

JULY 2019



# AAPDA SAMVAAD

## Mock Exercise on Earthquake Preparedness





**Annual Conference on Capacity Building**

A two-day “Annual Conference on Capacity Building of SDRFs, Civil Defence, Home Guard and Fire Services” was organised on June 29-30, 2019 at Vigyan Bhawan in New Delhi by the National Disaster Response Force (NDRF). Addressing the participants, Union Home Minister Shri Amit Shah exhorted all those working in disaster response and mitigation sectors to make India number one in this field.

The Minister said the nation has come a long way over the last two decades in its response to disasters and improved its capabilities in minimising loss of human lives and damage to economy.

He also pointed out that frequent forest fires breaking out in hilly regions is a growing threat which needs to be responded to effectively. He directed agencies concerned to conduct systematic analyses after each operation to identify possible weaknesses and measures to rectify them.

Shri Nityanand Rai, Minister of State (Home); Dr. P. K. Mishra, Additional Principal Secretary to the Prime Minister; Lt. Gen. N.C. Marwah (Retd.), Member NDMA; Shri Kamal Kishore, Member NDMA; Shri S. N. Pradhan, Director General, NDRF; Shri Rajiv Jain, Director, Intelligence Bureau; Shri Sanjeev Jindal, JS, MHA, and heads of CAPFs and SDRFs, Home Guards and Fire Services participated in the conference.

**Odisha Flood Hazard Atlas**

National Remote Sensing Centre, Hyderabad, in association with the Odisha State Disaster Management Authority and in coordination with NDMA has prepared the Flood Hazard Atlas for Odisha. It was released by Chief Minister of Odisha, Shri Naveen Patnaik, on June 22, 2019 in Bhubaneswar.

Floods in Odisha are a regular feature. The problem is further accentuated when a flood synchronizes





with a high tide, deposition of silt in the delta areas and overflow of rivers banks. This called for a flood hazard atlas, which would provide information on specific hazard zones and help to plan mitigation and response efforts.

It provides information on the areas of specific hazard zones, which would help in prioritizing mitigation and response efforts. An important non-structural measure, it will help disaster managers to address flood management-related issues efficiently.

### **Japanese delegation visits NDMA**

A Japanese delegation visited NDMA on June 17, 2019 to identify possible areas of collaboration on Disaster Risk Reduction (DRR).

Welcoming the delegates, Shri Kamal Kishore, Member, NDMA, highlighted the various ongoing dialogues and partnerships between the two countries and the need to converge them. "The meeting will take stock of what we have done so far, identify emerging areas of collaboration and the basis on which future collaborations would be built."

The deliberations focused on integrating expertise from diverse sectors in both countries, especially in the areas of understanding risks, Early Warning and Investment in DRR. Detailed discussions were held on how to promote resilient infrastructure, improved construction technologies, rain water harvesting, and flood forecasting, especially for urban flooding.

Senior officials from NDMA, Ministry of Home Affairs, Government of India and Cabinet Office, Japan participated in the meeting.



### **Gambian delegation visits NDMA**

NDMA officials on June 18, 2019 met a 25-member delegation from Gambia. The visit was a part of the Special Training Programme for Gambian civil servants organised by the National Centre for Good Governance, Mussoorie, from June 10-21, 2019.

The Programme aims to integrate cross-country experiences and best practices in field administration. It is led by the Ministry of External Affairs, Government of India.

To set the tone of the interaction, NDMA made a presentation on the global trends in disasters, the institutional mechanism for DRR in India and the functioning of the Authority. This was followed by a detailed discussion on relevant issues.

Knowledge exchange and sharing of best practices is an important tool for reducing risks and empowering vulnerable communities. Discussions at the meeting would mutually benefit both the countries in their efforts towards Disaster Risk Reduction.

### **Amarnath Yatra mock exercises**

The National Disaster Management Authority (NDMA) conducted mock exercises along the Baltal and Pahalgam routes ahead of the annual Amarnath Yatra.

The Yatra to the cave shrine in south Kashmir is being conducted from July 1 to August 15, 2019.

Mock exercises were conducted at critical areas along the Baltal and the Pahalgam-Chandanwari routes covering both natural as well as man-made disasters.



The mock exercises began with Co-ordination Conferences followed by Table-top Exercises.

Senior officials from all stakeholder departments attended these preparatory meetings and participated in the mock exercises.

### **Training Programme for CBRN emergencies**

NDMA conducted a five-day basic CBRN training programme at the Deendayal Port Trust in Kandla, Gujarat from June 10-14, 2019. The training programme helped enhance the preparedness of Seaport Emergency Handlers (SEHs) to respond to CBRN emergencies at the seaports.

This is the fourth in a series of such programmes that will be conducted at various seaports across the country to enable SEHs to respond suitably till the arrival of specialised response teams. Earlier in 2019, three batches of SEHs were trained at Mangalore, Kochi and Navi Mumbai.

