Chapter 12

Action Plan for Flood/Flashflood

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12.1   Introduction

Floods/ Flashfloods are among the most common and destructive natural hazards causing extensive damage to infrastructure, public and private services, environment and economy. Recurring floods/Flashfloods losses have handicapped the economic development of the State. The frequency and intensity of floods has grown in the State over the years primarily because of the unplanned development and increased encroachment of flood plains.

These demands for better flood preparedness to make sure that appropriate and effective response measures are taken during flood emergency to minimize the loss of life and property. Apart from an effective disaster response system, it is important to have a good flood prevention and mitigation strategy to achieve the objectives of vulnerability reduction.

The Action Plan will consist of the following activities:

1. Declaration of Flood disaster
2. Flood Forecasting and Warning
3. Trigger mechanism
4. Response mechanism of the concerned line departments along with the roles and responsibilities
5. Relief

12.2   Declaration of Flood Disaster

The National Disaster Management Act, 2005 part-II 2(d) provides situation for the State Government to declare any area where earthquake has occurred as disaster affected area on the recommendations of the SDMA/DDMA of other Agencies. The purpose of declaration of disaster is to organize effective response and mitigating the earthquake effects. Such a declaration provides wide powers and responsibilities to the District Administration in order to handle the incident effectively.

12.3   Flood Forecasting and Warning

Flood/flashflood forecasting is a process whereby the authorities are alerted to impending conditions where floods may be likely. Flood forecasting requires understanding of meteorological and hydrological conditions, and is therefore the responsibility of the appropriate government agencies. National organization is required, but information needs to be made available at a river basin scale. This allows forecasting to integrate with flood warning arrangements

The main components of a national flood forecasting and warning system are as follows:

◆   Collection of real-time data and prediction of flood severity and time of onset of particular levels of flooding
◆   Preparation of warning messages, describing what is happening, predictions of what will happen and expected impact. Messages can also include what action should be taken.

- The communication and dissemination of such messages
- Interpretation of the predictions and other flood information to determine flood impacts on communities
- Response to the warnings by the agencies involved and communities
- Review of the warning system and improvement in the system after flood event
- If predictions fail, the reasons of prediction failure should be communicated to communities in order to establish trust.

For a flood warning system to work effectively, all these components must be present and they must be integrated with each other rather than operating in isolation.

12.4   Community Based flood forecasting and warning systems

It is important that the people in each community receive information as early as possible about the possibility of flooding in their area. In addition to the valuable information from the official flood warning system, communities should attempt to develop their own warning systems. At community level, it is important that warnings are received by all individuals. The way in which messages are disseminated in communities will depend on local conditions, but may include some or all of the following:

- Media warnings (print and electronic)
- General warning indicators, for example sirens/ announcement(mobile and fixed) etc
- Warnings delivered to areas by community leaders or emergency services
- Dedicated automatic telephone warnings to at-risk properties
- Information about flooding and flood conditions in communities upstream. One approach to disseminating messages is to pass warning messages from village to village as the flood moves downstream
- Keep watch and be regularly informed about the river level and embankment conditions in the local area. The monitoring of the river and embankment should be increased as the water level increases and crosses the critical danger level
- A community-based warning system to pass any information about an approaching flood to every family.

12.5   Involvement of communities in data collection and local flood warning systems

If communities become involved in data collection for flood forecasting, and the importance of their role is understood, a sense of ownership is developed. Individuals can be appointed for the following tasks:

- Taking care of installations/ equipments
- Trained as gauge readers for manual instruments (rain gauges, water level recorders)
- Radio operators to report real-time observations

Trained individuals within the community should be able to gather and update information to:

- Know the depth of past severe floods /flashflood in the local area
- Know the causes of flooding in the local area
- Know how quickly the waters might rise
- Know how long the floodwaters might remain in the locality
- Know the direction of movement of the floodwaters

The involvement of members of the community also helps to prevent vandalism and damage to installations going unreported.

12.6   Procedure for disseminating warnings to remote areas

Communities in remote areas may not be able to receive the types of warnings described in the previous section. Responsibilities need to be defined clearly for lower tiers of administration and the emergency services to have predefined links with communities in remote areas.

