

Disaster Management Action Plans for the State of Maharashtra: A Review of its unique components

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Abstract

The foremost and the first disaster management plan has been one of the greatest achievements in India during IDNDR. The focus of the plan is mainly on preparedness and mitigation with a clearly identified state and district action plans inclusive of technological risk mitigation plan which has included the management of disasters envisaged from hazardous industries. Maharashtra has therefore set up an example for other states to follow.

Following the unprecedented earthquake in Latur district and adjoining areas on September 30, 1993, along with the resettlement and rehabilitation of the affected people, the Government of Maharashtra (GOM) also concerned itself with the preparation of a comprehensive multi-hazard Disaster Management Action Plans (DMAP) to deal with future disasters.

The Plan Process and the Final Outcome

Although, effective disaster specific plans had been previously prepared by different departments or agencies, there was the growing awareness of the need for a multi-disaster action plan to tackle multi-faceted effects of disaster. During the first phase of the study, the GOM appointed expert committees for deliberating on the various hazards. To obtain district level information in this regard, formats and templates of the information requirements were prepared by the consultants after consultation with the District Collectors and Divisional Commissioners. The "Outline for Risk Assessment and Vulnerability Analysis" is the main source document for arriving at the demographic and spatial features of the district and the specific risks and vulnerabilities that the districts have. The plans essentially concentrate on the institutional setup and information flow, providing disaster specific responses along with specifying the roles of primary agencies involved. Such an approach allows flexibility in response at the local level, while still under the direct supervision and control of the state or regions. Under this process, DMAPs have been prepared for all the districts of Maharashtra, including the State of Maharashtra as a whole. A special plan has also been prepared for the Greater Mumbai covering both Mumbai city district and Mumbai suburban district.

These plans seek to identify the requirements for institutional strengthening, technological support, upgradation of information systems and data management for improving the quality of administrative response to disasters at the state level. The overall goal is to make these DMAPs an effective response mechanism as well as a policy and planning tool. The action plans provide for a uniformity in approach and clear perception of the various issues at hand, thus avoiding undue complications. At the same time, the plans provides for co-ordination of different agencies from the field level to the central government. The objective is to provide a quick and effective response in emergency situations. Although containing disasters will basically be at the district level, it is important to build confidence and self reliance at the district level, which can be best effected through timely, supportive and planned interventions by the state. At the same time, while these action plans assume an element of preparedness on part of the administrative authorities, it also calls for substantial involvement of the NGO sector as also private initiatives. Community participation is one of the most effective inputs for the management of disasters.

Documents prepared under the DMAP of GOM

A. State Plans

1. Risk Assessment and Vulnerability Analysis
2. Multi-disaster State Response Strategy
3. State Mitigation Strategy
4. Operating Procedure Guidelines
5. Information Reporting and Monitoring Tools
6. Inventory of State Resources
7. Manual for Warning and Evacuation
8. Manual for Emergency Operations Centre
9. Note on Community Vulnerability Reduction Fund
10. Note on Training with sample training modules

B. District Plans (for each district)

1. Disaster Management Information Database for the district (includes Risk Assessment)
2. District Disaster Response Plan
3. Manual for District Control Room

C. Greater Mumbai Disaster Management Plan

1. Mumbai Risk Assessment and Response Plan
2. Volume on Hazardous Industries in Mumbai
3. Inventory of Resources
4. Ward Plans for each ward (23)

Risk Assessment and Vulnerability Analysis

The document on Risk Assessment and Vulnerability Analysis looked primarily at seven disasters: earthquakes, floods, cyclones, epidemics, industrial and chemical accidents, fires and road accidents.

Certain disasters specific to the districts, like hailstorms in Nagpur, were included in the respective district plan. The Risk Assessment focussed on identifying the locations prone to the disaster, either based on prior incidents and on the basis of scientific data (for example levels of seismic activities to indicate earthquake proneness). An attempt was also made to highlight the causes behind the increasing risks as also point the measures currently being undertaken to reduce the risk. The Vulnerability Analysis examined the social factors of economy, poverty, housing, social structure, urbanisation, infrastructure and development policies. The effect of these factors towards increasing or decreasing the risk was analysed. For instance, the tribal areas of Maharashtra exhibit a higher degree of vulnerability and are more at risk to the disaster events. The box below indicates the disasters and the specific locations which are more prone to these disasters

