

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION No. 5293  
TO BE ANSWERED ON WEDNESDAY, 5<sup>TH</sup> APRIL, 2023**

**POSSIBILITY OF EARTHQUAKE**

**5293. SHRI S. MUNISWAMY:**

Will the Minister of Earth Sciences be pleased to state:

- (a) the details of the steps/ precautions taken by the disaster management department for possible earthquakes;
- (b) whether the Government enacted the National Disaster Management Act to spearhead and implement a holistic and integrated approach for disaster management;
- (c) if so, the details thereof;
- (d) whether the Government is working inline with the Act, the State Government and organizations like the Rashtriya Life Saving Society (India) to come to the rescue of people during disasters, if so, the details in this regard;
- (e) whether there are any scholarships to students seeking research and development in seismology, if so, the details thereof;
- (f) if not, whether the Government is likely to take a fresh look in view of frequent earthquakes in the country; and
- (g) if so, the details in this regard?

**ANSWER**

THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR  
MINISTRY OF SCIENCE AND TECHNOLOGY  
AND EARTH SCIENCES  
(DR. JITENDRA SINGH)

- (a) The details of steps/precautions taken by NDMA in this regard is enclosed at **Annexure**.
- (b) & (c) Government enacted the Disaster Management (DM) Act, 2005 for holistic, integrated and effective approach for Disaster Management. As per the provisions under the DM Act, 2005, the actions taken with regard to holistic and integrated approach to Disaster Management are enclosed at **Annexure A**.
- (d) Yes Sir, as per DM Act 2005, State Government have prepared their Disaster Management plan to effectively prepare, mitigate and respond to any disaster situation. Organization like State Disaster Response Force (SDRF), National Disaster Response Force (NDRF), AapdaMitra and other first responders immediately start the Search and rescue operation during any Disaster.

NDMA implemented the Pilot Scheme of Aapda Mitra covering 30 districts of 25 States and trained 5513 volunteers in disaster response (flood) with the basic skills so that they can respond to their community's immediate needs in the aftermath of a disaster such as floods, flash-floods, urban flooding and to undertake basic relief and rescue tasks. Based on the success of Pilot Scheme as well as request from the States/UTs to up-scale the Scheme in more districts and train more volunteers, NDMA is implementing Up-scaling of Aapda Mitra Scheme covering 350 districts (across all States/UTs) highly prone to flood, landslide, cyclone and earthquake to train 1,00,000 community volunteers in disaster response by March, 2024. So far, 71873 volunteers have been trained.

- (e) Apart from various National level examinations for research fellowships, Scientific ministries including Ministry of Earth Sciences do offer research fellowships in the contemporary areas of Science including Seismology and allied fields through research projects to encourage students seeking career in the field of Seismological research.
- (f) NDMA is concerned about the frequent earthquakes in the country and therefore, from time to time conducts several awareness and sensitization programmes as well as mock exercises.
- (g) An earthquake risk mitigation programme is being currently prepared.

## Annexure

The Institutional Mechanism was established by Government of India through Disaster Management Act, 2005 to mitigate disasters in the country.

1. NDMA has been actively facilitating the conduct of State and Multi State Level Mock Exercises on various hazards like Earthquakes, Floods, Landslides, Cyclones and Chemical (Industrial) disasters in close co-ordination with States and UTs. These Mock Exercises consists of an Orientation & Coordination Conference, Table Top Exercise and Physical Mock Exercises during which first responders, various stakeholders and resources including Early Warning Agencies, CAPFs, NDRF and Armed Forces are mobilized across the State / UTs.

Integrated Mock Exercises provide an optimal, cost-effective means for generating awareness about the Incident Response System-Incident Response Team construct, and for building capacity of States / Union Territories (UTs) to respond effectively to any disaster situation.

2. The details of physical mock exercise as well as online IRS Training and Table Top Exercises (TTEEx) conducted on earthquake scenario during 2020, 2021, 2022 and 2023 (upto 31 Mar 2023) is given in **Annexure-B**.
3. As per the Revised SOP for issuing Alerts and electronic messaging in the events of Disaster situation issued by DM Division, MHA order No. 40-3/2015- DM-I (A) dated 15.12.2017 and updated SOP for responding of Natural Disasters order No. 32-35/2003 NDM-II dated 22.03.2021 response lies with MHA. As per this SOP MHA has been made responsible to issues alerts and electronic messages to all Stake Holders in the event of Disaster Situations and NDMA is also in the list of recipient.
4. NDMA has developed following guidelines to reduce earthquake and Tsunami risk, and minimize the impact, loss of lives, and damage to property caused by Earthquakes.
  - i. Management of Earthquake (2007)
  - ii. Management of Tsunamis (2010)
  - iii. Home Owner's Guide for Earthquake & Cyclone safety (2019)
  - iv. A Primer on Rapid Visual Screening (RVS) Consolidating Earthquake Safety Assessment Efforts in India (2020)
  - v. Simplified Guidelines for Earthquake Safety (2021)
  - vi. Above mentioned guidelines can be accessed through <https://ndma.gov.in/Governance/Guidelines>