CBRN (Chemical, Biological, Radiological and Nuclear) threats emanate at seaports due to arrival, storage and transportation of a large amount of chemical, petrochemical and other CBRN agents.

Around 50 participants representing various agencies responsible for operation and maintenance of the seaport were trained on various aspects of CBRN emergencies. Another 200 working level staff were sensitized on the subject in a half-day training programme.

### **Videoconference on Heat Wave preparedness**

NDMA conducted a review meeting of the heat wave prone States on June 21, 2019 to ensure effective preparedness and mitigation measures. Shri Kamal Kishore, Member, NDMA, who chaired the review meeting, emphasized upon the need to analyse as to

what went wrong given an increase in the number of heat related deaths in the country this year. He requested the participating States to target the vulnerable population in a more focussed way for better preparedness and mitigation of heat related risks and ensure that people are made aware about the simple ways of mitigating and managing heat waves.

A detailed review of the preparedness of the States in terms of updating their Heat Action Plans, providing shelters, drinking water, change in timings to avoid peak heat impact for labourers, medical treatment, etc. were discussed. Representative from the Indian Meteorological Department cautioned States to remain watchful and apprised them about the localised alerts.



Andhra Pradesh, Bihar, Jharkhand, Maharashtra, Odisha, Rajasthan, Telangana, and Uttar Pradesh participated in the videoconference.

### **Meeting on Monsoon Preparedness**

NDMA conducted a meeting on June 21, 2019 to assess the forthcoming monsoon scenarios and preparedness in the country. Lt. Gen. N. C. Marwah (Retd.), Member, NDMA, who chaired the meeting, urged the Resident Commissioners of the States/UTs to be in constant touch with Early Warning agencies and act as an interface between States/UTs, early warning agencies and other stakeholders.

IMD informed about the current status and forecast of the Southwest Monsoon. The Central Water Commission asked the States/UTs to closely review the warning/danger levels earmarked for various rivers so that timely follow-up action is taken by various stakeholders. The pre-positioning and deployment of NDRF were also discussed. •



# Jal Shakti Abhiyaan

## Addressing water crisis

**O**n June 30 2019, in his Mann Ki Baat address, Prime Minister Shri Narendra Modi gave a clarion call to citizens to join hands for water conservation and create a jan andolan (mass movement) along the lines of the Swachh Bharat Mission to save water and secure the

future. Inspired by the Prime Minister's impetus on jal sanchay (water conservation), the Jal Shakti Abhiyan was launched the next day.

With an aim to provide drinking water to every household on priority and in a sustainable manner, the Jal Shakti Abhiyaan will work to improve water



availability in 592 water stressed blocks in 256 districts across the country.

The campaign will continue till November 30 in two phases - July 1 to September 15 (monsoon phase) and October 1 to November 30 (retreating monsoon phase). The first phase has already kickstarted with senior level officers reaching 256 of the country's most water-stressed districts. These officials will undertake at least three trips of three days each through the entire campaign covering all the villages allocated to them.

The programme will focus on five aspects -- water conservation and rainwater harvesting, renovation of traditional and other water bodies, reuse of water and recharging of structures such as borewells, watershed development, and intensive afforestation.

These efforts will be supplemented with special interventions including the development of Block and District Water Conservation Plans, promotion of efficient water use for irrigation and better choice of crops through Krishi Vigyan Kendras. A large-scale communications campaign will also be run involving mass mobilisation of different target groups.

Climate Change is playing havoc around the globe and India is no exception. Signs of Climate Change

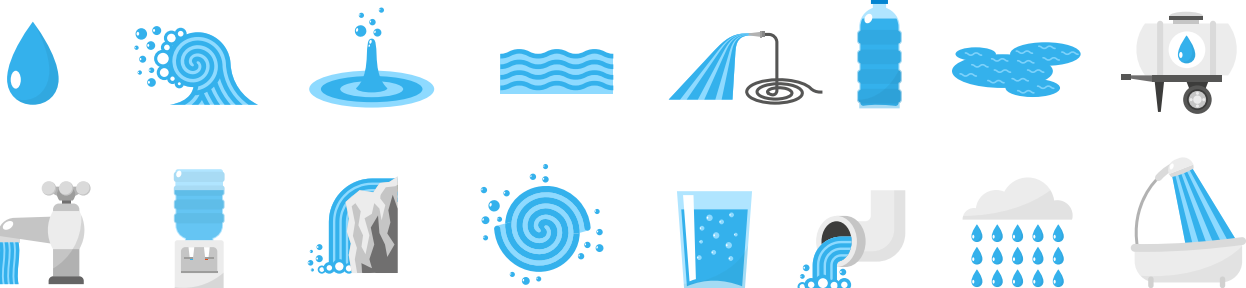
are real, obvious and easy to spot. So are the consequences. The country has just gotten over an extreme heat wave season and is already reeling under a delayed and deficient southwest Monsoon. This has already strained our water resources.

