, resulting in excessive costs and some time delay in the response itself.
- Designated authorities not backed by professional response teams.
- Lack of adequate competencies and capability among disaster managers.
- Authority and responsibility based on position/ designation (not backed by professional training).
- Lack of coordination leading to uncertainty, and confusion.
- Delay in mobilization of men, material, relief stores and machines.
- Poor/lack of resource/ inventory management leading to non/sub optimal usage.

Command System (ICS). (*National Disaster Management Guidelines—Incident Response System A publication of the National Disaster Management Authority, Government of India. ISBN: 978-93-80440-03-3*)

**7.1.5** Civil administration is primarily engaged in development work. It is therefore handicapped by absence of trained professionals for handling disasters. It is ill equipped for undertaking disaster response activities in the event of major disasters. As such governments have to rely on the armed forces, central police forces, local police and now NDRF. Indian armed forces, being one of the most dedicated, professional, modernised armed forces in the world adequately equipped with the necessary technical competence, man power and material resources are suited for rescue and relief operations of any disaster. During Kosi disaster 2008 too, the army, navy and air force along with NDRF formed the backbone of rescue operations. 35 columns of army, 4 units of navy and 12 helicopters with 850 personnel of NDRF rescued over a million people. Now NDRF along with SDRF in certain states has taken the lead role.

However the location of these units could be far from the site resulting in loss of crucial “platinum 15”. Hence the deployment of police, a disciplined resource in uniform, available at the nearest distance could be more effective in providing immediate succor. Police has a host of critical elements in its favour: Well Developed Communication System; Wider Reach: every village covered; Familiarity with Local Terrain & locally available resources; Command (informal) over these resources and awareness about People’s Sensitivities.

Many of the above mentioned shortcomings could be overcome by having locally available but trained and equipped response force. Armed forces should be called only when the specialised force, NDRF and SDRF, and state police is inadequate. Even though disaster management administrators, policy documents and people see police as first responder there is no clear mandate, nor are they trained and equipped. Therefore they are not able to respond appropriately forcing Government to call armed forces. The first task of the State during any disaster emergency is search & rescue. Police being the symbol of state authority has to perform the sovereign task of protecting life and therefore becomes natural first responder. Government of Bihar, while realising this fact has mandated that police station personnel be trained in disaster management through state training institute BIPARD.

**7.1.6** Several agencies of the Central and State Governments including armed forces, NDRF, SDRF, NSG, police, Fire, Civil Defence, home guard volunteers are responders in emergencies. But the local police have advantage over others in terms of their proximity to an incident, organisational capability and authority to command people and resources. Police with a well developed communication system could respond within no time, where as specialized out- station forces have costs in terms of time lag which may be critical many a time. Police being closest to society reach the site at the earliest to start rescue work. In this context, we all understand that “golden hour” and now “platinum 15” is critical to any incident. Armed forces or NDRF when called for operate in unknown territory, among unfamiliar people in different cultural/ language barriers set up. The local police then can

play the role of facilitator/ bridge between the people and the outside responders since they have a wider reach and are familiar with the local terrain. But even though policemen have been actively engaged in discharging duties in disaster, a feeling remains in their mind that they do not have mandate for it and neither are they fully equipped or trained for this activity.

**7.1.7** National Police Commission, Administrative Reforms Commission, Model Police Act, all envisage a very crucial role for Police. Administrative Reforms Commission (ARC) (2006) accepts **“The police are among the first responders in any crisis”**. This response normally comes from the nearest police station or police outpost. Their immediate responsibility is to communicate the information and mount rescue and relief efforts with whatever resources available with them. It is essential therefore, that policemen at field level who would be the responders are sufficiently trained. The training need not be generic but specific to the types of crisis anticipated in an area. More importantly, they should be fully involved in the preparation of the local crisis/disaster plan and they should be fully conversant with the area”. **(Administrative Reforms Commission, 2006, Crisis Management)**

The national /state disaster management acts, policies and plans, Police Acts and police manuals do not contain clear cut role and responsibilities of police which is absolutely essential for effective action.

Policies/ state DM plans of some states do mention that police is expected to perform rescue work. However it is being mentioned in rather general terms. Off late, some states governments have enacted new Police Acts that have included disaster management function as one of the core function. Guidelines issued by NDMA mention that police is first to reach a site. Kerala Police Act 2010 may be the first to specifically mention responsibilities of police in a disaster. So has Bihar Police Act, 2007.

*Empirical studies based on questionnaire has established that community does not see police as a major player in rescue and relief work. However government functionaries who have frequent interface with the police, have observed that they perform duties during disasters specially rescue and relief work. But this was not found to be significant. At the same time, there were high expectations. Poor involvement in this also indicate inadequate appreciation by the civil administration of the role that the police can play or ought to play. Hence if the police had a clear mandate which is known to all and they are equipped and trained as response force they can fulfill the expectations. Respondents have stuck to original functions of police in providing safety and maintaining law & order. This is as per the normal perception that **Police has role only in crime and Law and Order duties and disaster management is responsibility of Revenue Deptt.***

They have found little role in disaster management even though they expect them to play a big role. This thought is outcome of the background. They, being familiar to floods as a disaster, know and understand the local administration specially the block which organize relief. During such periods, entire administration is engaged mostly in relief work. Rescue is

not a big issue as the floods are a recurring phenomenon not so sudden requiring specialised rescue.

The study emphasizes that the approach to handle disaster situations is not adequate. Police, a major player in response has marginal role today.

## 7.2 RECOMMENDATIONS

Based on study of literature, knowledge from experience of previous disasters, provisions contained in national/ state disaster management acts and policies, police manuals/ and SOPs and empirical study the following recommendations are made:

### 7.2.1 Orienting Policies to focus on empowering Police

[A] Amendment in Constitutional and Legal Framework: changes in disaster management acts/ policies, Police Act and Police manuals etc.

- The subject of disaster management does not find place in any of the lists in the constitution. The High Powered Committee suggested that it be placed under concurrent list. With the subject having assumed so much of importance in recent times, it is imperative that it is included in constitution.
- National Disaster Management Act and the state acts must elaborate on the functions of the police. The disaster management policies and plans at state and district level and guidelines for various disasters/ emergencies must provide clear mandate to the police forces.
- Model Police Act 2006 (as mentioned in Chapter 1) has suggested such changes. Bihar and Kerala Police Acts have in fact included disaster management as one of the duties of policemen. But many police manuals and Police Act are silent over the clear cut roles of police in disaster management. Hence state Police Acts may have to be amended to include disaster management as one of the functions of police.
- There may be procedural delay in the process. Till that time policemen may look at this function as additional work for which they are not trained and equipped. Be it a major/ minor rail, road accident or any other emergency, police men reach first and marshal local resources to provide the initial support. Many a times such sites are in remote areas where other agencies may take long time to reach. They know the community well and therefore mobilizes them easily. And off course they have the capability to coerce people to support in rescue / relief work. However, this has sever limitations in the absence of clear mandate and therefore if **they can be legally empowered**

*to command people and their resources to support them as District Magistrate has been empowered under National Disaster Management Act, it might result in better response. DM acts may be amended to empower SHO to command local resources including manpower.*

- Mandate of Special Battalion of home guards in Bihar was amended to include disaster management as one of its functions and similar provisions in charter of work must be incorporated in state police manuals of states or by executive order of government.

[B] Larger / more effective representation of police in the National & State level policy making bodies.

NDMA has fair representation since it has members from police services. Superintendent of Police holding charge of a district plays a significantly high role. SP has been made member of DDMA. At this level police is adequately represented. Similar representation in NEC and SEC is needed. It is desirable that;

- DGP of the State should be member of the SEC.
- State Government could consider appointing police officers as member (response) in State Disaster Management Authority (SDMA).

[C] Development of Organizational Structures/Institutional Mechanisms. Within the police organization, a structure could be created that specializes in management of disasters/emergencies. They could be equipped for initial response when deployed on an incident.

[D] Funding Infrastructure Support to police forces.

[E] Preparation of manuals / SOP's for functioning of police in different roles including search & rescue, relief operations. The experience gained during Kosi and other events would be the basis of SOPs. Delhi police has one.

