

Role of Disaster Management Acts and Policies in Cyclone Mitigation Planning in India

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The agriculture sector in India faces severe challenges in the form of natural disasters causing heavy crop loss and poor crop productivity. Several times, these disasters create more havoc as they result in another unfavorable event. For example, cyclone disaster always accompanies with major storms, floods and heavy wind and it is very common to witness significant associated events in addition to the main event itself. Tropical cyclogenesis is very common in the northern reaches of the Indian Ocean in and around the Bay of Bengal which result in cyclones. The frequency of occurrence of cyclone is a major worry in India. In India, the cyclone season runs from April to December, with peak activity between May and November. Low intensity storms with sustained wind speeds greater than 63 km per hour are very frequent and it is observed that a major cyclone (Category 3 or higher) develops every alternate year.

The main cause of the cyclone event in India is intense heating in the Bay of Bengal during summer resulting in humid and unstable air masses. As a result, India witnessed significant number of cyclones including worst ever cyclones like the 1737 Calcutta cyclone, the 1970 Bhola cyclone, the 1991 Bangladesh cyclone and the 1999 Odisha super cyclone. This resulted in severe crop loss affecting food security of the nation. The major states that get affected due to cyclone are Andhra Pradesh, Odisha, Tamil Nadu, and West Bengal located on eastern coast. In western coast, the frequency and extent of damage by cyclones is relatively less and they mainly affect Gujarat and Kerala. Some cyclone events like super cyclone in Odisha (1999) resulted in peak winds of more than 250 kmph (equivalent to category 5 hurricane) causing damage to lakhs of hectares of agricultural land in addition to disruption of 20 million people and death of more than 10000 people.

The natural disasters like cyclone can be predicted before their occurrence though the accuracy varies from event to event. At the same time, we also understand the fact that cyclone affects some coastal states very frequently. This calls for an urgent need to chalk out a strategy to face the cyclone events in an integrated manner. A good forecasting and well prepared multipronged strategy can result in reduction of disruption of human life and it can potentially reduce the damage to agricultural sector (Roy and Kovordanyi, 2012). This can be very much witnessed from the experience of successful management of phailin in 2013. In other words, the balanced combination of science (prediction of cyclone and forecasting) and policy (development of different acts related to pre and post cyclone management) is required for reducing the damage of cyclone on agriculture sector. The role of resilience building among the communities in

management of super cyclone affected areas in Odisha is well acknowledged now (Chhotray and Few, 2012). At the same time, we have developed regulations and acts on disaster management in common which includes floods, cyclones, drought, earthquakes etc. and it is really difficult to study them in segregation with respect to individual event like cyclone.

In this context, various stakeholders working in the field of cyclone disaster management must have awareness about various disaster management acts enacted in India.

Disaster Management Act, 2005

The Disaster Management Act, 2005 has 11 chapters and 79 sections and it extends to the whole of India. The Act provides for "the effective management of disasters and for matters connected therewith or incidental thereto. The Act lays down institutional, legal, financial and coordination mechanisms at the National, State, District and Local levels. These institutions are not parallel structures and will work in close harmony. The new institutional framework is expected to usher in a paradigm shift in DM from relief-centric approach to a proactive regime that lays greater emphasis on preparedness, prevention and mitigation.

Institutional Framework under the Act

National Disaster Management Authority (NDMA)

The NDMA, is the apex body for disaster management, headed by the Prime Minister and has the responsibility for laying down policies, plans and guidelines for DM and coordinating their enforcement and implementation for ensuring timely and effective response to disasters. The guidelines will assist the Central Ministries, Departments and States to formulate their respective DM plans. It will approve the National Disaster Management Plans and DM plans of the Central Ministries/Departments. It will take such other measures, as it may consider necessary, for the prevention of disasters, or mitigation, or preparedness and capacity building, for dealing with a threatening disaster situation or disaster. Central Ministries/Departments and State Governments will extend necessary cooperation and assistance to NDMA for carrying out its mandate. It will oversee the provision and application of funds for mitigation and preparedness measures. NDMA has the power to authorize the Departments or authorities concerned, to make emergency procurement of provisions or materials for rescue and relief in a threatening disaster situation or disaster. The general superintendence, direction and control of the National Disaster Response Force (NDRF) is vested in and will be exercised by the NDMA. The National Institute of Disaster Management (NIDM) works within the framework of broad policies and guidelines laid down by the NDMA.