A 2018 report by the NITI Aayog says that 21 of our major cities would run out of groundwater next year. Chennai's water reservoirs have run dry and it is staring at a major water crisis. Two-thirds of the country's reservoirs are running below normal water levels, as reported by the Central Water Commission. This water crisis will affect millions of people, especially women, children and economically marginalised sections.

India harvests and uses only 8 per cent of its rainfall. This is atrocious in a country where forty percent of the population will have "no access to drinking water" by 2030, according to NITI Aayog.

This crisis is not about the distant future any longer. This is about now. The Government is acting on it. It is time to do our bit. Let us pledge to bring about a behavioural change towards water conservation. Let us resolve to save every drop.

Together, we can. As the Prime Minister said, "When people will join hands, water will be conserved." •





# Mock Exercise on Earthquake Preparedness



(From left to right) Shri Anil Baijal, Lt. Governor of Delhi; Lt. Gen. N. C. Marwah (Retd.), Member, NDMA and Maj. Gen. V. K. Datta (Retd.), Sr. Consultant (Mock Exercises), NDMA, at the Emergency Operation Centre in Delhi.

As part of the 100 days Action Plan, National Disaster Management Authority (NDMA) in conjunction with the NCT of Delhi, Government of Haryana and Uttar Pradesh State Disaster Management Authority, Government of Uttar Pradesh took the initiative to plan the largest Mock Exercise on Earthquake in the National Capital Region (NCR).

This exercise covered all 11 districts of NCT of Delhi, four districts of Haryana (Jhajjar, Faridabad, Gurugram and Sonapat) and three districts (Gautam Buddh Nagar, Ghaziabad and Meerut). The exercise began with sirens indicating the occurrence of tremors. With a massive magnitude 7 quake along the Sohna fault line, there lay damaged residential apartments, shopping malls, school buildings, hospitals and metro stations – Delhi and the National Capital Region had become a rubble with survivors and dead trapped underneath.

Once the tremors stopped, all stakeholders assembled at their respective Emergency Operation

Centres (EOCs). Once the damage was assessed, rescue teams were formed under Incident Commanders and dispatched to their respective locations.

Shri Manohar Lal Khattar, Chief Minister of Haryana; Shri Anil Baijal, Lt. Governor of Delhi and Shri Arvind Kejriwal, Chief Minister of Delhi were reviewing activities at the EOC and incident sites in Faridabad and Delhi, respectively. Lt. Gen. N. C. Marwah (Retd.), Member, NDMA, was also closely monitoring the exercise from the EOC in Delhi.

Rescue drills were conducted in coordination with various agencies, such as the Army, Air Force, Central Armed Police Forces/ Central Police Organisation, National Disaster Response Force, traffic police, fire fighting department, and Civil Defence. Affected people were given preliminary first aid before they were sent to hospitals.

The exercise tried to create a scenario close to reality so as to assess and improve the preparedness and response mechanism of all stakeholder agencies



in the event of a high intensity earthquake. "Delhi-NCR falls in the high-risk seismic zone IV and III. There is a need for regularly conducting mock exercises here as they oil the government machinery, spread awareness among the masses and help contain panic in case a real disaster strikes," said NDMA's Maj. Gen. V.K. Datta (Retd.), who led the exercise.

During the debriefing carried out after the exercise, all the participants brought out the shortcomings and gaps. Step by step analysis of the exercise is essential to figure out gaps and ways to improve our response.

Shri Kejriwal along with Shri Baijal, the Chief Secretary of Delhi and Lt. Gen. Marwah (Retd.) discussed the plans to update the entire structure and resources required for disaster response in the NCT of Delhi. Similar action is being taken by Haryana and Uttar Pradesh.

The National Disaster Guidelines significantly focuses on Prevention, Mitigation and Preparedness for a disaster situation. In its efforts towards improving the management of a disaster situation, NDMA regularly conducts such mock exercises across the country. •

## What is an earthquake?

An earthquake involves violent shaking of the ground and everything over it. It occurs without warning and results from the release of accumulated stress of the moving lithospheric or crustal plates (seven major plates, which move slowly and continuously over the earth's interior along with several minor plates).

The occurrence of an earthquake in a populated area may cause numerous casualties and injuries as well as extensive damage to property.

Nearly 59 per cent of India's land area is vulnerable to moderate or severe earthquakes, according to the latest seismic zone map. In fact, the entire Himalayan belt is considered prone to earthquakes of magnitude exceeding 8.0 on the Richter Scale.