Summary of Risk Assessment and Vulnerability Analysis in Maharashtra

Disaster Type	Districts of Maximum Risk	Vulnerability
Earthquakes	Latur, Beed, Parbhani, Nanded, Nagpur, Nashik, Thane, Satara, Pune, Sangli, Ratnagiri and Mumbai	High
Floods	<ul style="list-style-type: none"> Nagpur, Bhandara, Chandrapur, Gadchiroli, Wardha Mumbai, Ratnagiri, Pune, Sholapur, Nanded 	High
Flash Floods	<ul style="list-style-type: none"> Nagpur, Bhandara, Chandrapur, Gadchiroli, Wardha, Parbhani, Ahmednagar, Pune, Sholapur, Dhule, Nashik 	High
Cyclones	Mumbai, Thane, Raigad, Ratnagiri and Sindhudurg	Low
Epidemics (water borne diseases)	All districts	Medium
Road Accidents	Thane, Raigad, Nashik, Pune	High
Fires	All districts	Medium
Industrial and Chemical Accidents	Mumbai, Thane, Pune and Raigad	High

Response Plans

This multi-disaster action plan proposed that all the agencies and departments with their disaster specific functions come under a single umbrella of control and direction, to attend to all kinds of disasters. As part of the Response Strategy, an Emergency Operations Centre (EOC) is being set-up at Mantralaya. The existing arrangements, therefore, were strengthened by an administrative arrangement, which had the Chief Secretary as the team leader supported by the Relief Commissioner with branch arrangements at the EOC. The objective was to have a simplified and uncluttered system of disaster response. The Emergency Operations Centre would be the hub of activity during a disaster. Its primary function would be to implement the DMAP and includes co-ordination, policy-making, operations management, data collection, record keeping, public information and resource management. The EOC, its system and procedures are designed in such a way that information can be promptly assessed and relayed to concerned parties. Rapid dissemination contributes to quick response and effective decision-making during an emergency. As the master co-ordination and control point for all counter-disaster efforts, the EOC is the centre for decision-making under a unified command. At the district level, District Control Rooms (DCR) have been set-up which co-ordinate with the other district, taluka and Zilla Parishad level agencies and constantly keeps the EOC informed about the activities. The Response Structure is represented visually in the following page

Knowing fully well that an efficient communication network is essential for the optimal functioning of the EOC and DCR, there has been an emphasis to provide for the latest technological tools. Both the EOC and DCR are connected via VSAT which allows for data communication as well as video-conferencing facilities. In addition, a wireless network has been provided up to the taluka level in each district. Maps giving the locations of the prone areas, the nearest hospital/ambulance facility, the shortest routes etc., have been provided for in a digitised form. The effort is on to develop a comprehensive Geographical Information System (GIS) for the entire State. Along with this communication network, various formats for information reporting and monitoring have been

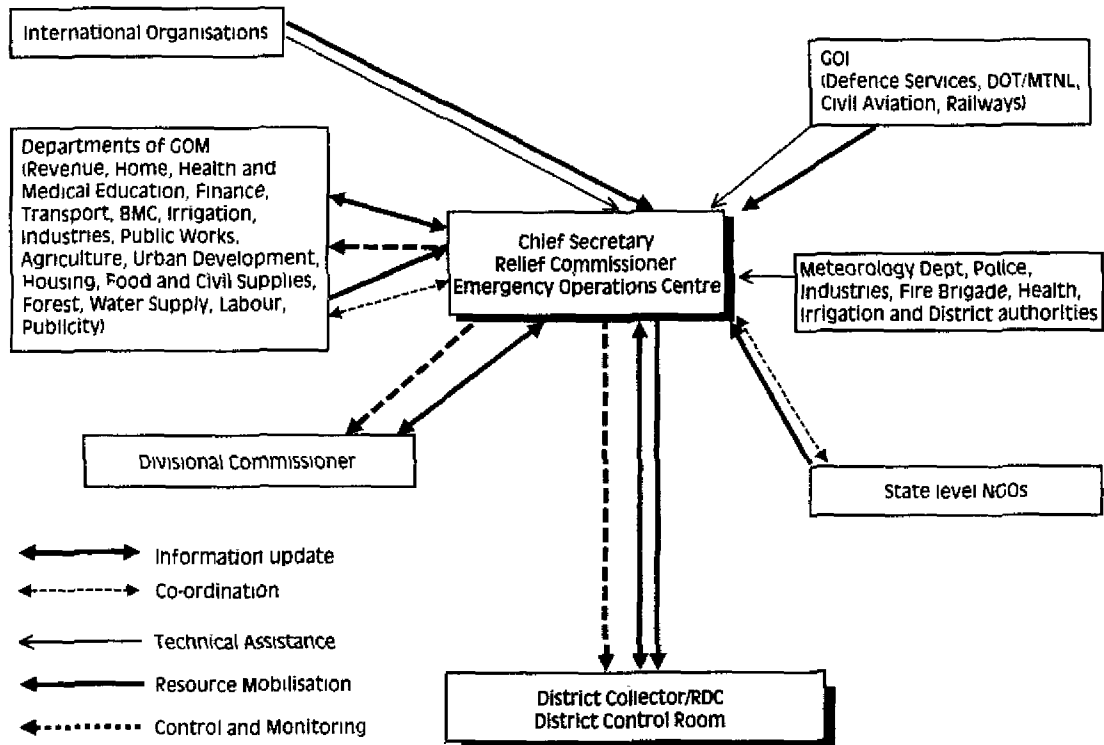
developed and standardised to maintain accountability as well as authenticity. These formats have been developed for the various stages of the disaster cycle and for various departments involved in the response operations. Standard Operating Procedures have been developed for all departments listing the planning assumptions, action plan objective, procedures for warning and evacuation, activities on receipt of warning, activities on occurrence of the disaster and relief and rehabilitation roles.