This should include;

- Local radio, which should be supplied with clear and accurate information
- Use of appointed community wardens with direct two-way radio or mobile telephone access to warning agencies and emergency authorities
- Local means of raising alarms, for example church bells, sirens, loud hailers, loudspeakers etc. The latter could be the responsibility of selected individuals or wardens, who need to be provided with equipment and transport, for example motor cycles or bicycles;
- 'Sky Shout' from emergency service helicopters.
- High Priority Telegram
- Doordarshan and the local cable channels (TV channels & radio Channels including FM radio etc)
- Bulletins in the Press
- Satellite Based disaster Warning Systems
- Fax
- Telephone

12.7   Trigger Mechanism: Plan Activation

The flood response system will be activated on the occurrence of a heavy rain. The SEC will activate all the Departments for emergency response including the State EOC and instructions to include the following details:

- Specify exact resources required
- The type of assistance to be provided
- The time limit within which assistance is needed

- ◆ The state, district or other contact persons/agencies for the provision of the assistance
- ◆ Other Task Forces with which coordination should take place

The State EOC and other control rooms at the state level as well as District Control Rooms should be activated with full strength. The state Government may publish a notification in the official gazette, declaring such area to be disaster-affected area.

12.8 Triggering Mechanism for Deployment of IRT

On receipt of information regarding the impending disaster, the EOC will inform the RO, who in turn will activate the required IRT and mobilise resources. The scale of their deployment will depend on the magnitude of the incident.

At times the information about an incident may be received only on its occurrence without any warning. In such cases the local IRT (District, Sub-Division, Circle/ Block) as the case may be, will respond and inform the higher authority and if required seek reinforcement and guidance.

The measures decided to be taken for response will be jotted down by the Command Staff and later handed over to PS. It will thus form the initial IAP.

Table 29: Roles and Responsibilities

Sl.No.	Response To be Taken	
1.	Reporting the occurrence of flood/ flashflood to SDMA, Heads of line departments, Chief Secretary and Chief Minister's office and National Disaster Management Authority Control Room, GoI, MHA Control room, GoI, NERC Control room, GoI	SEC/ SEOC DDMA/ DEOC Distt. Adm
2.	Establish communication links by alternate communication equipments like phone, radio etc. in state/district EOC control rooms.	SEC/Police Dept./BSNL
3.	Deployment of Mobile Emergency Communication Units to affected areas for establishing communication links.	SEC/Police Dept./GA/ DA
4.	Verifying authenticity of flood from agencies like IMD, SSNL and also from Districts control rooms.	SEC/DDMA
5.	Hold first meeting with Duty Officers	SEC/GA/DA
6.	Contact the Heads of all the line departments to reach State EOC	SEOC/DEOC
7.	Dispatch of Search & Rescue teams to the affected areas.	SEC/SEOC/Home/DDMA
8.	Make arrangements for the aerial survey of affected areas.	SDMA/SEC/SEOC
9.	Instruct local administration to evacuate victims to safer sites	SEC/SEOC/DDMA
10.	Assess the condition of road and rail network for quick mobilization of Emergency teams and resources to affected areas and take follow up steps.	SEC/Line Dept.
11.	Maintain constant touch with National/District EOCs	SEOC/DDMA

Source: GSDMA

Table 30: Distribution of activities among various state agencies during Relief

Sl.No.	Response To be Taken	Responsible Department
1.	Providing temporary shelters to evacuated persons	GA DA/Dist. Admn.
2.	Providing food materials to the victims	GA DA/Dist. Admn.
3.	Providing safe drinking water to the victims	PHE Dept.
4.	Provision of hygienic sanitation facilities	UD/Health/PHED/Power Deptt./ NGOs/community Group/Dist. Admn.
5.	Provision of health assistance	Health Dept.
6.	Clothing and utensils	DA/Civil Supplies.
7.	Relief camps	Dist. Admn./Transport.
8.	Providing transport services to shelter sites	Transport.

12.9   Relief

12.9.1 Short-term relief measures

◆ **Food & nutrition**

In an extreme flood situation, loss of standing crops and stored food grains, in such cases, free distribution of foods shall be made to avoid hunger and starvation including malnutrition. Wherever possible, dry rations should be distributed for home cooking.

◆ **Water**

Water supply is invariably affected in natural disasters. Availability of safe drinking water is very challenging particularly during floods. It must be ensured that affected people have adequate facilities and supplies to collect, store and use clear and safe water for drinking, cooking and personal hygiene.

