



# **SIKKIM STATE DISASTER MANAGEMENT AUTHORITY (SSDMA)**

**Land Revenue and Disaster Management Department  
Government of Sikkim**

**Dy. Director / SSDMA**

# Emergence of Disaster Management In the Country

- On **29 th October 1999**, the Super Cyclone, also known as Paradip Cyclone, hit Odisha. Often termed as the black Friday tragedy, the cyclone flattened lakhs of houses, uprooted trees and destroyed infrastructure. Odisha Super cyclone killed 9843 people.
- The **2001 Gujarat earthquake**, also known as the **Bhuj earthquake**, occurred on 26 January at 08:46 am IST. As India celebrated its 52nd Republic Day on 26 January 2001, a massive earthquake measuring 7.9 on the Richter Scale struck Kutch district of western Gujarat at 8:46 am.
- Over 37.8 million people were affected as the devastating earthquake with an epicenter north-east of Bhuj city, destroyed homes, schools, roads, communication systems and power lines. The earthquake was followed by several aftershocks over the next few days.

# Early Roll-Out programs of DM

- UNDP sponsored Disaster Risk Management/ DRM Programme was launched in the country in 2004 providing handholding to set up disaster management establishment.
- National survey on economic impact of natural calamity around the time showed that 35% of the fiscal development was destroyed in disasters.
- Decision was formed to work for Disaster Risk Governance.
- Centre forged logistic, ethical and political dimensions for DRG:
  - i. The old crises management system was replaced to DRR approach.
  - ii. This led to a paradigm shift in disaster management.
  - iii. Law and Policy on DM was framed: DM Act 2005, NPDM 2009
  - iv. At national level, National Disaster Management Authority/NDMA headed by State Minister of MHA was established.
  - v. At State & district, State Disaster Management Authority/SDMA/ District Disaster Management Authority/DDMA was established.
  - vi. Incident Response System/IRS was adopted.
  - vii. National Institute of Disaster Management/NIDM was established.
  - viii. Bottom top approach was articulated in all DM programs.

# Country Global Outlook on DM

- India was a signatory to the non-binding agreement of the *Sendai Framework for Disaster Risk Reduction 2015-2030 signed by 187 nations*. The framework, adopted at the 3rd World Conference on Disaster Risk Reduction (WCDRR) in Sendai, Japan, This was the first major agreement of the post 2015 development agenda and provided member States with a concrete *actions to protect development gains from the risk of disasters*.
- Sendai Framework – High Priorities
  1. Understanding the disaster risk.
  1. Strengthening the governance of disaster risks for managing disaster risks.
  2. Investments in disaster risk reduction for resilience
  3. Improving the disaster preparedness to ensure effective response, recovery, reconstruction and rehabilitation.

# India *towards* Disaster Risk Resilience

- Asian Ministerial Conference on Disaster Risk Reduction 2016 New Delhi, India:
- **India hoisted the** first Asian Ministerial Conference for Disaster Risk Reduction after the advent of the Sendai Framework in November 2016. As a follow-up from the 6th Asian Ministerial Conference outcome (2014) and as a requirement of the Sendai Framework, *the intended outcome of the conference in India was to adopt an 'Asia Regional Plan for Implementation of the Sendai Framework'* in partnership with the UN Office for Disaster Risk Reduction (UNISDR) and its Regional Office for Asia Pacific. Regional collaboration was a constant theme, particularly in terms of the exchange of knowledge, best practices and innovation. .
- PMs 10 Point Agenda on DRR.

# PMs 10 Point Agenda for DRR

|    |   |
|----|---|
| 1  | All development sectors must imbibe the principles of disaster risk management  |
| 2  | Risk coverage must include all, starting from poor households to SMEs to multi-national corporations to nation states                 |
| 3  | Women's leadership and greater involvement should be central to disaster risk management  |
| 4  | Invest in risk mapping globally to improve global understanding of Nature and disaster risks  |
| 5  | Leverage technology to enhance the efficiency of disaster risk management efforts   |
| 6  | Develop a network of universities to work on disaster-related issues  |
| 7  | Utilise the opportunities provided by social media and mobile technologies for disaster risk reduction                                |
| 8  | Build on local capacity and initiative to enhance disaster risk reduction   |
| 9  | Make use of every opportunity to learn from disasters and, to achieve that, there must be studies on the lessons after every disaster |
| 10 | Bring about greater cohesion in international response to disasters   |

