

Chapter 11

Action Plan for Earthquake

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11.1 Introduction

The Earthquake Vulnerability Atlas of India reveals that entire state of Arunachal Pradesh falls under Very High Risk for earthquake, i.e. seismic zone V. This Chapter will mainly focus on the Action Plan of the State Government to manage earthquake disaster in case of its occurrence.

The Action Plan will consist of the following five activities:

- i) Declaration of earthquake disaster
- ii) Institutional mechanism of the State Government to respond to earthquake disaster
- iii) Trigger mechanism on receiving the report of occurrence of an earthquake
- iv) Response mechanism of the concerned line departments along with the roles and responsibilities of each one of them and
- v) Immediate relief to be provided to the affected population

11.2 Declaration of earthquake 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. 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..

11.3 Institutional mechanism of the State Government to respond to earthquake disaster

11.3.1 Trigger mechanism on receiving the report of occurrence of an earthquake

An earthquake of magnitude 5 or more is likely to cause deaths and injuries to human beings and damage to all kinds of property, both private and public. Unfortunately there is very little warning available before the earthquake. Therefore planning should cater for a quick response at all levels to reduce the effects of the earthquake to the minimum.

The Disaster Management department of the State will be the nodal department for formulating, controlling, monitoring and directing measures for earthquake preparedness, organizing rescue, relief and rehabilitation. All other concerned departments should extend full cooperation in all matters pertaining to the management of the earthquake disaster whenever it occurs.

The occurrence of an earthquake may be reported by the Indian Meteorological Department (IMD) / National Geophysical Research Institute (NGRI) / Institute of Seismological Research (ISR) to the Secretary DM/SEOC/SEC/SDMA by the fastest means. The State Crisis Management Committee (SCMC) under the chairmanship of the Chief Secretary should be activated immediately on the occurrence of any major earthquake.

Besides these, the SEOC also receives reports on the earthquake from district and levels. On receipt of the information, the SEOC verifies the authenticity of the reports and will inform the real situation to concerned authorities. The State government may, by notification published in the official gazette and in any one or more news papers having widest circulation in the area.

11.3.2 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.

11.4 Response mechanism of the concerned line departments along with the roles and responsibilities of each one of them

11.4.1 Information and reporting:

- ◆ The agencies who provide information to the SEOC about the occurrence of an earthquake in the State are as shown below:
 - * IMD, New Delhi
 - * Institute of Seismological Research, Ahmadabad
 - * MHA control room
 - * NDMA control room
 - * National Earthquake Response center (NERC) control room
 - * North Eastern Space Applications Centre (NESAC), Meghalaya
 - * National Geophysical Research Institute (NGRI)
 - * North East Institute for Science and Technology (NEIST), Jorhat
 - * District Emergency Operation Center (DEOC)

- ◆ The SEOC should be activated for emergency response on the occurrence of any major earthquake. The SEOC should initiate following activities:
 - i) State EOC should report the occurrence of a major earthquake to the following:
 - * Principal Secretary (Disaster Management)
 - * SDMA
 - * Chief Secretary of the State/ Principal Secretary Home/DGP
 - * Members of Crisis Management Committee
 - * Chief Minister
 - * Disaster Management Minister
 - * National Disaster Management Authority Control Room
 - * MHA, GOI Control Room
 - * NERC,GOI, Control Room
 - * Vice Chairman, National Disaster Management Authority (NDMA)
 - * Secretary ,DM, MHA
 - ii) State EOC to alert state search and rescue machinery for emergency response as also fire brigade personnel.
 - iii) State EOC to verify the authenticity of the information from authorized scientific agencies as well as district control rooms.
 - iv) State EOC to contact its regular and emergency staff to report immediately.
 - v) All Secretaries of the State Departments to be contacted to be available in the EOC immediately.
 - vi) State EOC to remain in constant touch with control rooms at national district level.
 - vii) Overall management of state EOC shall be taken over by the SDMA
- ◆ On receipt of information, SDMA to:
 - * Contact all member of Crisis Management Group to inform them about the venue and time of first meeting (chaired by Chief Secretary) to assess the situation and decide the course of action to be adopted by the State government
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 - * Issue instructions to all Departments to ensure that all State Government employees to report for duty immediately in order to execute their responsibilities as mentioned in their departmental Earthquake Management Plan.
 - * Instruct all Line Departments to ensure their duty officers to remain available round the clock in State EOC with full updated information of the activities of their departments.

