



TELECOM REGULATORY AUTHORITY OF INDIA

India

**Experiences in Developing
Disaster Communications Plans
and Early Warning Systems**

SANJEEV BANZAL

Advisor (TRAI)

sbanzal@gmail.com

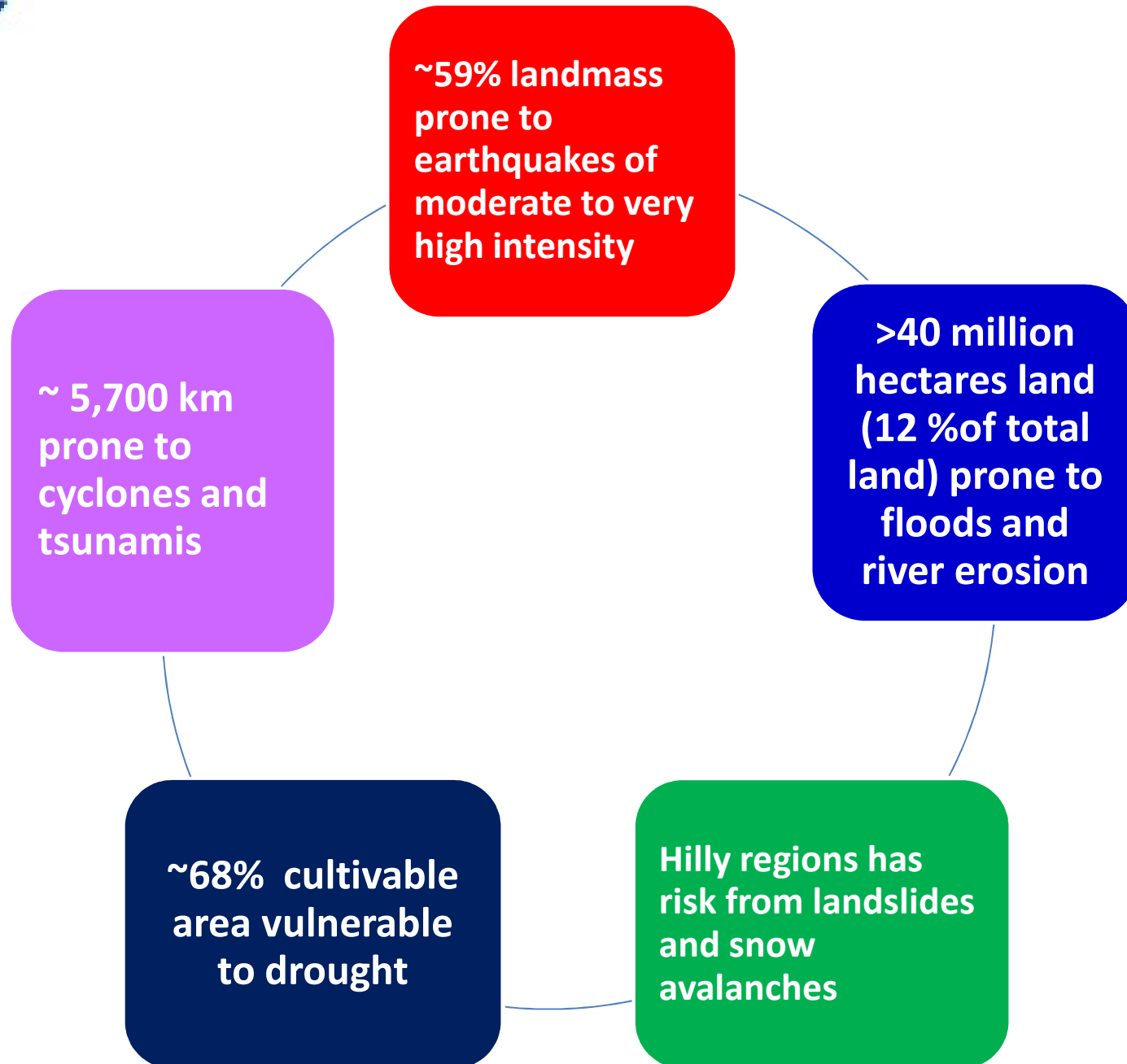


Contents

- ❖ **India's Multi-Hazard Vulnerability**
- ❖ **Indian Disaster Management framework**
- ❖ **National Disaster Management Plan**
- ❖ **Early Warning and Disaster Communication Systems**
- ❖ **Government Initiatives**