◆ **Health**

During post disaster phase many factors increase the risk of diseases and epidemics because of overcrowding, inadequate quantity and quality of water, poor environmental and sanitary conditions, decaying biological matter, water stagnation, inadequate shelter and food supplies. There should be adequate supply of medicines, disinfectants, fumigants etc. to check outbreak of epidemics. It should be ensured that the medicines have not expired.

◆ **Clothing & Utensils**

The people affected by the disaster shall be provided with sufficient clothing, blankets etc. to ensure their safety and well-being. Each disaster-affected household shall be provided with cooking and eating utensils.

◆ **Shelter**

In case of flood, a large number of people are rendered homeless. In such situations shelter becomes a critical factor for survival and safety of the affected population. In view of this, flood affected people who have lost their houses, shall be provided sufficient covered space for shelter/ space in relief camps. Disaster-affected households shall be provided with necessary tools, equipment and materials for repair, reconstruction and maintenance for safe use of their shelter as far as practical and as assessed by district administration on the basis of the availability of fund.

◆ **Relief camp**

Relief camps also provide good temporary arrangements for people affected by flood. Adequate numbers of buildings or open space should be identified where relief camps can be set up during emergency. The use of premises of educational institutions for setting up relief camps should be encouraged. The requirements for operation of relief camps should be worked out in detail in advance. The temporary relief camps should have adequate provision of drinking water and bathing, sanitation and essential health-care facilities.

◆ **Sanitation and Hygiene**

Sanitation services are crucial to prevent an outbreak of epidemics in post disaster phase. Therefore a constant monitoring of any such possibilities needs to be carried out. It should be ensured that disaster-affected households have access to sufficient hygiene measures

12.9.2. Interim Relief Measures

◆ Arrangements to be made for quick identification and maintenance of the records of disposal of dead bodies/ carcass in the affected areas. (Home Dept., DDMA, Dist.Admn, DM Dept., Health Dept., AH&Vety and Local Authorities).

◆ Arrangements to be made to record the complaints of all persons reported missing. Follow up action in terms of verification of the report also needs to be made. (Home Dept./Dist.Admn)

◆ District Magistrates and Sub-Divisional magistrates to be empowered to exempt the requirement of identification and post-mortem in case of mass casualties. (GADA/Home Dept./ SDMA/SEC)

◆ Unclaimed/unidentified dead bodies to be disposed off with the help of pre identified voluntary Agencies at the earliest after keeping their records observing all codal formalities. (Home Dept.,GADA, Health Dept., DDMA, Dist.Admn, & Local Bodies)

◆ Additional manpower to be deployed in the affected areas for supplementing the efforts of the local administration. (GADA /Home Dept).

◆ Separate Cell to be established at state/district level to coordinate with the NGOs and outside donor/aid agencies. (GADA /Home Dept /DDMA/Dist.Admn/DM Dept.)

◆ Regular meetings of the different stakeholders/departments should be organized at state level for sharing information, developing strategies for relief operations. (SEC/Secy.DM/DDMA & Deputy Commissioner at District Level). .

◆ Information & Public Relation Dept to coordinate with the media to play a positive role in disseminating appropriate information to public and the government in order to facilitate the speedy recovery. (IPR Dept.)

12.9.3. Assessment of Damage/Loss and Relief needs

◆ The Secretary DM /SEC to issue instructions to the Deputy Commissioner to provide the 'Need Assessment Report".

◆ The Secretary DM /SEC to issue instructions to the Deputy Commissioner to provide the 'Damage and Loss Assessment Report'. Consolidated the same and to prepare 'State's Damage and Loss Assessment Report' which will be useful in planning and implementing the relief operations for disaster victims..

◆ Adequate manpower, vehicles, stationery etc. should be provided to supplement the efforts for need/loss assessment. (DM Dept.)

◆ The relief need assessment report should be provided by the DC.

◆ Identification and demolition of dangerous structures in the affected areas to minimize further loss of life and injuries. (Concerned Dept.,DDMA, Dist.Admn and Local Bodies)

◆ Arrangements for distribution of gratuitous relief and cash doles. (DDMA, Dist.Admn, Home Dept. , SEC/Dept. of DM)

◆ Arrangements to be made for survey of human loss and distribution of ex-gratia relief to the families of deceased persons. (DDMA, Dist.Admn, Home Dept. , SEC/Dept. of DM)

◆ Teams to be formed and dispatched to the affected areas for detailed assessment of houses and property damage assessment. (Dist.Admn,DDMA,SEC, Dept. of DM and Local authorities)