- * Prepare and submit daily situation report to Government of India, SEC, Chief Secretary, Principal Secretary (DM), State Disaster Management Authority etc.
- * If necessary depute senior state level officers to worst affected area for effective implementation and supervision of Relief Operation.
- * Mobilize additional manpower from the departments to the affected district for supporting the Relief Operation. They should be provided task force action Plans of the concerned district prepared earlier.
- ◆ Management of Media (Press/TV Channels/Government Press Notes etc) to be carried out by the Secretary (IPR) with special emphasis on rumor control. He shall maintain constant liaison with Commissioner of Relief.

11.4.2 Restoration of lines of communications and essential services to facilitate emergency response:

- ◆ Establishment of Emergency Communication
- ◆ Restoration of Communication Links (Road & Air)
- ◆ Restoration of power and electricity
- ◆ Supply of safe drinking water
- ◆ Restoration of essential lifeline infrastructure

11.4.3 Search, Rescue and Medical assistance

- ◆ Identification of areas where SAR Teams to be deployed
- ◆ Coordination of SAR teams for their quick deployment in allotted areas
- ◆ Provision of quick transport of SAR teams to affected areas.
- ◆ The Department of Roads and Buildings to evolve a mechanism for clearing access routes and debris in order to facilitate search and rescue operations.
- ◆ Mobilization of specialized equipments and machinery to affected areas.
- ◆ Cordoning of affected areas with control of entry and exit.
- ◆ Traffic Management by establishment of traffic points and check-posts.
- ◆ The Home Department to evolve a mechanism for providing security of properties of government and public in the affected areas.
- ◆ Setting up of field hospitals in the affected areas and deployment of mobile hospitals.
- ◆ Arrangements to be made for quick transportation of injured victims to the hospitals.
- ◆ Secretary (Health) to evolve a mechanism for speedy treatment of casualties.

11.4.4 Emergency relief (shelter, food, clothing, etc.)

- (a) Establishment of Temporary shelters for evacuees
- (b) Ensuring provision of essential services as under:
 - * Arrangement for food, clothing, blanket/bedding, drinking water, sanitation and hygiene, lighting arrangements and essential medicines.

- * Deployment of mobile hospitals in affected areas for treatment of victims.
 - * Providing counseling services to the earthquake victims and their relatives.
- (c) Arrangement for providing transport facility to send dead bodies of non-locals to their natives. The administration should also ensure Law and Order during shifting of the dead bodies.
- (d) Ensure establishment of communication link between the affected people and their relatives outside.

A Task and Responsibility Matrix for Emergency Response Phase (first 72 Hours of the incident) is given below;

Table 28 : Task & Responsibility Matrix for Emergency Response Phase (First 72 Hours of the Incident)

Time Frame	Sr.No.	Task	Responsibility
0 + 15 Minutes	1	Report the occurrence of earthquake to SDMA/ SEC/ DEOC, Heads of all line departments, Chief Secretary and Chief Minister's Office and National Disaster Management EOC at MHA, GoI	<ul style="list-style-type: none"> ◆ IMD ◆ SRSAC ◆ S&T ◆ NRSC ◆ NEIST
0 + 30 Minutes			
	2	Establish communication link by activating alternate communication equipment i.e. satellite phone, HF / VHF set, HAM Radio, VSAT etc. in State / District EOCs control rooms	SDMA/DDMA/ State Police
	3	Instruct deployment of Mobile Emergency communication Units to affected areas for establishing communication link	BSNL
	4	Verify the authenticity of the incident from agencies like IMD, S& T, NRSC, NEIST and also from District control rooms, Police and Fire Brigade control rooms	SEC/SEOC
	5	In case of L-2 level event, overall management of SEOC shall be taken over by SDMA	SEC
	6	Instruct duty officers of line departments to report in SEOC	SEC

Time Frame	Sr.No.	Task	Responsibility
	7	Hold first meeting with duty officers	SEC
	8	Contact the Heads of all line departments including the Information Department to reach SEOC	SEC
	9	Alert DEOC/DDMA for quick mobilization to affected areas	SEC/SEOC
	10	Request for the services of NDRF and Armed forces, if required through designated representative	SDMA/SEC
0 + 1 Hour			
	11	Instruct both regular and emergency staff of EOC to report for duty	SEC
	12	Dispatch of Search & Rescue teams to the affected areas	SDMA/SEC
	13	Instruct Quick Assessment Task Force to submit preliminary need and loss assessment report of the affected areas	SDMA/DDMA
	14	Alert Quick Medical Response Teams to the affected areas	SDMA/SEC/DDMA
	15	Make arrangements for aerial survey of the affected areas	SDMA/SEC/DDMA
	16	Instruct local administration to evacuate victims to safer sites	SDMA/DDMA
	17	Contact Chief Secretary for deciding on time and venue for holding Crisis Management Group (CMG) meeting at the earliest	SEC
	18	Inform all CMG members to attend CMG meeting in designated venue to assess situation and review emergency measures	SEC/SEOC
	19	Instruct concerned authorities or Agencies to shut down critical operations	SDMA/SEC
	20	Contact BISAG, NSRA, ISRO and Ministry of Defence for aerial / satellite imageries of the affected areas	SDMA/SEC