# Disaster Risk Resilient Activities

## **Pre- Disaster**

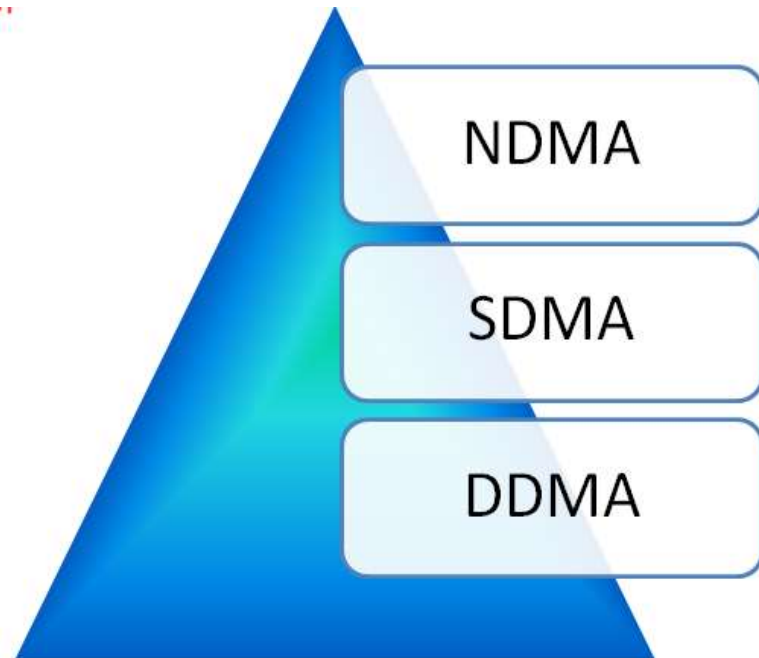
- Preparedness
- Mitigation
- (Prevention & Risk Reduction)

## **Post Disaster**

- Response & Relief
- Recovery & ReConstruction (BBB)

Preparedness & Capacity Building

# Three-Tier System of Institutional Mechanism for Disaster Management



**National and State level Institutional Arrangement is as per Disaster Management Act, 2005.**

- ✓ At the Centre level there is “**National Disaster Management Authority**” (NDMA) & the Prime Minister of India is Chairperson of NDMA.
- ✓ At the State Level there is “**Sikkim State Disaster Management Authority**” (SSDMA) & the Chief Minister of the State is the Chairperson of SSDMA.
- ✓ Other Support Functionaries in the State Government are Hon’ble Minister/ LR&DM Dept as Honorary Vice-Chairman/SSDMA and Prof. V.K Sharma as Vice- Chairperson/ SSDMA.
- ✓ At the District Level there is “**District Disaster Management Authority**” (DDMA) & District Collector is the Chairperson and Zilla Adhyaksha as Ex-officio Chairperson.



# State Institutional Mechanism under SSDMA constituted under DM Act 2005

## State Executive Committee(SEC)

- ✓ State Executive Committee (SEC) Chairperson Chief Secretary, Govt. of Sikkim

## State Executive Sub-Committee(SEC)

- ✓ State Executive Sub-Committee (SESC) Chair-person State Secretary-cum-Relief Commissioner, LR&DMD

## State Control Room

- ✓ It is located at Land Revenue and Disaster Management Department, Block-B Tashiling Secretariat, Gangtok and is functional 24 X 7 hrs for emergency communication and co-ordination among District, State and Central Authorities.

## District Emergency Operation Centre, DEOC

- ✓ It is located in four District Headquarters/ DAC's for emergency communication and co-ordination with State and District Departments/ Stakeholders.

# Disaster Response Force

## National Disaster Response Force (NDRF)

- ✓ 1 Team of NDRF comprising 49 personnels has been allotted to the State on a full time basis and currently are stationed in Pakyong District.
- ✓ NDRF are deployed for Search and Rescue operation during disasters.
- ✓ NDRF are also engaged to conduct training on Search & Rescue, First Aid, Familiarization Exercises and Mock Drills.



# Disaster Response Force

## State Disaster Response Force (SDRF)

- ✓ State Disaster Response Force was constituted for Search and rescue operation in the event of a disaster in the State
- ✓ 2 Platoons of Sikkim Armed Police, SAP is located at Pangthang, Gnagtok consisting of 70 police personnel for Gangtok and Mangan Districts.
- ✓ 1 Platoon of 2nd Indian Reserve Battalion located at Pipaley, Jorethang in Gyalihing District consisting of 35 police personnel for Gyalshing, Namchi and Soreng Districts.
- ✓ 1 Platoon of Home-Guard & Civil Defense consisting of 35 police personnel for Gangtok city and other major town areas.
- ✓ SSDMA from time to time has been augmenting SDRF with necessary search and rescue equipments.