5. To reduce the losses, following are earthquake mitigation projects that NDMA has completed or is currently working on:
  - i. R&D projects such as ‘Probabilistic Seismic Hazard Assessment Map’, Seismic Design of Pipelines–Code of Practice, Guidelines on Performance-Based Design, and ‘Detailing of New Structures – Steel Buildings’.
  - ii. Earthquake Disaster Risk Index (2019), available on NDMA's website: <https://ndma.gov.in/Resources/Reports-Studies>
  - iii. Resource Mapping of Earthquake engineering faculties in Engineering / Architect Colleges
  - iv. Compendium of Traditional Earthquake Resilient Construction Practices for Knowledge Sharing and Disaster Risk Reduction: Promotion of Traditional Construction Practices (ongoing)
  - v. Development of Teaching Resource Materials on Earthquake Engineering for Undergraduate Courses in Engineering/ Architects Colleges for Technical Education (ongoing)
  - vi. Bihar, Uttar Pradesh, and Uttarakhand earthquake Scenario Development for Awareness Campaign (ongoing)
  - vii. Pilot Project to improve earthquake Resiliency of Masonry Lifeline Structures and upcoming constructions (Ongoing)
  - viii. Comprehensive National Earthquake Risk Mitigation Programme (CNERMP)- In Pipeline
  
6. NDMA runs awareness generation campaigns on various disasters including Earthquake, throughout the year, from time to time, through TV, Radio and Social Media to inform, educate and to make the public aware about preparedness before disaster, precautions and safeguards during a disaster and post disaster scenarios. These awareness generation campaigns include do's & don'ts in the form of short films, messages, etc. In addition, NDMA also arranges Panel Discussion/ Talks with experts on DD News on various disasters including Earthquake and issues a Newsletter to all stakeholders digitally.

## Annexure-A

- (i) National Policy on Disaster Management 2009 was released on 18<sup>th</sup> January 2010. It portrays a paradigm shift from erstwhile 'Response-Centric' approach to the holistic management of disasters with emphasis on Prevention, Preparedness and Mitigation.
- (ii) The first National Disaster Management Plan (NDMP) was prepared in May, 2016. The same was revised after extensive consultations in November, 2019. The revised plan includes new hazards (Thunderstorm, Lightning, Squall, Dust Storm, and Strong Wind, Cloudburst and Hailstorms, Glacial Lake Outburst Flood (GLOF), Heat wave, Biological and Public Health Emergencies (BPHE) / Forest Fire) etc. New chapters on Coherence and Mutual Reinforcement for DRR of the Post-2015 Global Frameworks / Social Inclusion / Mainstreaming DRR have been included and it also includes Climate Change Risk Management as new thematic area for climate risk informed DRR. The NDMP -2019 has delineated time bound actions for all concerned Ministries/Departments/Agencies and other stakeholders in order to match it with timelines of Sendai Framework for DRR. The Plan has been shared with Central Ministries / Departments, all States / UTs and other stakeholders so that they develop their plans and strategies accordingly to match the timelines of NDMP 2019 to achieve the Sendai targets as also for mainstreaming Disaster Risk Reduction.
- (iii) Disaster Management Plan (DMP) of Ministries/ Departments of Govt of India are reviewed and comments are sent on them. DMP of Ministries/ Departments are considered for approval if it satisfies the necessary requirements.
- (iv) NDMA has issued 33 guidelines on various thematic and cross-cutting subjects of disasters, including Guidelines on preparation of State Disaster Management Plan (SDMP). The guidelines contain roles and responsibilities of all stakeholders including actions to be taken by them to manage disaster risks due to these disasters. List of Guidelines **is attached**.
- (v) NDMA prepared Model Framework for Preparation of District Disaster Management Plan (DDMP) in June, 2014 to facilitate preparation of DDMP at District level in the State.
- (vi) NDMA prepared a template for preparation of Disaster Management Plan by the Central Ministries / Departments and it regularly holds discussions', meetings with the Ministries / Departments to discuss their disaster management preparedness.