A spurt in developmental activities driven by urbanization, economic development and the globalization of India's economy has resulted in an increase in earthquake risk. Consequently, loss of human lives is not the only determinant of earthquake risk anymore. Severe economic losses leading to the collapse of the local or regional economy after an earthquake may have long-term adverse consequences for the entire country. This effect would be further magnified if an earthquake affects a megacity, such as Delhi or Mumbai.

It is not possible to predict an earthquake, and while minor earthquakes occur frequently, major earthquakes are relatively rare.



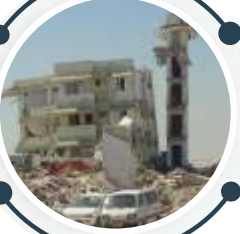
Shri Manohar Lal Khattar, Chief Minister of Haryana, at the Mini Secretariat in Faridabad, Haryana.



## Five major earthquakes affecting India in recent past

### Bhuj Earthquake, 2001

A powerful quake that struck the Kutch area in Gujarat on the morning of January 26. The magnitude-7.9 quake caused a large loss of life and property with a massive economic loss placed at around INR 22,000 crores (approx. USD 5bn). The earthquake was felt in most parts of the country and about 20 districts in Gujarat suffered damages.



### Indian Ocean Earthquake, 2004

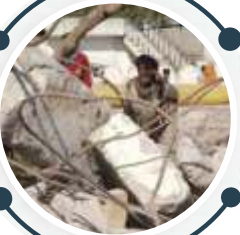
On the morning of December 26, 2004, an undersea earthquake with a magnitude of 9.1 struck off the coast of the Indonesian island of Sumatra. Triggered by this quake, a massive tsunami ensued which hit the coasts of several countries of South and Southeast Asia, and caused unprecedented damage and destruction.



### Kashmir Earthquake, 2005

On 8 October 2005, a devastating magnitude 7.6 earthquake struck Himalayan region of northern Pakistan and Kashmir. The epicentre was located approximately 9 km north northeast of the city of Muzaffarabad. It killed and injured thousands besides leaving millions homeless.

One of the worst natural disasters in South Asia in recent times, the earthquake caused thousands of landslides that buried entire villages.



### Nepal Earthquake, 2015

A massive earthquake of magnitude 7.8 shook Nepal on April 25, 2015. The worst quake to strike the region in more than 80 years, it had its epicentre less than 50 miles northwest of Nepal's capital Kathmandu.

In India, eastern Uttar Pradesh, Bihar, Jharkhand, Sikkim and West Bengal were the most impacted. Tremors were felt in Delhi, Rajasthan and some parts of Madhya Pradesh as well.



### Imphal Earthquake, 2016

Manipur was hit by an earthquake of intensity 6.7 on January 4, 2016, which caused devastation in the state capital Imphal and adjoining areas. The epicentre was located in the Tamenglong district. The earthquake was strongly felt in all north eastern states of India, Bangladesh and Myanmar. Eight people were reported dead in India, five in Bangladesh, and nearly 200 people were injured.



# EARTHQUAKE Do's and Don'ts

## Before an Earthquake:

- Repair deep plaster cracks. Get expert advice if needed.
- Fasten shelves securely to walls.
- Place large or heavy objects on lower shelves.
- Store breakable items in low, closed cabinets with latches.
- Hang heavy items away from places where people sit/sleep.
- Repair defective electrical wiring and leaky gas connections.
- Keep an emergency kit ready.
- Develop an emergency communication plan.
- In case of separation, develop a plan beforehand for reuniting after the disaster.
- Have an emergency home/office site evacuation plan ready.
- Ask an out-of-state relative or friend to serve as the 'family contact' after the disaster. Make sure everyone in the family knows their name, address, and phone number.

## During an Earthquake:

### If Indoors:

- DROP to the ground; take COVER by getting under a sturdy table or other piece of furniture; and HOLD ON until the shaking stops.
- Stay away from glass, windows, outside doors and walls and anything that could fall (such as lighting fixtures).
- Try to stay as calm as possible and DO NOT PANIC.

### If Outdoors:

- Move away from buildings, walls, trees, streetlights and utility wires.
- If you are in open space, stay there until the shaking stops.

## After an Earthquake:

- Avoid entering damaged buildings or structures.
- Do not light matchsticks or gas.
- Use stairs instead of elevators.
- Call out for medical help in case you see any injured person.
- Only consider information from the authorities.

### If Trapped under Debris:

- Do not light a match.
- Cover your mouth with a handkerchief or cloth.
- Tap on a pipe or wall with an object to get located.
- Use a whistle if one is available.
- Shout only as a last resort.



Address:

**NDMA Bhawan**

A-1, Safdarjung Enclave, New Delhi - 110029

Telephones : +91-11-26701700

Control Room : +91-11-26701728

Helpline Number : 011-1078

Fax : +91-11-26701729