# Activities under SSDMA

## 1. Landslide Early Warning System (EWS) installed at Chandmari, Gangtok.

- ✓ Sikkim State Disaster Management Authority (SSDMA) in collaboration with AMRITA Vishwa Vidyapeetham, South India has installed a real-time landslide early warning system at Chandmari, Gangtok East Sikkim to monitor the ground movement of the landslide. The data collected from the field through wireless network would help to develop a mitigation strategy to avert any impending disaster.



## 2. Aapada Mitra Scheme & Up- Scaling of Aapada Mitra Scheme

- ✓ SSDMA in collaboration with NDMA sponsored “Aapada Mitra Scheme” has trained more than 200 community volunteers East District s on basic knowledge of Flood Management. The volunteers were trained at HG&CD Institute, Shilliong, Meghalaya.
- ✓ SSDMA in collaboration with NDMA sponsored “Up-scaling of Aapada Mitra Scheme” is going to impart trainings to 300 more community volunteers on Earthquake and Landslide Search & Rescue Operations. The volunteers would be trained at Indian Himalayan Centre for Adventure & Eco-tourism, IHCAE.



## 3. Mitigation of Glacial Lake Outburst Flood (GLOF) at South Lhonak and Shako Cho North Sikkim

- ✓ SSDMA had pioneered a pilot project to reduce the threat of GLOF for South Lhonal Lake in 2018-19. the expedituion was conducted by a team comprising of experts and the team carried out mitigation measures involving siphoning of water from the lake and later building gabbin wall around the lake to control mass erosion of the soil.
- ✓ Now, in continuation to the above project SSDMA in collaboration with NDMA and Swiss Agency for Development and Cooperation is scheduled to carry-out another project in a very short time towards reducing the threat of GLOF for South Lhonak and Shakho Cho Lakes.





# Activities under SSDMA



## 4. MHRVA of major Towns of the State

- ✓ Multi-Hazard Risk Vulnerability Assessment of city and major towns including Gangtok, Gyalshing, Mangan and Namchi has been prepared and published by SSDMA. The document can be accessed from SSDMA website.



## 5. National School Safety programme

- ✓ SSDMA is partnership with NDMA sponsored scheme 'National School Safety Programme (NSSP)', that included 462 school under East and South Districts conducted sensitization programme on preparation School Disaster Management Plan. The schools were trained on Structural and Non-structural mitigation strategies which included distribution of basic tool kits to the schools.



## 6. Extension of Emergency Response Support System (ERSS)

- ✓ Emergency Response Support System (ERSS) is a Pan-India three digit number i.e. 112 that also cater to immediate emergencies response. NDMA has sponsored a scheme under ERSS to set up a support desk with man power at State Control Room that would be linked with the main control room at Tashiling Secretariat.
- ✓ The main control room is located at Tashiling Secretariat Building, Gangtok and is manned by Sikkim Police.



## Activities under SSDMA

### 7. Experimental landslide Early Warning System with Geological Survey of India, GSI.

- ✓ SSDMA in collaboration with GSI is going to collaborate in a project intended to establish a Regional Landslide Early Warning System (EWS) in the State. GSI through remote sensing and satellite imagery technology would make an inventory of all the major landslides in the State. GSI propose to identify the triggering factors of these landslides and develop an experimental landslide EWS for the State.



### 8. Transformational Project Pipelines for Nationally Determined Contribution (NDC) Implementation in Sikkim State in collaboration with Climate Action Network South Asia (CANSA)

- ✓ SSDMA in collaboration with CANSA conducted a week long training of the Government Officials from the District Departments during the months of January 2022 in Gangtok. The purpose of the training was to build a capacity of the government institutions to enable creation of robust projects in alignment with NDC implementation factors that put countries on a low-carbon, climate resilient development pathways.



### 9. Mitigation of Mangan Landslide at North District Headquarters, Mangan, North Sikkim

- ✓ The Mangan Landslide Mitigation Project in North Sikkim is a pilot project sponsored by NDMA and being implemented by SSDMA. The State Agency has stabilised the landslide through corroborating many path-breaking technology in civil construction that is being implemented for the first time.



# Activities under SSDMA

## 10. Common Alerting Protocol (CAP) Project.

- ✓ Common Alerting Protocol (Pilot) Project would facilitate dissemination of location based targeted alerts / warnings through SMS in vernacular language. This project is being implemented through DoT and C- DOT. State Authority would be allotted logging ID & PW using which we can geo-fence the targeted area and direct information through sms can be generated to all the mobiles users within that area.



## 11. National Disaster Information Management System (NDMIS)

- ✓ The National Disaster Management Information System (NDMIS) is a comprehensive online application, being developed to capture disaster damages and the losses effectively and also for monitoring of funds disbursal under State Disaster Response Fund (SDRF) and National Disaster Response Fund (NDRF) of the States used for relief activities during disasters. This is a pan India online System developed and implemented by NDMA.





# Thank You

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