**Details of guidelines issued by NDMA**

<b>S. No.</b>	<b>National Disaster Management Guidelines on</b>	<b>Month and year of preparation/ release</b>
1.	Management of Earthquakes	April 2007
2.	Management of Chemical Disasters (Industrial)	April 2007
3.	Preparation of State Disaster Management Plans	July 2007
4.	Medical Preparedness and Mass Casualty Management	October 2007
5.	Management of Floods	January 2008
6.	Management of Cyclones	April 2008
7.	Management of Biological Disasters	July 2008
8.	Management of Nuclear and Radiological Emergencies	February 2009
9.	Management of Landslides and Snow Avalanches	June 2009
10.	Management of Chemical (Terrorism) Disasters	June 2009
11.	Psycho-social support and mental health services in disasters	December 2009
12.	Incident Response System	July 2010
13.	Management of Tsunamis	August 2010
14.	Management of the Dead in the aftermath of Disasters	August 2010
15.	Management of Urban Flooding	September 2010
16.	Management of Drought	September 2010
17.	National Disaster Management Information and Communication System	February 2012
18.	Scaling, Type of Equipment and Training of Fire Services	April 2012
19.	Seismic Retrofitting of Deficient Buildings and Structures	June 2014
20.	School Safety Policy	Feb 2016
21.	Hospital Safety	Feb 2016
22.	Minimum Standards of Relief	Feb 2016
23.	Museums	May 2017
24.	Cultural Heritage Sites and Precincts	September 2017
25.	Boat Safety	September 2017
26.	Preparation of Action Plan – Prevention and Management of Thunderstorm & Lightening / Squall/ Dust/ Hailstorm and Strong Winds	March 2019
27.	Temporary Shelters for Disaster - Affected Families	September 2019
28.	Disability Inclusive Disaster Risk Reduction	September 2019
29.	Landslide Risk Management Strategy	September 2019
30.	Preparation of Action Plan – Prevention and Management of Heat Wave (Revised Guidelines).	October 2019
31.	Management of Glacial Lake Outburst Floods	October 2020
32.	National Guidelines for Preparation of Action Plan – Prevention and Management of cold Wave and Frost	June 2021
33.	Simplified Guideline for Earthquake Safety of Building from National Building Code of India 2016	September, 2021

## Annexure-B

The details of physical mock exercise as well as online IRS Training and Table Top Exercises (TTE) conducted on earthquake scenario during the last three years i.e. 2020, 2021, 2022 & 2023 (upto 31 Mar 2023) are as given below:

Year : 2020

S. No.	Date	Name of Disaster	State/Districts
1.	12 Feb 20	State Level ME on Earthquake	Arunachal Pradesh
2.	09 July 20	Earthquake (Preparatory Exercise)	Haryana (15 Distts Participated)
3.	20 July 20	Earthquake	J&K
4.	11 Aug 20	Earthquake	Mizoram
5.	28 Aug 20	Earthquake	Delhi
6.	09 Sep 20	Earthquake	Tripura
7.	10 Sep 20	Earthquake	Meghalaya (All Distts & State HQ)
8.	22 Sep 20	Earthquake	Nagaland
9.	25 Sep 20	Earthquake	Manipur
10.	25 Nov 20	Earthquake	Sikkim
11.	04 Dec 20	Earthquake	Assam
12.	10 Dec 20	Earthquake	Chandigarh
13.	12 Dec 20	Earthquake	Ladakh
14.	15 Jan 21	Earthquake	Uttarakhand
15.	28 Jan 21	Earthquake	Gujarat
16.	11 Feb 21	Earthquake	Arunachal Pradesh
17.	10 Mar 21	Earthquake	J&K
18.	03 Nov 2021	Earthquake	Mizoram (11 Districts)
19.	03 Dec 2021	Earthquake	Tripura (All 08 Districts)
20.	10 Dec 2021	Earthquake	Andaman Nicobar (02 Districts)
21.	04 Jan 2022	Earthquake	Jammu & Kashmir (20 Districts)
22.	10 Feb 2022	Earthquake	Arunachal Pradesh (25 Districts)
23.	23 Feb 2022	Earthquake	Meghalaya (12 Districts)
24.	25 Feb 2022	Earthquake	Nagaland (12 Districts)
25.	10 March 2022 (physical)	Earthquake	Sikkim (All Districts)
26.	16 March 2022	Earthquake	Ladakh (02 Districts)
27.	25 March 2022	Earthquake	Haryana (22 Districts)

28	21 Apr 2022 (Physical)	Earthquake	Manipur (All Districts)
29	08 Sep 2022 (Physical)	Earthquake	Ladakh (02 Districts)
30	20 Oct 2022 (Physical)	Earthquake	Tripura (08 Districts)
31	17 Nov 2022 (Physical)	Earthquake	Multi State Mock Exercise (Arunachal Pradesh, Assam & Nagaland)
32	24.01.2023 (Online)	Earthquake	Sikkim (06 Districts)
33	02 Feb 23 (Physical)	Earthquake	Mizoram (09 Districts)
34	22-24 Mar 23 (Physical)	Earthquake	Multi State Mock Exercise (Delhi NCR, Uttar Pradesh & Haryana)

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