Time Frame	Sr.No.	Task	Responsibility
0 + 2 Minutes			
	21	Inform GAD to ensure all State Government employees report for emergency duties within half an hour	SDMA/DDMA
	22	CMG to assess situation, delegate responsibilities for organizing rescue and relief operations	SDMA
	23	Senior State level officers to be deputed to the affected areas	SDMA/SEC
	24	Activate Operations Section of ICS for Emergency Response Operation	SDMA/SEC
	25	Assess the conditions of road, rail and air communication link for quick mobilization of Emergency Teams and resources to affected areas and take follow up actions	SDMA/SEC
	26	Director, Information and Secretary - (I & B) to establish media management / information cell for public information, guidance and rumor control	SEC
	27	Request may be made for assistance from Central Government (MHA and MOD) if required	SDMA
	28	Request the nearest headquarters of the Armed Forces to render assistance in emergency search, rescue and relief operations	SDMA
	29	Contact private / public sector agencies in the State to assist in emergency rescue and relief operations	SDMA/SEC/DDMA
	30	Inform Secretaries of the departments to provide necessary logistics support to emergency operation task forces	SDMA/SEC
	31	If necessary, assistance may be asked from neighboring states and outside agencies	SDMA
	32	Set up separate desks for each operation task force and NGO coordination desk in the SEOC for coordinating emergency operations	SDMA/SEC/DDMA

Time Frame	Sr.No.	Task	Responsibility
	33	Provide security in affected areas and maintain law and order situation	SDMA/Home Dept/DDMA
	34	Mobilize Medical First Response Teams to affected areas	SEC/Secy. Health
	35	Mobilize SAR Teams and search & rescue equipment and machinery to affected areas	SEC/Home/ Police Dept.
	36	Instruct district information officers to establish information centre near affected areas to provide guidance to volunteers and aid agencies	SEC/Secy.IPR
0 + 3 Hours			
	37	Make suitable transportation arrangement for mobilization of quick response teams to the affected areas	SDMA/SEC/DDMA
	38	Maintain constant touch with the National / District EOCs	SEC/DDMA
	39	Establish Press / Media Centre for media management and information dissemination	SEC/Secy. IPR
	40	Arrange for press / media release for rumour control and public information and guidance	SEC/Secy. IPR
	41	Alert all major hospitals to make necessary arrangement for treatment of injured	SEC/Secy. Health
0 + 6 Hours			
	42	Establish relief coordination centre at the airport, railway station, etc. for arrival of Search @ Rescue and Medical Teams coming for humanitarian aid	SDMA/SEC/DDMA
	43	Establish central relief coordination centre nearer to State Head Quarter	SDMA/DDMA/ Home Dept.
	44	Instruct to cordon affected areas and setting up of check posts to control entry and exit	SDMA/Home Dept.
	45	Open access routes and manage traffic for mobilization of equipment, machinery and volunteers to the affected areas	Home Dept. / Secy. transport.
	46	Conduct aerial survey and also mobilize quick assessment teams to affected areas	SDMA/SEC

Time Frame	Sr.No.	Task	Responsibility
	47	Establish information centres at the arrival and departure points especially at the airports, railway stations and interstate bus terminus	Secy.IPR
0 + 12 Hours			
	48	Mobilize relief materials i.e. tents, food materials, water, essential medicines, blankets, etc. to the affected districts and areas.	SDMA/SEC/ DDMA/line dept.
	49	Arrange to shift evacuated persons to temporary shelters and ensure provision of food, water facilities, blankets and storage of relief materials	SDMA/DDMA/ Line dept.
	50	Arrange road, rail and air transport at State / District headquarters for dispatch of relief materials to the affected areas	Secy. Transport
	51	Set up field hospitals near the affected areas	Secy. Health
	52	Arrange to shift injured persons to field hospitals	Secy. Health
	53	Instruct district Admin/Deputy Commissioner to establish relief coordination centre and godowns near affected area and provide full security cover as well	Home/DDMA/ Secy. civil supplies.
	54	Prepare quick need assessment report for planning of relief operation and mobilization of resources to the affected areas	SDMA/SEC/ DDMA/Line Dept.
0 + 24 Hours			
	55	Instruct to set up Coordination Centres at the Resident Commissioner's Office in New Delhi and other Metro Cities as well	SDMA/SEC
	56	Hold review meetings with Duty Officers in every 12 hours	SEC
	57	Prepare and circulate the situation report	SEC/SEOC
	58	Prepare press notes twice a day	SEC/SEOC
	59	Depute additional officers and supporting staff to affected areas from non-affected areas	SEC/DA
	60	Restore essential services i.e. power, water supply, telecommunication facilities of SEOC, headquarter, AIR, Doordarshan, Governor, Chief Minister, senior officials of the State bureaucracy on priority basis	SEC/DDMA/Line Dept.