India's Multi-Hazard Vulnerability



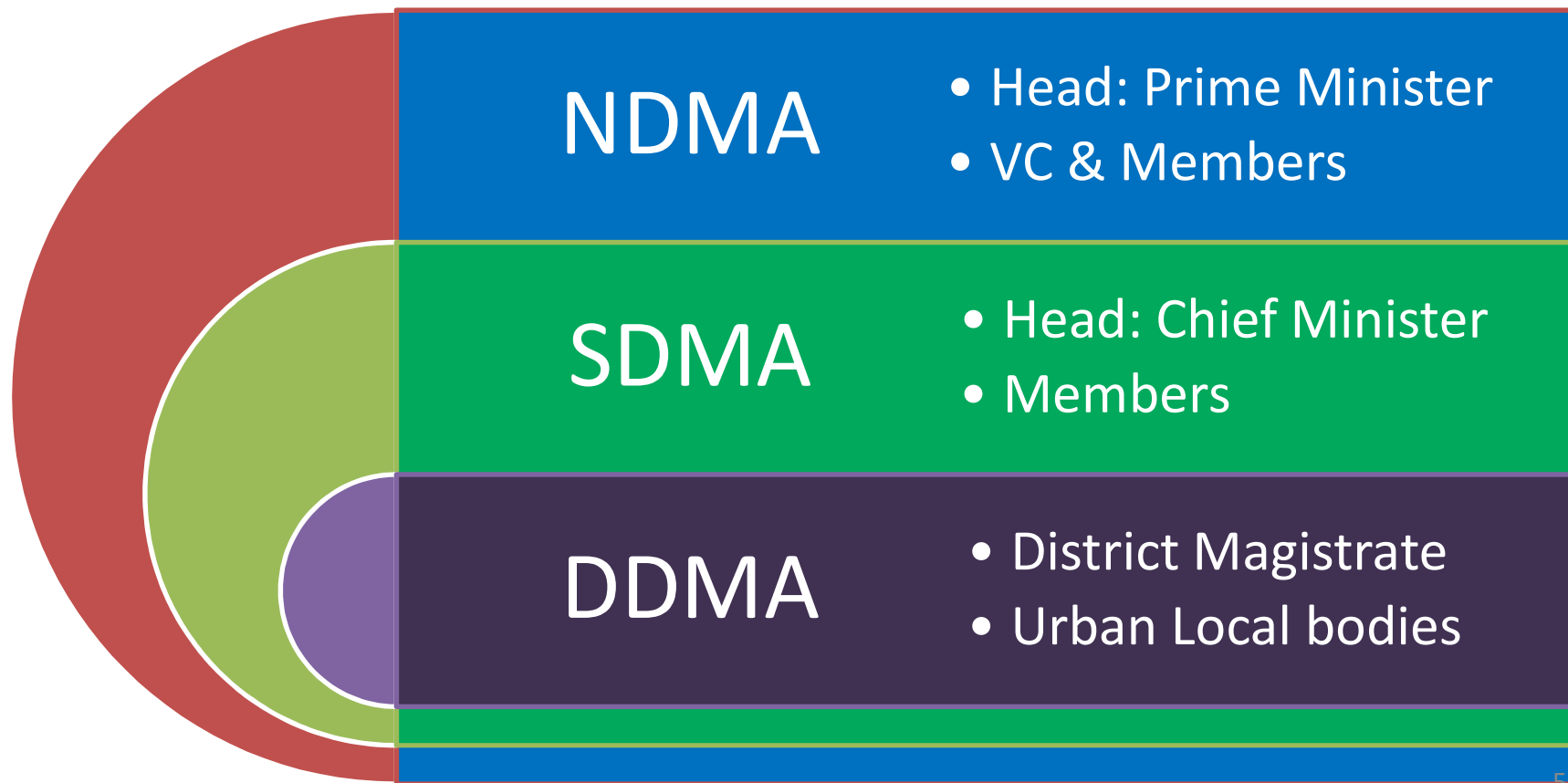


Indian Disaster Management framework

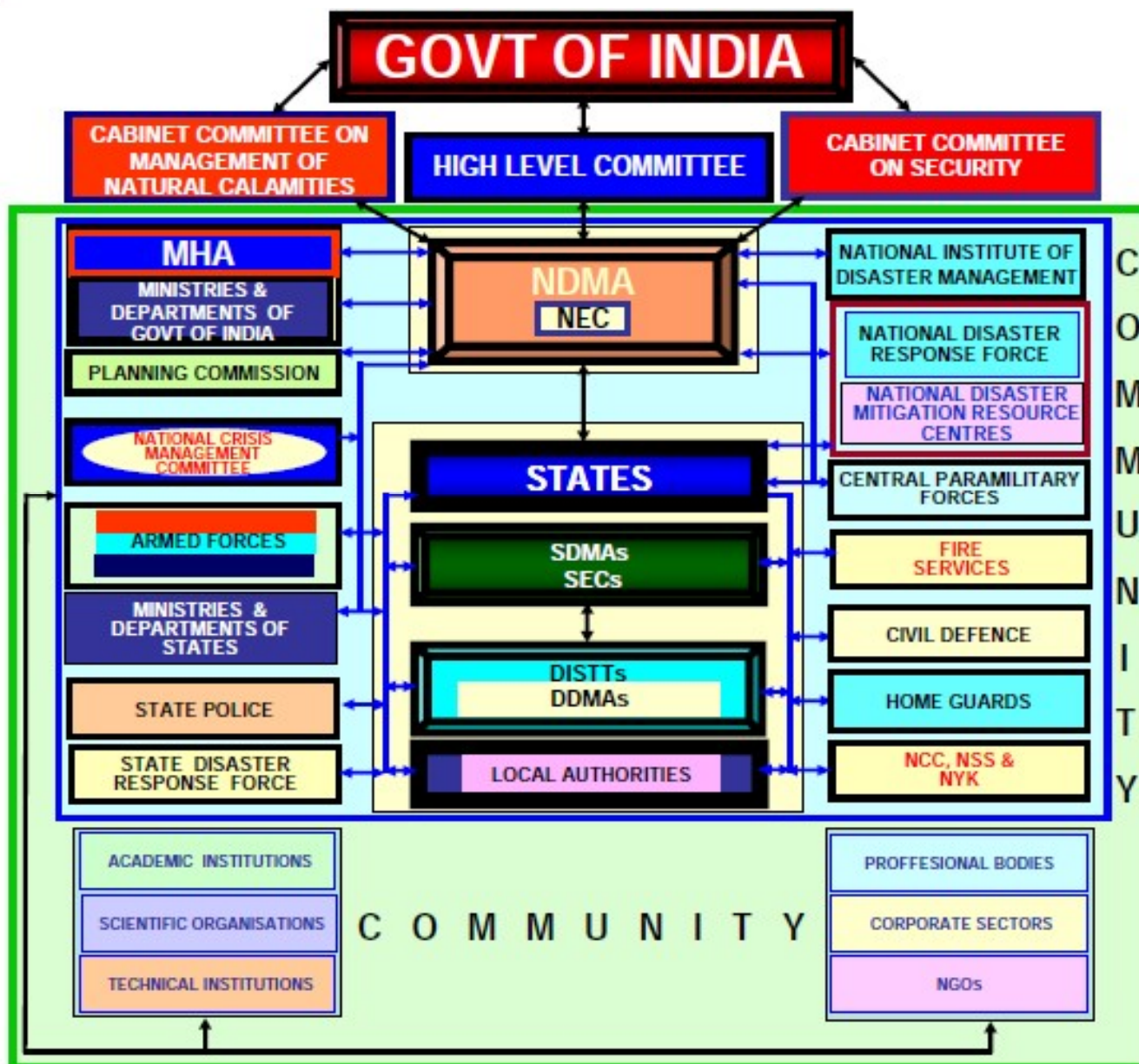


Multi-tiered institutional system (Disaster Management Authorities)

DM Act 2005, provides institutional and coordination mechanism for effective Disaster Management (DM) through multi-tiered institutional system