Mitigation Strategy

The plans recognise the fact that effective community involvement and public awareness can to a large extent minimise the impact of disasters. The Mitigation Strategy therefore specifically encourages involvement of citizens groups, local community based organisations, NGOs, Mutual Aid and Resource Groups and other private sector bodies as well as the local self-government towards mitigation. Community based mitigation strategies would go a long way in strengthening and stabilising the efforts of the administration. The focus would be on community capacity building including formation of Community Emergency Response Teams (CERT).

Apart from a public information strategy, the mitigation strategy also focuses on micro risk assessment and vulnerability analysis including hazard mapping, applied research and technology transfer to improve the quality of forecast and disseminate warnings quickly. The mitigation strategy also highlights the need for a disaster management legislation and relief and rehabilitation policy that would define specific roles and responsibilities as well as set-up permanent administrative structures and institutional mechanisms for disaster management. The importance of land use planning and regulations for sustainable development which include development and implementation of building codes, principles of safe siting etc., cannot be underscored as also the need for special incentives and resources to reduce disaster losses. Structural and non-structural measures to avoid damage during disasters have been given in the mitigation strategy document.

Response structure at state level on occurrence of disaster



Training Strategy

Training of the community and key social functionaries are essential elements for the successful execution of a disaster management action plan. The DMAP cannot be fully operationalised without a training strategy. Manuals for warning and evacuation, EOC and DCR have been prepared keeping this in mind. The manuals list the tasks to be undertaken by each branch/authority responsible. Information of the key contact persons and emergency officials has been provided in the manual. The State and the District Plans also specify the "do's and don'ts" for the community as well as NGOs and local community based organisations in the advent of any disaster. The Government of Maharashtra has also identified the Disaster Management Centre at the Yashwantrao Academy of Development Administration (YASHADA), Pune, as the nodal agency to carry out training programmes in various segments across different sections of the administration. Training will also be imparted to NGOs and others from the private sector.

A Special Note on Greater Mumbai Disaster Management Plan

Recognising the special features of Greater Mumbai, such as its burgeoning population, the extent of urbanisation, the proliferation of slum areas, the multiplicity of authorities and the importance of the Brihanmumbai Municipal Corporation (BMC), a special plan was developed for Greater Mumbai integrating the two districts – Mumbai City District and Mumbai Suburban District.

Mumbai city and suburbs experience a number of disasters, the frequency and intensity of which has been increasing over the last few years. During the disaster situation various control rooms, municipal departments and state departments are actively associated and are simultaneously involved in disaster response from warning to relief and rehabilitation. This creates a situation of multiple authorities and multiple controls and calls for

effective co-ordination mechanisms. Greater Mumbai Disaster Management Action Plan therefore provides for co-ordination of various control rooms, departments of municipal corporation, departments of state government with each other and the state level EOC. The Municipal Commissioner of BMC is the District Disaster Officer for Greater Mumbai and in majority of the disasters the BMC would manage the disaster situation without intervention from the State authorities. However, in cases of disasters of exceptionally large magnitude which requires co-ordination with wide range of lateral agencies including central government agencies, the Additional Chief Secretary (Home) would assume the responsibility of Disaster Manager for Mumbai. Micro-level plans at ward level have also been prepared for all the 23 wards incorporating specific responsibilities of ward officer who will act as Ward Disaster Manager.

Conclusion

The objective in any disaster situation is always to minimise the loss to life and property. These DMAPs prepared by the Government of Maharashtra are the first step towards achieving this objective. With the implementation of the various aspects of the plan and commissioning of GIS and the communication network, the Government is today better placed to respond faster and in a more efficient manner. Training of the various functionaries, and an effective public awareness and education campaign involving the communities will ensure that the plans are disseminated to the lowest levels.

The author is a junior consultant with Consultancy Services in Social Development, Mumbai, which was engaged in the preparation of the Disaster Management Plans for the State of Maharashtra.