Time Frame	Sr.No.	Task	Responsibility
	61	Coordinate with Emergency Operation Task Forces mobilized to the affected areas	S D M A / S E C / DDMA
0 + 48 Hours			
	62	Ensure safety and security of personnel deputed in affected areas for emergency response operation	PS(Home)
	63	Earmark storage point for medical supplies at affected sites	Secy. Health
	64	Arrange for identification, photograph, post mortem and maintenance of records for disposal of dead bodies	Secy. Health
	65	Arrange information centre at shelter site for maintaining records of victims and to provide guidance to relatives, NGOs, etc.	GA
	66	Arrange for complaints regarding missing persons and initiate search in shelters, hospitals and police records	S E O C / D D M A / D E O C
	67	Arrange for SDMs empowerment for waiving off post mortem of dead bodies	GA
	68	Arrange for additional manpower if necessary for disposal of dead bodies	GA / DA
	69	Arrange for transportation of dead bodies to their native places if so required	Secy. Health/Transport
0 + 72 Hours			
	70	Arrange for disposal of unidentified and unclaimed dead bodies	GA/DA/Health
	71	Arrange for transportation of injured from field hospitals to base hospitals	Secy. Health/Transport/DA
	72	Activate short and interim relief measures	SDMA/Line Dept.
	73	Arrange for distribution of cash doles to the victims	GA/DA

Source: GSDMA

11.5 Immediate relief to be provided to the affected population

11.5.1 Short-Term Relief Measures

- (1) Provide temporary shelters to affected people
- (2) Evacuation site should be safe, and easily accessible.

- (3) Continue to provide essential services to the affected people i.e. food, water, clothing, sanitation and medical assistance

The SEC /Deptt. OfDM to ensure the following in the relief camps through DDMA's/ Dist.Admn:

- ◆ Special emphasis on Hygiene and sanitation aspects should be given in relief camp sites.
- ◆ Separate area should be earmarked within the relief camp for storage of relief materials.
- ◆ Adequate manpower and transport facilities for the camp site.
- ◆ Arrangements to be made for trauma management.
- ◆ Mobile medical units to be sent to remote areas with a view to provide medical assistance to the victims/injured.
- ◆ Information centre should be established by the District Administration.

11.5.2 Interim Relief Measures

- ◆ Arrangements to be made for identification and maintenance of the records of disposal of dead bodies/ carcass following codal formalities in the affected areas..
- ◆ 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.
- ◆ ADC/ SDO/ EAC/ BDO/ CO to be empowered to exempt the requirement of post-mortem in case of mass casualties. GA/ DA Dept may depute additional SDMs to expedite disposal of the dead bodies.
- ◆ Unclaimed/unidentified dead bodies to be disposed off at the earliest after keeping their records.
- ◆ Additional manpower to be deployed in the affected areas for supplementing the efforts of the local administration
- ◆ Separate Cell to be established at state/district level to coordinate with the NGOs/ CBOs/ outside donor/ aid agencies etc
- ◆ Regular meetings of the different stakeholders/ departments should be organized at state level for sharing of information, developing strategies for relief operations.
- ◆ IPR 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.

11.5.3 Assessment of Damage / Loss and Relief needs

- ◆ The Dept.of DM/SEC/ SDMA to issue instructions to the District Administration and concerned Depts. to provide 'the need and loss assessment'.
- ◆ Adequate manpower, vehicles, stationery etc should be provided to supplement the efforts for need/loss assessment
- ◆ Identification and demolition of dangerous structures in the affected areas to minimize further loss of life and injuries

- ◆ Arrangements for debris removal and its appropriate disposal.
- ◆ Arrangements for distribution of gratuitous relief and cash doles.
- ◆ Arrangements to be made for survey of human loss and distribution of ex-gratia relief to the families of deceased persons.
- ◆ Teams to be formed and dispatched to the affected areas for detailed assessment of houses and property assessment.
- ◆ As reconstruction of houses will take a long period, arrangements to be made to provide interim shelters to the affected
- ◆ Identification of the site for interim shelters
- ◆ Allocation of areas to the affected families
- ◆ Providing essential items and services at the interim shelter sites such as water/ power/ drainage / sanitation/ food/ medicines etc.
- ◆ Distribution of shelter materials to individual families