### **7.2.2 Capacity Building**

Capacity building is essential for enhancing the efficacy and efficiency of any organisation. Police organizations need to be equipped in technical and other relevant respects to deal with variety of crisis. Attention must go to maintain and establish adequate communication systems (among police, between police and other first responders, and between police and citizens), means of transportation and other equipment and a proper police command infrastructure (makeshift police stations and temporary jails). From the viewpoint of police personnel, also, special physical and mental health needs of officers have to be anticipated.

Thus, the subject of disaster management should be incorporated in the curriculum of training of police personnel at all levels. While IPS Officers should be imparted training in all aspects of the subject, for State Police service officers including Sub-Inspectors and Constables, it should be part of induction and in service training. They should be sent to good institutions such as NIDM, State ATIs and other centres of excellence in the country e.g; National Industrial Security Academy (NISA). SI's and below should be properly trained in search and rescue primarily, followed by role during relief distribution, camp management and recovery phase. Each state must have core group of trainers. This must be followed by regular periodic rehearsals and debriefing based on the evolved Response Drills/SOPs that should be updated too.

- **Prime Minister of India while addressing IPS Probationers (Jan 5, 2010: New Delhi)** underlined the importance of law and order for sustained development of the country and asked budding police officers to be well-versed in handling new challenges like cyber crimes and disaster management.
- Capacity building of training institutes/Centres. Training institutes would need to be equipped with infrastructure and other facilities. GOI provides funding for training to specialist multidisciplinary groups/teams as well as other responders of the state personnel drawn from different cadres/services/personnel involved in management of disaster in states.
  - ✚ Expenditure on such training is to be incurred from SDRF, as assessed by state level committee. The total expenditure on items collectively should not exceed 5% of the annual allocation of the SDRF.
  - ✚ Section 11 of SDRF provides for procurement of essential search, rescue and evacuation equipments including communication equipments.

These provisions need to be utilised properly. Departments of Disaster Management in states should provide these funds to police organisation/home dept.

- On the recommendation of the Thirteenth Finance Commission, the Ministry of Finance, GOI has allocated funds for strengthening disaster management institutions, capacity building and response mechanisms. Disaster Management Act, 2005 stipulate the constitution of a National Disaster Response Fund (NDRF) and State Disaster Response Fund (SDRF) at the National and State levels respectively. The Government of India has notified the constitution of the NDRF. The Thirteenth Finance Commission has made provision for funds for SDRF in its recommendations which has been accepted by the Government of India. 13th Finance Commission is providing Rs 4 crores to each state for capacity building & equipment.

- The State-wise and year-wise breakup of the SDRF is as follows:

#### State-wise Allocation of State Disaster Response Fund

| Sl. No | States            | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 | Total  |
|--------|-------------------|---------|---------|---------|---------|---------|--------|
| 1      | Andhra Pradesh    | 6.00    | 6.00    | 6.00    | 6.00    | 6.00    | 30.00  |
| 2      | Arunachal Pradesh | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 5.00   |
| 3      | Assam             | 5.00    | 5.00    | 5.00    | 5.00    | 5.00    | 25.00  |
| 4      | Bihar             | 5.00    | 5.00    | 5.00    | 5.00    | 5.00    | 25.00  |
| 5      | Chhattisgarh      | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 20.00  |
| 6      | Goa               | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 5.00   |
| 7      | Gujarat           | 6.00    | 6.00    | 6.00    | 6.00    | 6.00    | 30.00  |
| 8      | Haryana           | 5.00    | 5.00    | 5.00    | 5.00    | 5.00    | 25.00  |
| 9      | Himachal Pradesh  | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 20.00  |
| 10     | Jammu & Kashmir   | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 20.00  |
| 11     | Jharkhand         | 5.00    | 5.00    | 5.00    | 5.00    | 5.00    | 25.00  |
| 12     | Karnataka         | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 20.00  |
| 13     | Kerala            | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 20.00  |
| 14     | Madhya Pradesh    | 5.00    | 5.00    | 5.00    | 5.00    | 5.00    | 25.00  |
| 15     | Maharashtra       | 5.00    | 5.00    | 5.00    | 5.00    | 5.00    | 25.00  |
| 16     | Manipur           | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 5.00   |
| 17     | Meghalaya         | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 5.00   |
| 18     | Mizoram           | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 5.00   |
| 19     | Nagaland          | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 5.00   |
| 20     | Orissa            | 5.00    | 5.00    | 5.00    | 5.00    | 5.00    | 25.00  |
| 21     | Punjab            | 5.00    | 5.00    | 5.00    | 5.00    | 5.00    | 25.00  |
| 22     | Rajasthan         | 6.00    | 6.00    | 6.00    | 6.00    | 6.00    | 30.00  |
| 23     | Sikkim            | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 5.00   |
| 24     | Tamil Nadu        | 5.00    | 5.00    | 5.00    | 5.00    | 5.00    | 25.00  |
| 25     | Tripura           | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 5.00   |
| 26     | Uttar Pradesh     | 5.00    | 5.00    | 5.00    | 5.00    | 5.00    | 25.00  |
| 27     | Uttarakhand       | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 20.00  |
| 28     | West Bengal       | 5.00    | 5.00    | 5.00    | 5.00    | 5.00    | 25.00  |
| Total  |                   | 105.00  | 105.00  | 105.00  | 105.00  | 105.00  | 525.00 |

**Source: State level Programmes for Strengthening Disaster Management in India, pp- 09, Ministry of Home Affairs, GoI.**

- In addition each State Govt. should earmark funds for training of policemen from State budget too. In Bihar, the Govt. has mandated allocation of certain % of the departmental budget for training. Home departments could very well create its own budget for training in disaster management along with regular police training.
- State level disaster management training institutes and police training centres have their own budget for training. It is high time that they demanded additional funds for this kind of training. Police training schools could create infrastructure through Police modernisation scheme too. Departments of Disaster management in the state should play proactive role in providing financial support under the various provisions of SDRF. Hence conducting training should not suffer for lack of funds.

- The training of police officers should ensure that they can adapt to changes in operational matters, specifically shifts back and forth between emergency and crime control situations, involving such varied tasks as rescuing stranded citizens and controlling violence.
- At national level, Government of India has established **National Institute of Disaster Management (NIDM)**, apex institution dedicated to capacity building of responders of all over the country has been quite active in the area. The Institute is responsible for 'planning and promoting training and research in the area of disaster management, documentation and development of national level information base relating to disaster management policies, prevention mechanisms and mitigation measures'. MHA through NIDM provides funds for conducting training and hiring of faculty to strengthen the centres for Disaster Management in the state administrative training institutes.

### Functions of NIDM

Section 42(9) of the Act has assigned the following specific functions to the Institute:

- a. develop training modules, undertake research and documentation in disaster management and organise training programmes;
- b. formulate and implement a comprehensive human resource development plan covering all aspects of disaster management;
- c. provide assistance in national level policy formulation;
- d. provide required assistance to the training and research institutes for development of training and research programmes for stakeholders including Government functionaries and undertake training of faculty members of the State level training institutes;
- e. provide assistance to the State Governments and State training institutes in the formulation of State level policies, strategies.

- NDMA is encouraging capacity building and funding states for this function. They organize state and district level awareness and capacity building programmes including mock drills all over the country. Thus there are host of organisations that can facilitate training at various levels. Additionally, organisations like UNICEF have come forward in big way in supporting, encouraging capacity building in Bihar. It has also proposed developing centre for excellence. Hence, whenever required, these organizations can be roped in to support state Govt. initiatives.
- For that matter NDRF units deployed in various states could be good source of training. NDRF is a specialized force. They possess variety of equipments. In their free time, when not engaged in response, units should be engaged in training community and police personnel, Civil Defence, BHG, NCC, NYK volunteers etc.