The NDMA is mandated to deal with all types of disasters; natural or man-made. Whereas, such other emergencies including those requiring close involvement of the security forces and/or

intelligence agencies such as terrorism (counter-insurgency), law and order situations, serial bomb blasts, hijacking, air accidents, CBRN weapon systems, mine disasters, port and harbor emergencies, forest fires, oilfield fires and oilspills will continue to be handled by the extant mechanism i.e., National Crisis Management Committee (NCMC).

NDMA may, however, formulate guidelines and facilitate training and preparedness activities in respect of CBRN emergencies. Cross-cutting themes like medical preparedness, psycho-social care and trauma, community based disaster preparedness, information and communication technology, training, preparedness, awareness generation etc., for natural and man-made disasters will also engage the attention of NDMA in partnership with the stakeholders concerned. Resources available with the disaster management authorities at all levels, which are capable of discharging emergency support functions, will be made available to the nodal Ministries/Agencies dealing with the emergencies at times of impending disaster(s).

National Executive Committee (NEC)

The NEC comprises the Union Home Secretary as Chairperson, and the Secretaries to the GoI in the Ministries/Departments of Agriculture, Atomic Energy, Defence, Drinking Water Supply, Environment and Forests, Finance (Expenditure), Health, Power, Rural Development, Science & Technology, Space, Telecommunications, Urban Development, Water Resources and the Chief of the Integrated Defence Staff of the Chiefs of Staff Committee as members. Secretaries in the Ministry of External Affairs, Earth Sciences, Human Resource Development, Mines, Shipping, Road Transport & Highways, and the Secretary, NDMA will be special invitees to the meetings of the NEC.

The NEC is the executive committee of the NDMA, and is mandated to assist the NDMA in the discharge of its functions and also ensure compliance of the directions issued by the Central Government. The NEC is to coordinate the response in the event of any threatening disaster situation or disaster. The NEC will prepare the National Plan for Disaster Management based on the National Policy on Disaster Management. The NEC will monitor the implementation of guidelines issued by NDMA. It will also perform such other functions as may be prescribed by the Central Government in consultation with the NDMA. State Disaster Management Authority (SDMA)

At the State level, the SDMA, headed by the Chief Minister, will lay down policies and plans for DM in the State. It will, inter alia 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 and review the developmental plans of the different Departments of the State to ensure the integration of prevention, preparedness and mitigation measures.

The State Government shall constitute a State Executive Committee (SEC) to assist the SDMA in the performance of its functions. The SEC will be headed by the Chief Secretary to the State Government and coordinate and monitor the implementation of the National Policy, the National Plan and the State Plan. The SEC will also provide information to the NDMA relating to different aspects of DM.

District Disaster Management Authority (DDMA)

The DDMA will be headed by the District Collector, Deputy Commissioner or District Magistrate as the case may be, with the elected representative of the local authority as the Co-Chairperson. The DDMA will act as the planning, coordinating and implementing body for DM at the District level and take all necessary measures for the purposes of DM in accordance with the guidelines laid down by the NDMA and SDMA. It will, inter alia prepare the District DM plan for the District and monitor the implementation of the National Policy, the State Policy, the National Plan, the State Plan and the District Plan. The DDMA will also ensure that the guidelines for prevention, mitigation, preparedness and response measures laid down by the NDMA and the SDMA are followed by all the Departments of the State Government at the District level and the local authorities in the District.

Local Authorities

For the purpose of this Policy, local authorities would include Panchayati Raj Institutions (PRI), Municipalities, District and Cantonment Boards, and Town Planning Authorities which control and manage civic services. These bodies will ensure capacity building of their officers and employees for managing disasters, carry out relief, rehabilitation and reconstruction activities in the affected areas and will prepare DM Plans in consonance with the guidelines of the NDMA, SDMAs and DDMA. Specific institutional framework for dealing with disaster management issues in mega cities will be put in place.

National Institute of Disaster Management (NIDM)

The NIDM, in partnership with other research institutions has capacity development as one of its major responsibilities, along with training, research, documentation and development of a national level information base. It will network with other knowledge-based institutions and function within the broad policies and guidelines laid down by the NDMA. It will organize training of trainers, DM officials and other stakeholders. The NIDM will strive to emerge as a 'Centre of Excellence' in the field of Disaster Management.