Thus capacity building of responders & training centres could be done as per above provisions. Police is there to provide the initial response and support the better trained forces when they arrive. Hence they may not be required to have heavy equipments. They require training and equipment for immediate support. As mentioned above, there are hosts of provisions wherein the capacity of the police forces can be enhanced. *It is most critical that the training helps police officers adapt to changes in operational matters, specifically shifts back and forth between emergency and crime control situations, involving such varied tasks as rescuing stranded citizens and controlling violence.*

### **7.2.3 Reorganisation of auxiliary police forces & other support agencies**

Civil defence and home guards volunteers are spread everywhere. Volunteers come from villages and urban wards as well. Their presence is far and wide and once trained they can form pool of responders available locally on the spot. They are in huge number- total enrolment of home guards in Bihar is 56000. In Australia where most important disaster is forest fire, it is the community volunteer who are in the fore front of forest fire management. About 80% of the fire department there is manned by volunteers only. Why can't we have similar arrangement here too? They can be a force to reckon with. After all everyone is talking of capacity building of the community and such volunteers are part of the community only. In this context the civil defence and home guards, when trained can raise the preparedness level of the community. Trained home guards along with civil defense volunteer, NDRF and policemen can make people well prepared thereby creating pool of responders in every village and ward.

### **7.2.4 Multi pronged Strategies to tackle future Challenges in Disaster Management**

There is a growing need to look at disasters from a development perspective. Disasters can have devastating effect on communities and can significantly set back development efforts to a great extent.

The Government of India has adopted mitigation and prevention as essential components of its development strategy. The Tenth Five Year Plan emphasizes the fact that development cannot be sustainable without mitigation being built into the development process. In brief, Disaster Management is being institutionalized into development planning. But, there are various underlying problems in the whole process. In fact, a number of problems stem from social inequities.

In the long run, the onus is upon the local communities to handle disasters with the help of the state and other such organizations. It is a well-known fact that the community dynamics is quite complex in a country like India. There is a need to address specific local needs of vulnerable communities through local traditions and cultures. Restoration of common property resources with the participation of the local level bodies is a real challenge. The historical focus of disaster management has been on relief and rehabilitation after the event but now the focus is on planning for disaster preparedness and mitigation. Given the high frequency with which one or other part of the country suffers due to disasters, mitigating the impact of disasters must be an integral component of our development planning.

We have recognized Nuclear, Biological and Chemical (NBC) warfare. India is addressing to such man made disasters too. NDRF has been constituted for such contingencies too.

The need of the hour is to chalk out a multi-pronged strategy for total disaster management comprising prevention, preparedness, response and recovery on the one hand and initiate development efforts aimed towards risk reduction and mitigation on the other. A pro-active stance to reduce the toll of disasters in the country requires a more comprehensive approach that comprises both pre-disaster risk reduction and post-disaster recovery. It is framed by new policies and institutional arrangements that support effective action.

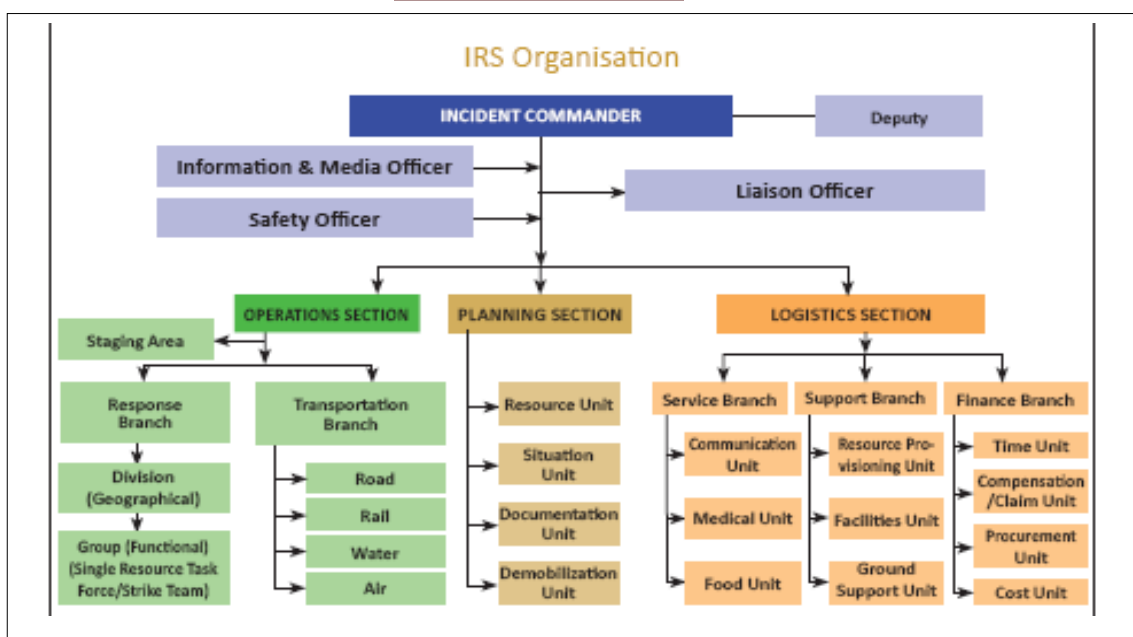
### 7.2.5 Effective disaster management response system

Keeping in view the aforesaid challenges which may cause more serious disasters in future we must strengthen our response system. Towards this end, Govt. of India has adapted Incident Command System originally started in US as response tool. Based on efforts of institutionalization in last several years it has been adapted as Incident Response System.

## INCIDENT RESPONSE SYSTEM (IRS)

India has been successfully managing disasters in the past, there are still a number of shortcomings which need to be addressed. The response, in the light of the challenges for future needs to be far more comprehensive, effective, swift and well planned. Realisation of certain shortcomings in our response system and a desire to address the critical gaps led the Government of India (GOI) to look at the world's best practices. This led it to adopt Incident Command System (ICS), global best practice being used for firefighting in USA and other countries including Australia.

### IRS Organisation



A traditional command structure exists in the disaster management hierarchy which manages disasters in India. The IRS is essentially a management system to organize various emergency functions in a standardized manner while responding to any disaster. It will provide for specialist incident management teams with an incident commander and officers trained in different aspects of incident management, such as logistics, operations, planning, safety, media management, etc.

#### **INCIDENT RESPONSE SYSTEM - Features:**

- Professional standardized and flexible/ organizational structure.
- Well trained response functional teams
- Common terminology.
- Resource typing – helicopters etc and network of support mechanism onsite. Logistic, finance units facilitate smooth operations.
- Incident facilities.
- Span of control.
- Rapid mobilization of resources, optimum utilization, cost effective resource management.
- System of single, unified and area command to suit disaster situation.
- Excellent documentation of all activities.
- Management by objective.

It also aims to put in place such teams in each state and district by imparting training in different facets of incident management to state/ district level functionaries

#### **7.2.6 Logistic Need**

Any response plan for any type of disaster must take care of logistic needs of the responders. While we prepare our agencies for emergency response, we must take care of their logistic needs. They should be provided excellent living arrangements, food, transport and operational support; office management, communication phones, faxes, photocopies etc.

In other countries safety of the responder comes first on the premise that if the responder is not safe and healthy, how they can help others. We too ought to have similar approach if we are expecting optimal output from them. The present practice of sending men to disaster sites with little or no logistic support must be done away with. Good beginning has been made with NDRF. When they were deployed for Kosi disaster, that being one of

- Preparedness and appropriate response can save millions—each year, over a quarter of a billion people lose their home, their means of living as a result of natural disasters. The rate of occurrence of disaster has more than tripled since 1970s.
- During the period 1990 to 2006, more than 23,000 lives were lost due to 6 major earthquakes in India.
- The right policies and preparations can save lives and money—experience shows globally that preparedness costs a fraction of what a disaster response can cost.
- The problem is that we do not take proper care of these preventative measures.

their early assignments, they had to face serious problems on this count. Now they are self-reliant. To expect local administration which themselves are in distress to provide logistic support may not be prudent. They themselves are in need for support and help.

IRS adopted by GOI as a response tool has incorporated the US system of providing logistic support to responder sent to the site. We should prepare ourselves accordingly. This must be integral part of any response plan. In US, on forest fire sites, each function of operation, finance, planning and logistic is performed from site itself.

From among trained policemen each district could have designated IRTs- incident response teams which can be rushed to a site as first specialized support to local responders. This would again help minimise loss of life and property. Pre disaster preparedness is a pre-requisite for appropriate response. It includes trained, empowered, equipped & motivated response teams. Herein lays the significance of having capable police force trained & equipped to handle disaster. It is established fact that preparedness followed by timely & adequate response can do wonders for victims/probable victims.

## 7.2.7 RECOMMENDED ROLE OF POLICE

**1. Mobilization of resources:** Police could be of immense help in mobilizing all resources. Police play significant role in locating, loading and transporting resources including boats. Moreover these resources may have to be operated under the guidance and protection of police as in Kosi 2008.

**2. Rescue/Evacuation** – The primary function during a disaster. Policemen must be trained and equipped to begin rescue at the earliest to take advantage of the “platinum 15”. They would be able to provide immediate relief to the victims till specialised forces arrive. During such activity, police has to provide protection to boats etc that are put in operation. Deployment of policeman on the boat driving in floods helps prevent overcrowding of boats and prevent capsizing. Such boats are provided with handheld wireless sets one to keep tracking its movements and provide help in disasters.

**3. Safety in houses vacated/abandoned by people** as people leave their houses with or without belongings. During such times people are without job hence incidence of crime generally increases. This provides an opportunity for thieves and robbers. When people are evacuated from their homes, houses are left unsupervised it provides opportunities to commit crime. At times it can be really bad. Police presence can help to ensure that looting doesn't happen. And if it occurs, the police will be ready to apprehend and arrest the suspects.

**4. Communication with rescue teams-provision of wireless sets** – Telephonic communication breaks down since the telephone towers/offices get destroyed with the result that landline and mobile phones stop working. During floods or any other disaster most of the rescue teams operate in unknown territories under adverse conditions where landmarks

are either washed away or destroyed. During Kosi disaster 2008, Army & NDRF boats got lost and they had to spend nights outside the camps. The new course of the river had very fast current as a result of which, they could not reach their locations by end of the day. Several times, these boats got capsized. The army, navy and the NDRF had their own communication systems but it needed to be integrated with the district communication setup so that information of any emergency could be disseminated quickly and support reached at the earliest. Wireless communication was established on all the boats. Similar communication with wireless has to be established in role of camps. Later on, all the units were given SIM cards by the state government to facilitate unitary communication among themselves and with district and state level officials.

**5. Traffic regulation:** Police has to facilitate the movement of rescue, medical, fire and other essential services. During Kosi, National highways had to be kept free for movement of rescue teams and relief material. Check posts were established for ensuring safety of relief material. Road patrol was arranged for safe passage of army convoys, boats and other resources sent from outside and arranging vehicles for army etc. Within no time National Highways became deserted. Each column required one small vehicle, 2 buses and 4 trucks.

**6. Coordination with cooperating agencies:** Involves coordinating the activities of agencies having roles or responsibilities in response to emergencies. Police can function as link with external agencies since most are uniformed. NDRF today is the most visible trained emergency response force made up of personnel of CRP, BSF and CISF. Rescue teams from Army, Coast Guard, IAF and other states also policemen based. The coordination among police and other agencies needs to be standardized in clear procedures. Protocols are needed for deploying resources in case of a disaster in a manner that is well-coordinated between local, state, and central emergency agencies including armed forces. Importantly police organizations do not stand alone in doing what is necessary to deal with major disasters. Instead, police agencies must be integrated and be able to cooperate with other police and emergency agencies.

**7. Casualty Information** - the identification of people involved in accidents/emergencies is a Police responsibility. All enquiries could be handled by police station staff. Tracing of missing persons and notification to their next of kin could be another area of work allotted to police. So is disposal of dead bodies and documentation of dead and missing for benefit of next of kin to claim compensation and ex gratia.

**8. Maintenance of law and order and security in relief camps:** Security of camp inmates, officials and volunteers engaged in running of camps including health workers in one core function. During Kosi disaster over 400 relief camps had people from many villages with different religious, political and caste backgrounds and thus had potential for friction. This requires deployment for law & order maintenance. Hundreds of government and non government employees/volunteers are engaged in running of kitchens, medical centres, sanitation units etc. They require protection all the time.

## 9. Security during Relief Management:

- **Security of personnel and material engaged in distribution** of relief in designated centres in affected areas where large people reside. The centers could be located in interiors.
- Many banks branches get closed and therefore cash sent from far off places. During such work police has to ensure security of cash.
- Security of grains being transported from different places to distribution centres. Dedicated escorts needed from the chests to storage/ distribution centers.
- Security of food godowns. Many instances of looting again in initial period when police not enough and not relief available.
- Security at railway stations where relief material is received by special trains and stored before being dispatched to destination.
- Relief material sent by the NGO and several state governments get looted in the early days. They need protection.

**10. Public Information** – In certain countries, Police officers play role of the Police Press Officer at the scene of any major emergency to co-ordinate the response to all media enquiries.

**11. VIP Security:** VIPs visit the affected area and relief camps frequently. Many a times, politically opposed/ dissatisfied resort to protests thereby posing threat to VIP and law and order. This must be handled by police.

**12. Law and order:** Tardy distributions again provide opportunity for beating up rescue or disrupt traffic where police has to intervene. During such times of distress, police cannot be expected to resort to force and this makes the task of maintaining law & order that much difficult.

**13. Family Liaison Officers** - The Police could appoint family liaison officers (FLOs) to the families of those who have died. The FLOs are specially trained police officers who, if requested, will liaise between the families and the media as a way of minimizing intrusion and distress.

## CONCLUSION

The Kosi disaster has amply demonstrated the significant role of the police. It was involved in each and every activity of rescue, relief & recovery. Policemen were critical to evacuation of people, maintenance of law and order in affected areas and relief camps, security of responders etc. Its resourcefulness, widespread presence and organized nature made it ideally suited for role of first responder. However this function has not been clearly designed. As a result there is no allocation of resources to perform these jobs. Given the functions that a police has to perform during such emergency, it is essential to build capacity of the responders. While the police have a significant role all along, its role has not been highlighted

in the national/ state Acts. Finally, the organization should be provided with sufficient funds to equip it and build capacity. Only then it could fulfill the expectations of all the stakeholders including the public.

Police organisation has to see itself as a major player in disaster management. Purpose of the Act was to create resilience and augment preparedness to deal with the disasters effectively and the same is difficult to achieve unless we have hundreds of thousands trained citizens, dedicated, equipped and trained response forces, empowered and accountable civil and Police leaders and a willing state to ensure availability of resources both for response and capacity building. It is the management during golden hours that we must strive to achieve to reduce the loss of precious human lives.

Since police will continue to have the first responder role given its proximity to the incident site and relationship with the people it has to bring about a change in its approach. It has to adopt disaster management function as a primary one and not a side work thrust upon it. State & district level authorities cannot afford to wait for response forces such as NDRF all the time. Moreover, on many occasions, it might not be advisable nor feasible to obtain/deploy armed forces and NDRF. Hence state police must be prepared as response force. As mentioned earlier, there are several sources from where funds can be obtained for capacity building including training and infrastructure. Given the not so good future prognosis in view of climate change and other factors with respect to disasters, sooner it is done, better it is. In addition to capacity building, State governments have to bring about changes in law to empower the police and the supporting organisations such as home guards and civil defence.

Hence the local police must be trained, equipped and empowered so that they find themselves capable to support the victim in the ‘golden hour’. Subsequently they can play supporting role to the specialist forces if and when they come in bigger emergency cases. On many occasions specialist forces are not required and the local police may retain the primary role to help the needy. The out side forces are also handicapped in operating in unknown area, among unknown people and here is the key to critical role of police.

## 7.3 SUMMARY OF RECOMMENDATIONS

### 1. Orienting Policies to focus on empowering Police:

- Amendment in institutional and legal framework: The subject should be included in one of the lists of the constitution preferably concurrent list.
- Disaster Management Acts and policies, Police Acts and police manuals may have to be amended to include, disaster management as one of the core function of police. Bihar and Kerala Acts have already done so.
- SHO should be empowered to command local resources in emergencies.
- More effective and broader representation of police in the National & State level policy making bodies e.g. NDMA, SDMA, NEC and SEC.
- DGP of the State should be member of the SEC.
- DG of NDRF should be member of NEC.