National Disaster Response Force (NDRF)

For the purpose of specialized response to a threatening disaster situation or disasters/emergencies both natural and man-made such as those of CBRN origin, the Act has mandated the constitution of a National Disaster Response Force (NDRF). The general superintendence, direction and control of this force shall be vested in and exercised by the

NDMA and the command and supervision of the Force shall vest in an officer to be appointed by the Central Government as the Director General of Civil Defence and National Disaster Response Force. Presently, the NDRF comprises eight battalions and further expansion may be considered in due course. These battalions will be positioned at different locations as maybe required. NDRF units will maintain close liaison with the designated State Governments and will be available to them in the event of any serious threatening disaster situation. While the handling of natural disasters rests with all the NDRF battalions, four battalions will also be equipped and trained to respond to situations arising out of CBRN emergencies. Training centres will be set up by respective paramilitary forces to train personnel from NDRF battalions of respective Forces and will also meet the training requirements of State/UT Disaster Response Forces. The NDRF units will also impart basic training to all the stakeholders identified by the State Governments in their respective locations. Further, a National Academy will be set up to provide training for trainers in disaster management and to meet related National and International commitments.

Mitigation Reserves

Experience in major disasters in the last decade has clearly established the need for prepositioning of some essential reserves at crucial locations, including some for the high altitude areas. These reserves are intended to augment the resources at the State level. Mitigation reserves will be placed at the disposal of the NDRF for enhancing their emergency response capabilities for assisting the State Governments during a disaster or disaster-like situation.

Existing Institutional Arrangements

Cabinet Committee on Management of Natural Calamities (CCMNC) and the Cabinet Committee on Security (CCS).

CCMNC had been 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 CCS deals with issues related to defence of the country, law and 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.

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, scrutinizes 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).

However, assessment of damages by IMG in respect of drought, hail storm and pest attack will continue to be headed by the Secretary, Ministry of Agriculture and Cooperation. The HLC comprising the Finance Minister as Chairman and the Home Minister, Agriculture Minister, and Deputy Chairman of the Planning Commission as members approves the Central assistance to be provided to the affected States based on the recommendations of the IMG. The constitution and composition of HLC may vary from time to time. The Vice Chairman, NDMA will be a special invitee to the HLC.

Central Government

In accordance with the provisions of the Act, the Central Government will take all such measures, as it deems necessary or expedient, for the purpose of DM and will coordinate actions of all agencies. The Central Ministries and Departments will take into consideration the recommendations of the State Government Departments while deciding upon the various pre-disaster requirements and for deciding upon the measures for prevention and mitigation of disaster. 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/SDMAs, SECs or any of their officers or employees, to facilitate or assist in DM, and these bodies and officials shall 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. The Central Government will also facilitate coordination with the UN Agencies, International Organisations and Governments of Foreign Countries in the field of disaster management. The Ministry of External Affairs in coordination with the Ministry of Home Affairs (MHA) will facilitate external coordination/cooperation.

Role of Central Ministries and Departments

As disaster management is a multidisciplinary process, all Central Ministries and Departments will have a key role in the field of disaster management. The nodal Ministries and Departments of the GoI (i.e., the Ministries of Agriculture, Atomic Energy, Civil Aviation, Earth Sciences, Environment & Forests, Home Affairs, Health, Mines, Railways, Space, Water Resources etc.) will continue to address specific disasters as assigned to them.

National Crisis Management Committee (NCMC)

The NCMC, comprising high level officials of the GoI headed by the Cabinet Secretary, will continue to deal with major crises which have serious or National 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 may be a member of this Committee.

State Governments

The primary responsibility for disaster management rests with the States. The institutional mechanism put in place at the Centre, State and District levels will help the States manage disasters in an effective manner. The Act mandates the State Governments inter alia to take measures for preparation of Disaster Management Plans, integration of measures for prevention of disasters or mitigation into 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.

District Administration

At the District level, DDMAAs will act as the District planning, coordinating and implementing body for disaster management and will take all measures for the purposes of disaster management in the District in accordance with the guidelines laid down by NDMA and SDMA.