- Development of organizational structures/institutional mechanisms within the police organization and preparation of manuals / SOP's for functioning of police in different roles including search & rescue, relief operations.
- Protocols are needed for deploying resources in case of a disaster in a manner that is well-coordinated between district, state, and national emergency agencies including armed forces. Role of police agencies must be integrated and be able to cooperate with other police and emergency agencies.

## **2. Capacity Building:**

- IPS Officers and State Police service officers should be adequately trained during their induction and also later on. They should also be sent to centres of excellence in the country. Each state must have core group of trainers.
- Police station level personnel should be trained in basic response including rescue, medical help, investigation, information dissemination, control room functioning etc. NDRF can be good source.
- State level Training Institutes (ATIs) and police training centres should be strengthened – provided funds for developing infrastructure and faculty for training.
- Administrative (ATI) should be engaged in training the community and police personnel, Civil Defence, home guards, NCC, NYK and panchayat volunteers etc.
- The training should focus on building capacity to adapt to changes in operational matters, specifically shift back and forth between emergency and crime control situations, involving such varied tasks as rescuing stranded citizens and controlling violence
- Establish adequate communication systems (among police, between police and other first responders, and between police and citizens), means of transportation and other equipment and a proper police command infrastructure.

The proposed practical measures would enhance efficacy of the responders

## **3. Reorganisation of auxiliary police forces:**

CD, home guards & other support agencies whose presence is wide must be strengthened suitably with mandate, training and equipment. They can form huge pool of responders available locally. They can be used to build capacity of the vulnerable communities.

## **4. Preparing for planned and organize response:**

**Incident Response System** adopted by Government of India as a response tool must be integral part of any response plan. As mandated, police organizations too should plan response as per IRS. Each district should have designated IRTs- incident response teams, which can be rushed to a site as first specialized support. Policemen must have real time exposure to IRS. Our police force should be provided basics facilities when deployed to any incident.

## **5. Suggested functions of police:**

Search and rescue, mobilization of resources, safety of property and persons, crime control, VIP security and law and order, alternative communication system, traffic regulation, casualty information and family liaison officers,

# Appendix A

## Questionnaire

### नागरिकों हेतु प्रश्नावली आपदा प्रबंधन में पुलिस प्रशासन की भूमिका

नाम : .....

पिता/पति का नाम : .....

गाँव का नाम : .....

पंचायत का नाम : .....

प्रखंड का नाम : .....

जिला का नाम : .....

सम्पर्क दूरभाष नं० : .....

#### प्रश्नोत्तर-पुस्तिका

1. आपदा से क्या समझते हैं ?  
(क) आपदा प्राकृतिक घटना है।  
(ख) आपदा एक मानव जनित/अप्राकृतिक घटना है।  
(ग) आपदा प्राकृतिक और मानव जनित घटना है जिसमें जान-माल की अपार क्षति होती है।  
(घ) उपरोक्त सभी।
2. आपदा का प्रकार क्या है ?  
(क) प्राकृतिक आपदायें जैसे बाढ़, भूकम्प, शीतलहर, लू लहर, आगजनी, चक्रवात आदि।  
(ख) मानव जनित आपदाये जैसे-सड़क एवं रेल दुर्घटनाएँ दंगा, युद्ध एवं आतंकवादी गतिविधि आदि।  
(ग) उपरोक्त दोनों।
3. आपदा से बचाव हेतु क्या तैयारी करते हैं ?  
(क) आपदा से बचने के लिए खुले, ऊँचे व सुरक्षित स्थानों पर शरण लेते हैं।  
(ख) आपदा के पूर्व खाद्य सामग्रियों का भंडारण कर लेते हैं।  
(ग) आपदाओं से बचने हेतु पूर्व में तैयारी करते हैं जैसे-वैकल्पिक रास्ते चिन्हित करना, अस्थायी शरण स्थली आदि।  
(घ) उपरोक्त सभी।

4. आपदा के दौरान दूसरों की सहायता की आवश्यकता महसूस करते हैं ?  
(क) हाँ (ख) नहीं (ग) अगर हाँ तो -  
1. पड़ोसी से 2. मुखिया से  
3. प्रखंड के सरकारी सेवक से 4. थाना एवं पुलिस प्रशासन से।
5. आपदा आने की सूचना कहाँ से मिलती है ?  
(क) प्रखंड कार्यालय से। (ख) ग्राम पंचायत के सदस्यों से।  
(ग) थाना या पुलिस चौकी से। (घ) पड़ोसी गाँव के लोगों से।
6. आपदा के दौरान सबसे ज्यादा कौन प्रभावित होता है ?  
(क) बच्चे, महिलायें, वृद्ध। (ख) अपंग एवं विकलांग व्यक्ति।  
(ग) पशु एवं माल - मवेशी। (घ) फसल क्षति। (च) सभी।
7. आपदा के दौरान सबसे पहले कौन लोग मदद करते हैं ?  
(क) गांव के आपदा प्रबंधन समिति के सदस्य (ख) ग्राम पंचायत के सदस्य  
(ग) बचाव दल के सदस्य (घ) स्थानीय प्रशासन एवं थाना या पुलिस चौकी के लोग  
(च) सभी
8. क्षेत्रीय आपदा के समय किन-किन लोगों को सूचित करते हैं ?  
(क) प्रखंड नियंत्रण कक्ष को। (ख) थाना या पुलिस चौकी को।  
(ग) मुखिया या पंचायत सेवक को। (घ) जिला नियंत्रण कक्ष को।  
(च) उपरोक्त सभी को।
9. क्या आपके पास नजदीक के थाना या पुलिस चौकी का न० मौजूद है ?  
(क) नहीं (ख) आपदा आने के बाद पता करते हैं  
(ग) स्थानीय चौकीदार/ दफादार से फोन नं. प्राप्त करते हैं।
10. आपदाओं के समय नजदीक के थाना या पुलिस चौकी को सूचना देते हैं ?  
(क) हाँ (ख) नहीं
11. क्या आपको जानकारी है कि थाना या पुलिस चौकी में बेतार संवाद यंत्र स्थापित है, जहाँ सबसे पहले सूचना पहुँचता है ?  
(क) हाँ (ख) नहीं (ग) इसके बारे में थोड़ी जानकारी है।
12. आपदाओं के समय स्थानीय थाना एवं पुलिस चौकी में कार्यरत पुलिस बल से किस प्रकार की मदद की अपेक्षाएँ हैं ?  
(क) आपदाओं के समय फँसे लोगों को बचाने हेतु  
(ख) घरों में सामानों की सुरक्षा हेतु  
(ग) घायलों को अस्पताल पहुँचाने हेतु  
(घ) राहत वितरण के दौरान भीड़ नियंत्रण करने हेतु  
(च) उपरोक्त सभी
13. ग्राम आपदा प्रबंधन योजना निर्माण एवं राहत वितरण अनुश्रवण एवं निगरानी समिति की बैठक में स्थानीय कार्यरत पुलिस पदाधिकारी मौजूद होते हैं ?  
(क) हाँ - अगर हाँ तो-  
1. चौकीदार 2. होमगार्ड या सिपाही 3. सब-इंस्पेक्टर या थाना अध्याक्ष  
(ख) नहीं

14. क्या संवेदनशील तटबंधों पर पुलिस बल द्वारा नियमित गश्ती की जाती है ?  
(क) हाँ - अगर हाँ तो-  
1. कभी-कभी 2. तटबंध टूटने के अफवाह के बाद  
3. शिकायत दर्ज करने के बाद 4. हमेशा दिन-रात  
(ख) नहीं
15. क्या आपके गाँव के चौकीदार तथा स्थानीय पुलिस पदाधिकारी आपदाओं से बचाव हेतु जागरुकता अभियान चलाते हैं ?  
(क) हाँ (ख) कभी-कभी (ग) किसी प्रकार का जागरुकता अभियान नहीं चलाये जाते हैं
16. आपदाओं के दौरान फंसी हुई आबादी के निष्कासन हेतु क्या पुलिस बल मदद को सबसे आगे आते हैं ?  
(क) आपदा आने के दो-तीन दिन बाद (ख) वरीय पदाधिकारियों से निर्देश मिलने पर  
(ग) कभी नहीं
17. आपदाओं के समय जब आप अस्थायी शरणस्थली पर निवास करते हैं तो उस दौरान आपके घरों के बहुमूल्य सामग्रियों की सुरक्षा पुलिस बल द्वारा दी जाती है ?  
(क) हाँ (ख) कभी नहीं
18. आपदाओं से बचाव हेतु किये जाने वाले पूर्वाभ्यास (मौक ड्रिल) में पुलिस प्रशासन के लोग हिस्सा लेते हैं ?  
(क) हाँ (ख) नहीं (ग) पूर्वाभ्यास होता ही नहीं है
19. आपदाओं के बाद राहत सामग्री के वितरण के समय विधि-व्यवस्था बनाये रखने हेतु पुलिस बल प्रतिनियुक्त रहते हैं ?  
(क) हाँ (ख) नहीं
20. आगजनी एवं भूकम्प जैसी आपदाओं के बाद पुलिस प्रशासन द्वारा कौन-कौन सी जिम्मेवारी का निर्वहन किया जाता है ?  
(क) विधि-व्यवस्था कायम करना  
(ख) फँसे लोगों का खोज एवं बचाव करना  
(ग) घायलों को अस्पताल या प्राथमिक उपचार हेतु सुरक्षित स्थानों तक पहुँचाना  
(घ) मृतकों का शव निपटाना एवं मृत्यु प्रमाण पत्र देना  
(च) मलवों की सफाई कर यातायात बहाल करना  
(छ) उपरोक्त सभी
21. होमगार्ड पुलिस प्रशासन का एक अभिन्न अंग है, क्या आपदाओं के समय प्रतिनियुक्त होमगार्डों द्वारा निम्न में से कौन सी जिम्मेवारियों का निर्वहन करते हैं ?  
(क) फँसे लोगों को निकाल कर सुरक्षित स्थानों तक पहुँचाने का काम  
(ख) घरों में कीमती सामानों की रक्षा करने का काम  
(ग) राहत केन्द्रों पर वितरण प्रबंधन का काम  
(घ) तटबंधों की सुरक्षा का काम  
(च) उपरोक्त सभी ।

## सिविल सेवा / पुलिस सेवा के पदाधिकारियों हेतु प्रश्नावली

### आपदा प्रबंधन में पुलिस प्रशासन की भूमिका

नाम : .....

पदनाम : .....

पदस्थापन स्थान : .....

जिला का नाम : .....

सम्पर्क दूरभाष नं० : .....

### प्रश्नोत्तर-पुस्तिका

1. आपदा ग्रस्त यथा बाढ़ से प्रभावित क्षेत्र को घोषित करने का क्या आधार होता है ?  
(क) आबादी एक सप्ताह तक जलप्लावित रहने पर  
(ख) जिविकोपार्जन का श्रोत नष्ट हो जाने पर  
(ग) फसल क्षतिग्रस्त होने पर  
(घ) उपरोक्त सभी
2. क्या जिलों में अपातकालीन संचालन केन्द्रों (EOC) स्थापित होने के साथ कार्यरत है ?  
(क) हाँ (ख) नहीं
3. आपदाओं के समय क्षत-विक्षत संचार व्यवस्था में पुलिस वायरलेस जैसी संचार प्रणाली का उपयोग किया जाता है ?  
(क) हाँ (ख) नहीं
4. प्रत्येक वर्ष आपदा सहाय्य आदेश पुनरीक्षित होता है ?  
(क) हाँ (ख) नहीं
5. क्या आपदा सहाय्य आदेश (बाढ़ सहाय्य आदेश) के पुनरीक्षण हेतु आयोजित बैठक में पुलिस पदाधिकारी अपना योगदान करते हैं ?  
(क) हाँ (ख) नहीं
6. आपदाओं के पूर्व तैयारी के क्रम में संसाधन मानचित्रण एवं उपलब्ध संसाधनों में पुलिस प्रशासन के पास कार्यरत संसाधनों की सूची सम्मिलित की जाती है ?  
(क) हाँ (ख) नहीं

7. आपदा प्रबंधन योजना निर्माण में पुलिस प्रशासन के कार्य उत्तरदायित्व एवं जिम्मेवारी का उल्लेख किया गया है ?  
(क) हाँ (ख) नहीं
8. जिला स्तर पर आपदा प्रबंधन प्राधिकरण का गठन हुआ है जिसमें पुलिस प्रशासन के वरीय पदाधिकारी को सम्मिलित किया गया है।  
(क) हाँ (ख) नहीं
9. पुलिस आपदा प्रभावित लोगों के सबसे नजदीक रहते हैं। क्या पुलिस प्रशासन सबसे पहले बचाव  
(क) हाँ (ख) नहीं
10. आपदाओं के समय विधि-व्यवस्था, भीड़ नियंत्रण, राहत वितरण एवं अन्य बचाव कार्य में पुलिस प्रशासन का उपयोग किया जाता है।  
(क) हाँ (ख) नहीं
11. आपदाओं के समय बचाव हेतु गठित दलों में पुलिस विभाग के पदाधिकारियों को शामिल किया जाता है ?  
(क) हाँ (ख) नहीं
12. संकट की घड़ी में नियंत्रण कक्ष की स्थापना की जाती है क्या उसमें पुलिस प्रशासन का योगदान लिया जाता है।  
(क) हाँ (ख) नहीं
13. बचाव एवं सहाय्य कार्यों के समन्वय एवं संचालन में पुलिस पदाधिकारी मदद करते हैं ?  
(क) हाँ (ख) नहीं
14. आपदाओं के पश्चात् आधारभूत संरचनात्मक सुविधाओं के पुनर्स्थापन तथा सामुदायिक सुविधाओं के पुनर्निर्माण/मरम्मत में पुलिस प्रशासन मदद करते हैं ?  
(क) हाँ (ख) नहीं
15. आपदा की स्थिति से निपटने की तैयारी के लिए क्या अभ्यासी कवायद (मौक ड्रिल) में पुलिस पदाधिकारी सहयोग करते हैं ?  
(क) हाँ (ख) नहीं
16. राज्य आपदा प्रबंधन नीति में पुलिस प्रशासन से किस प्रकार की मदद लेनी है क्या इसकी जानकारी से आप अवगत हैं ?  
(क) हाँ (ख) पता नहीं
17. बचाव एवं सहाय्य कार्य को सुचारु रूप से संचालित करने हेतु प्रशिक्षण एवं जागरूकता कार्यक्रम में पुलिस पदाधिकारियों को आमंत्रित किया जाता है ?  
(क) हाँ (ख) नहीं
18. क्या पुलिस प्रशासन को आपदा प्रबंधन के कार्यों पर होने वाले व्यय हेतु अग्रिम धनराशि जिला प्रशासन द्वारा उपलब्ध कराने का प्रावधान है ?  
(क) हाँ (ख) नहीं

19. आपदा से प्रभावित लोगों के राहत एवं बचाव हेतु पुलिस प्रशासन से किस प्रकार के सहयोग की उम्मीद करते हैं ?
- (क) सबसे आगे आकर मदद करना
  - (ख) सहयोगी संस्थाओं के प्रतिनिधि के रूप में मदद करना
  - (ग) उपरोक्त दोनों
20. पुलिस प्रशासन को प्रभावी ढंग से आपदाग्रस्त क्षेत्रों में काम करने हेतु निम्न में से किस प्रकार की सुविधाएँ मुहैया किया जा सकता है।
- 21.
- (क) संस्थागत ढाँचा में वैधानिक बदलाव लाकर
  - (ख) आपदाओं के समय उपयोग में आनेवाले उपकरण एवं उपस्कर उपलब्ध कराकर
  - (ग) प्रशिक्षण देकर
  - (घ) उपरोक्त सभी