Management of Disasters Impacting more than one State

At times, the impact of disasters occurring in one State may spread over to the areas of other States. Similarly, preventive measures in respect of certain disasters, such as floods, etc., maybe required to be taken in one State, though the impact of their occurrence may affect another. The administrative hierarchy of the country is organized into National, State and District level administrations. This presents some difficulties in respect of disasters impacting more than one State. Management of such situations calls for a coordinated approach, which can respond to a range of issues quite different from those that normally present themselves, before, during and after the event. NDMA will encourage identification of such situations and promote the establishment of mechanisms on the lines of Mutual Aid Agreement for coordinated strategies for dealing with them by the States, Central Ministries and Departments and other agencies concerned.

Other Institutional arrangements

Armed Forces

Conceptually, the Armed Forces are called upon to assist the civil administration only when the situation is beyond their coping capability. In practice, however, the Armed Forces form an important part of the Government's response capacity and are immediate responders in all serious disaster situations. On account of their vast potential to meet any adverse challenge, speed of operational response and the resources and capabilities at their disposal, the Armed Forces have historically played a major role in emergency support functions. These include communication, search and rescue operations, health and medical facilities, and transportation, especially in the immediate aftermath of a disaster. Airlift, heli-lift and movement of assistance to neighbouring countries primarily fall within the expertise and domain of the Armed Forces.

The Armed Forces will participate in imparting training to trainers and DM managers, especially in CBRN aspects, heli-insertion, high-altitude rescue, watermanship and training of paramedics. At the National level, the Chief of the Integrated Defence Staff to the Chairman Chiefs of Staff Committee has already been included in the NEC. Similarly, at the State and District levels, the local representatives of the Armed Forces may be included in their executive committees to ensure closer coordination and cohesion.

Central Paramilitary Forces

The Central Paramilitary Forces (CPMFs), which are also the Armed Forces of the Union, play a key role at the time of immediate response to disasters. Besides contributing to the NDRF, they will develop adequate disaster management capabilities within their own forces and respond to disasters which may occur in the areas where they are posted. The local representatives of the CPMFs may be co-opted/invited in the executive committee at the State level.

State Police Forces and Fire Services

The State Police Forces and the Fire Services are crucial immediate responders to disasters. The Police Forces will be trained and the Fire Services upgraded to acquire multi-hazard rescue capability.

Civil Defence and Home Guards

The mandate of the Civil Defence and the Home Guards will be redefined to assign an effective role in the field of disaster management. They will be deployed for community preparedness and public awareness. A culture of voluntary reporting to duty stations in the event of any disaster will be promoted.

State Disaster Response Force (SDRF)

States will be encouraged to create response capabilities from within their existing resources. To start with, each State may aim at equipping and training one battalion equivalent 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. The States/UTs will also be encouraged to include DM training in their respective Police Training Colleges and basic and in-service courses, for gazetted and non-gazetted officers.

Role of National Cadet Corps (NCC), National Service Scheme (NSS) and *Nehru Yuva Kendra Sangathan* (NYKS)

Potential of these youth based organizations will be optimized to support all community based initiatives and DM training would be included in their programmes.

International Cooperation

Disasters do not recognize geographical boundaries. Major disasters may often may often simultaneously affect several countries. It will be the National endeavor to develop close cooperation and coordination with International organizations working in the area of disaster management.

The nature and extent of damage caused by cyclones and their associated floods is well known and at the same time, we also have awareness about most frequent cyclone affected coastal states. This necessitates us to evolve a strategy to face the cyclone events in an effective manner. A well prepared and scientific based multipronged approach is the need of the hour in which the role of various stakeholders working in the line of disaster management play significant role. Hence, the awareness about various acts and policies related to cyclone disaster management in India is highly essential. This will certainly pave the way for developing an integrated cyclone management plan thereby reducing the extent of damage to agriculture sector in India.

References

Chhotray, V. and Few, R. 2012. Post cyclone recovery and ongoing vulnerability: Ten years after the super cyclone of 1999 in Orissa, India. *Global Environment Change*, 22 (3): 695-702.

http://en.wikipedia.org/wiki/Disaster_Management_Act,_2005

<http://www.ndma.gov.in/images/guidelines/national-dm-policy2009.pdf>

National Policy on Disaster Management, 2009, GOI, MHA, New Delhi.p56.

Roy, C. and Kovordanyi, R. 2012. Tropical cyclone track forecasting techniques: A review. *Atmospheric research*. 104-105 : 40-69.