# Appendix B

## The Model Police Act, 2006

### Chapter VI : Role, Functions, Duties and Responsibilities of the Police

The role and functions of the police shall broadly be:

- (a) to uphold and enforce the law impartially, and to protect life, liberty, property, human rights, and dignity of the members of the public;
- (b) to promote and preserve public order;
- (c) to protect internal security, to prevent and control terrorist activities, breaches of communal harmony, militant activities and other situations affecting Internal Security;
- (d) to protect public properties including roads, railways, bridges, vital installations and establishments etc. against acts of vandalism, violence or any kind of attack;
- (e) to prevent crimes, and reduce the opportunities for the commission of crimes through their own preventive action and measures as well as by aiding and cooperating with other relevant agencies in implementing due measures for prevention of crimes;
- (f) to accurately register all complaints brought to them by a complainant or his representative, in person or received by post, e-mail or other means, and take prompt follow-up action thereon, after duly acknowledging the receipt of the complaint;
- (g) to register and investigate all cognizable offences coming to their notice through such complaints or otherwise, duly supplying a copy of the First Information Report to the complainant, and where appropriate, to apprehend the offenders, and extend requisite assistance in the prosecution of offenders;
- (h) to create and maintain a feeling of security in the community, and as far as possible prevent conflicts and promote amity;
- (i) to provide, as first responders, all possible help to people in situations arising out of natural or man-made disasters, and to provide active assistance to other agencies in relief and rehabilitation measures;**
- (j) to aid individual, who are in danger of physical harm to their person or property , and to provide necessary help and afford relief to people in distress situations;
- (k) to facilitate orderly movement of people and vehicles, and to control and regulate traffic on roads and highways;
- (l) to collect intelligence relating to matters affecting public peace, and all kind of crimes including social offences, communalism, extremism, terrorism and other matters relating to national security, and disseminate the same to all concerned agencies, besides acting, as appropriate on it themselves.
- (m) to take charge, as a police officer on duty, of all unclaimed property and take action for their safe custody and disposal in accordance with the procedure prescribed.

## **Social responsibilities of the police**

Every police officer shall:

- (a) behave with the members of the public with due courtesy and decorum, particularly so in dealing with senior citizens, women, and children;
- (b) guide and assist members of the public, particularly senior citizens, women, children, the poor and indigent and the physically or mentally challenged individuals, who are found in helpless condition on the streets or other public places or otherwise need help and protection;
- (c) provide all requisite assistance to victims of crime and of road accidents, and in particular ensure that they are given prompt medical aid, irrespective of medico-legal formalities, and facilitate their compensation and other legal claims;
- (d) ensure that in all situations, especially during conflict between communities, classes, castes and political groups, the conduct of the police is always governed by the principles of impartiality and human rights norms, with special attention to protection of weaker sections including minorities;
- (e) prevent harassment of women and children in public places and public transport, including stalking, making objectionable gestures, signs, remarks or harassment caused in any way;
- (f) render all requisite assistance to the members of the public, particularly women, children, and the poor and indigent persons, against criminal exploitation by any person or organised group; and
- (g) arrange for legally permissible sustenance and shelter to every person in custody and making known to all such persons provisions of legal aid schemes available from the Government and also inform the authorities concerned in this regard.

## **Duties in emergency situations**

- a) The State Government may, by notification in the official gazette, declare any specified service to be an essential service to the community, for a specified period, which may be extended from time to time, by a notification, as necessary.
- b) Upon a declaration being made under sub-section (1) and so long it remains in force, it shall be the duty of every police officer to obey any order given by any officer superior to him in connection with the service specified in the declaration.

## **Senior police officer performing duties of a subordinate officer**

A senior police officer may perform any duty assigned by law or by a lawful order to any officer subordinate to him, and may aid, supplement, supersede or prevent any action of the subordinate by his own action or that of any person lawfully acting under his command or authority, whenever the same shall appear necessary or expedient for giving more complete or convenient effect to the law or for avoiding any infringement thereof.

## **SOP for Police during Natural Disaster**

Police organisation has to see itself as a major player in disaster management. It will continue to have the first responder role given its proximity to the incident site and relationship with the people. **Therefore** it has to bring about change in its approach. It has to adopt disaster management function as a one of its primary functions. State & district level authorities cannot afford to wait for response specialized forces such as NDRF all the time. Moreover, on many occasions, it might not be advisable or feasible to obtain/deploy armed forces and NDRF. Hence state police must be prepared as response force.

The local police must be trained, equipped and supported with legislation and logistics so that they find themselves capable to support the victim in the 'golden hour'. Subsequently they can play supporting role to the specialist forces if and when they come in bigger emergency cases. On many occasions Special Forces are not required and the local police may retain the primary role to help the needy. The out side forces are also handicapped in operating in unknown area, among unknown people and here is the key to critical role of police.

### **The Police are among the first responders in any crisis because,**

- LOCAL POLICE ARRIVE FIRST
- POSSESS WELL DEVELOPED COMMUNICATION SYSTEM
- FAMILIAR WITH LOCAL TERRAIN
- WIDER REACH, EVERY VILLAGE COVERED
- BETTER KNOWLEDGE OF LOCAL PEOPLE FEELINGS AND MIND-SETS
- PEOPLE RECOGNISE POLICE AS FIRST RESPONDER
- UNIFORMED, DISCIPLINED

While functions of local police are well defined for internal emergency, same is not true for natural disasters. But wherever earthquake or flood occurs, the police get involved from beginning. Hence if their role is designed and documented in police manuals, disaster management acts and policies, it will, to that extent facilitate immediate effective response, at least in the first few hours which are most crucial. Hence the need to frame SOPs that can help the police forces in being prepared and respond appropriated whenever any disaster happens.

### **Role of Police before disaster-Prevention and Preparedness phase**

Superintendent of Police of a district is ex-officio member of District Disaster Management Authority (DDMA) and in this capacity he could play important role in prevention and preparedness phase.

- ✚ **Emergency Traffic Plan:-** Being familiar with the local terrain, Police should prepare emergency traffic plan including detail mapping with focus on strategic

points, which may be used at the time of incident for safe transporting of personnel, resources and relief goods to and from the affected area.

- ✚ **Detail communication Plan:-** Police has a robust and effective Communication system that is also for non police functions. It can also be used to propagate information and warning of threatening disaster. Thus police can develop communication protocols for responding during disasters eg designate separate channels for rescue, relief for example. Chaukidars who are present at village level could play important role to collect sensitive information and disseminate emergency warning and other information.
- ✚ **Identification of Building:-** PS personnel travel in their area frequently. They can be of great help in identifying buildings and campus which are easy to access and could be used as relief centres/relief camps and godown for storage of food grains and other rescue and relief materials.
- ✚ **Security Plan:-** At the time of any serious incident it becomes inevitable to provide security to victims, responders and to relief materials at storage point and during transit. Resources deployed too may require security.
- ✚ **Resource Mapping:-** It is very important to locate essential resources at very beginning of search and rescue works. It has been experienced during the Kosi flood 2008 that in rescue and relief works even small and tiny elements become very important. So local police could identify, locate and document general essential elements useful for different kind of disasters. These resources may have to be operated under the guidance and protection of police as done during operation of boats in Kosi disaster of 2008.
- ✚ **Training:-** Men in uniform (Police) are most visible and reliable government agency nearest to the people in difficult times. Police should conduct mock exercises with various stakeholders and should test and update their different plans.

### **Role of police during disaster-Emergency response phase**

The primary role of police is evident during the management of the actual disaster situation. It includes:

- (i) **Search and Rescue(SAR):-** The primary function during a disaster. Policemen must be trained and equipped to begin rescue at the earliest to take advantage of the “platinum 15”. They would be able to provide immediate relief to the victims till specialized forces arrive. During such activity, police has to provide protection to boats that are put in operation during floods. resources eg.

- ✚ Deployment of policeman on the boat plying in floods helps prevent overcrowding of boats and prevent capsizing.

- ✚ Such boats are provided with handheld wireless sets one to keep tracking its movements and provide help in disasters.

- ✚ To provide security to resources from unscrupulous elements. eg. During Kosi 2008, boats were captured by local goons.

During Orissa super cyclone of 1999 the collector's office at Cuttack was flooded by mud. Men of the police force rescued the collector on their shoulders.

(ii) **Deployment of resources:-** Police can help in deployment of resources, provide safety and security to the resources and the persons manning them.

- ✚ **Restoration of communication system/liasoning with rescue teams:-**

Telephonic communication breaks down since the telephone towers/offices get destroyed with the result that landline and mobile phones stop working. Wireless communication might be the only means left. During floods or any other disaster most of the rescue teams operate in unknown territories under adverse conditions where landmarks are either washed away or destroyed. During Kosi disaster 2008, Army & NDRF boats got lost and they had to spend nights outside the camps. The new course of the river had very fast current as a result of which, they could not reach their locations by end of the day. Several times, these boats got capsized. The army, navy and the NDRF had their own communication systems but it needed to be integrated with the district communication setup so that information of any emergency could be disseminated quickly and support reached at the earliest. Wireless communication was established on all the boats. Similar communication with wireless has to be established in operational camps. Wireless can be provided to rescue and relief teams.

- ✚ Make available police communication resources for other DM task eg. Relief distribution, medical teams.

- ✚ Standby for emergency communication networks

(iii) **Prevention of commission of cognizable offences including all offences against property, human body and public tranquility:-**

During disaster situation people abandon their houses with or without belongings. The safety and security of such houses and belonging is at risk. During such time people are without jobs hence incidence of crime generally increases. It also provides opportunities for the lumpen element such as robbers and thieves to commit cognizable offences i.e. looting etc., against property.

Similarly the vulnerable section of society particularly women and children susceptible to crimes against human body. Police can provide safety to such persons by active patrolling during disasters and by arresting the suspects beforehand.

- ✚ Investigation of cases.

(iv) **Security during Relief distributions/ Relief management:-** Relief distribution **is an** important aspect of disaster management.

- ✚ The designated relief distribution centre is generally located in the interiors. Therefore the security of personnel engaged in distribution and the material to be distributed (Cash and Kind) requires special attention.
- ✚ Similarly many bank branches get closed and therefore cash is sent **from** far of places for distribution as relief of maybe mobile ATMs will be used for people requiring cash. Police is required to provide security of the Cash and or ATMs.
- ✚ Likewise the security of grains and other relief material eg food packets being transported from different places to distribution centers is also important. Dedicated escorts are needed from the FCI godowns, railway stations to temporary storage/ distribution centers. The security of the food godowns, Railways stations where relief materials are received also require security.
- ✚ Relief material sent by NGOs etc. is also important and Police can play significant role in this regard.
- ✚ During the actual distribution of relief large numbers of people gather at the relief centre. The crowd management becomes important. The regulation of the process of distribution of relief can help in maintaining law and order.

(vi) Isolate disaster sites and control site access for safety of victims, general public and efficiency of incident operation

(vii) **Camp management:-** Security of camp inmates, officials and volunteers engaged in running of camps including health workers **is** core function. During Kosi disaster over 400 relief camps **had** people from many villages with different religious, political and caste backgrounds and thus had potential for friction. This requires deployment for law & order maintenance.

- ✚ Hundreds of government and non government employees/volunteers are engaged in running of kitchens, medical centers, sanitation units etc. They require protection all the time.

(viii) **Emergency transportation and Traffic Regulation:** Police has to facilitate the movement of rescue, medical, fire and other essential services.

- ✚ During Kosi disaster
- ✚ Highways roads had to be kept free for movement of rescue teams and relief material.
- ✚ Check posts were established for ensuring safety of relief material. Road patrol was arranged for safe passage of army convoys, boats and other resources sent from outside and vehicles for army was arranged.

- ✚ Control traffic during and after the incident and maintain access and egress routes
- ✚ Make available police resources to transport rescue and relief personnel and victims.
- ✚ Assist in managing huge logistical problems in handling relief supplies

(ix) **Coordination with various agencies:-** During disasters various agencies such as NDRF, SDRF, Paramilitary forces such as BSF, CRPF, CISF etc, Army, IAF, Coast Guard, medical teams from outside the state arrive at the disaster sites. These external agencies are not informed about the physical terrain, Route Charts etc. The police can coordinate the activities of these agencies. The coordination among police and other agencies needs to be standardized in clear procedures.

- ✚ Police can function as link with external agencies since most are uniformed. NDRF today is the most visible trained emergency response force made up of personnel of CRP, BSF and CISF. Rescue teams from Army, Coast Guard, IAF and other states also policemen based.
- ✚ The coordination among police and other agencies needs to be standardized in clear procedures. Protocols are needed for deploying resources in case of a disaster in a manner that is well-coordinated between local, state, and central emergency agencies including armed forces.
- ✚ Importantly police organizations do not stand alone in doing what is necessary to deal with major disasters. Instead, police agencies must be integrated and be able to cooperate with other police and emergency agencies.

(x) **Casualty information/ Disposal of dead:-** The identification of people involved in accidents/emergencies is a Police responsibility. All enquiries could be handled by police station staff.

- ✚ Tracing of missing persons and notification to their next of kin could be another area of work allotted to police.
- ✚ Disposal of dead bodies and documentation of dead and the missing for the benefit of next of kin to claim the compensation and ex-gratia.

(xi) **Family Liaison Officers:-** The Police could appoint family liaison officers (FLOs) to the families of those who have died. The FLOs are specially trained police officers who, if requested, will liaise between the families and the media as a way of minimizing intrusion and distress.

(xii) **Media management:-** During any disaster situation information flow through the audio-visual as well as print media. The reports from need to be verified as soon as possible for quick response. The police can not only verify the facts of the information but also play an important role in briefing the media regarding the actual situation. This can help in checking the spread of rumours. In certain countries, Police officers play role of the Police Press Officer at the

scene of any major emergency to co-ordinate the response to all media enquiries.

- (xiii) **VIP Security:-** VIPs visit the affected area and relief camps frequently. Many a times, politically opposed/ dissatisfied resort to protests thereby posing threat to VIP and law and order. This must be handled by police.
- (xiv) **Crowd Management:-** Both at disaster site as well as at the relief distribution centre a large number of people gather as on lookers as well as the kith and kin of the victims. Sometimes the dissatisfied people disrupt the traffic – road and rail. The police can play important role in management of the crowd.

### **Role of police After disaster-Restoration Face**

- (i) In long term operation of evacuation shelters the issues over the shelters would change and if they are not addressed soon they would create law and order problem. Therefore it is important to find the causes of the problems as soon as possible, access the situation and reviews the previous ways.
- (ii) Accommodation of persons with special needs in evacuation shelters such as small children, pregnant women and mothers with nursing infants etc. requires utmost care. In a limited shelter space it is very important to provide special rooms for them. Police can play very important role in this respect.
- (iii) At the time of relief distribution and primary accommodation of victims support for the disabled and issues related to hygiene, infectious disease should be looked after carefully other wise it create serious problems to restoration face.
- (iv) Police can play an important role in selection of beneficiaries of houses and other assets to the victims to avoid complications and litigation.
- (v) **Restoration of Critical infrastructure:-** Disaster usually affects the critical infrastructure such as road, telecommunication, health centers, school, electricity supply etc. Police can provide protection to the agencies which are involved in restoration of such infrastructure because people who are rendered jobless after disaster may hinder the process.
- (vi) **Safe exit of the personnel involved in disaster management:-** After the disasters due to fatigue laxity might seep in to the system. Although the overall law and order situation is monitored and maintained by the police, it becomes very important after the disaster for the safe exit of the personnel from outside agencies involved in management of the disaster i.e People from NGOs, INGOs, medical teams etc.
- (vii) **Feedback/assessment:-** Since the police is the key factor in managing the disaster, their feedback/ assessment is very important in updating the plans for the future.
- (viii) **Contingency planning:-** The police familiar with the local terrain and the resources available in the locality. They can plan the actions taken at the time of the disaster before hand.

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