National Disaster Management Structure





Early Warning and Disaster Communication Systems in India

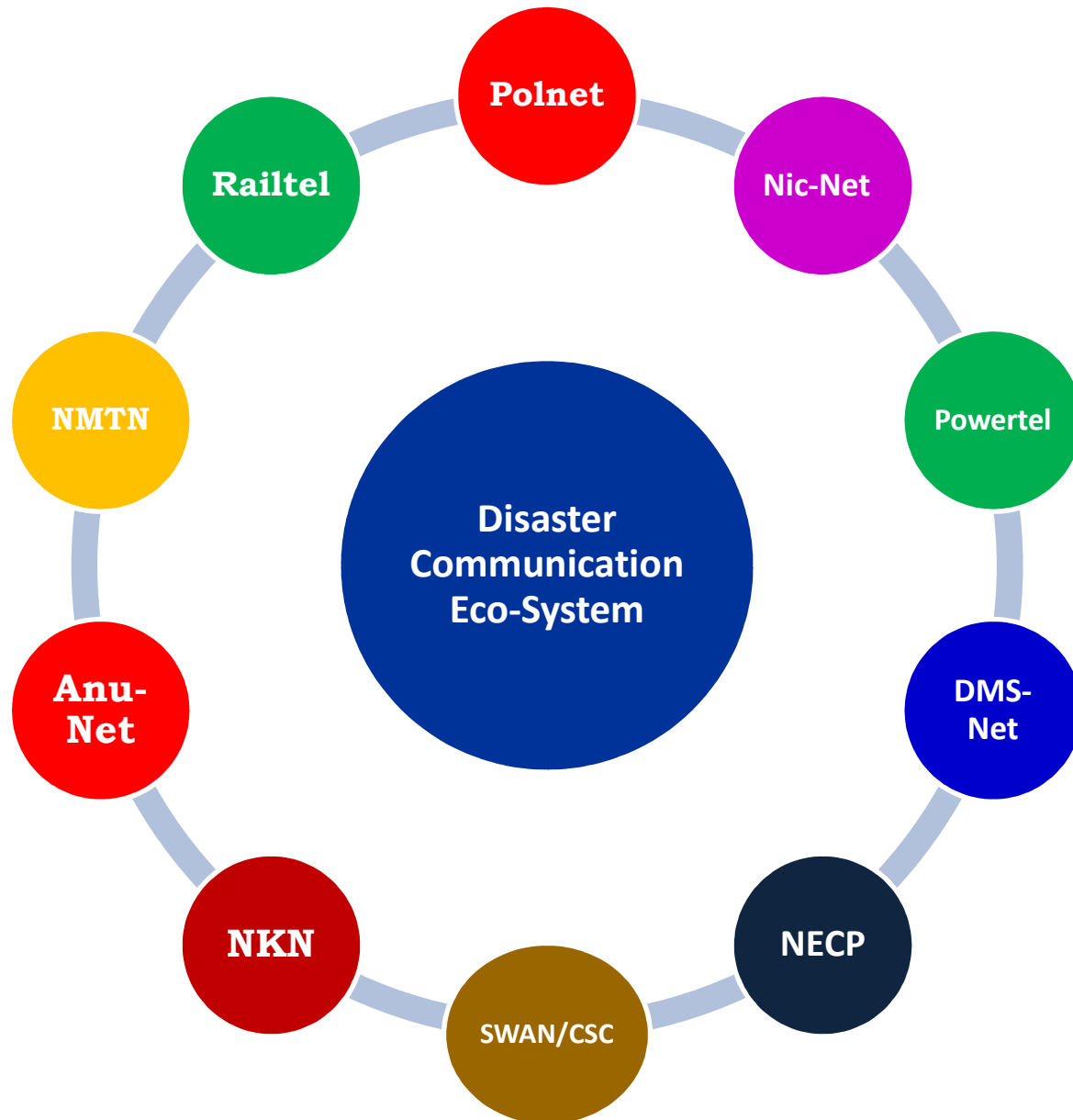


Central Agencies Designated for Natural Hazard-Specific Early Warnings

Sr No	Hazard	Ministry Designated
1	Avalanches	Snow and avalanche Study Establishment(SASE)
2	Cyclone	Indian Meteorological Department(IMD)
3	Drought	Ministry of Agriculture and farmers welfare(MoAFW)
4	Earthquake	Indian Meteorological Department(IMD)
5	Epidemics	Ministry of Health & Family welfare
6	Floods	Central Water Commission(CWC)
7	Landslides	Geological Survey of India(GSI)
8	Tsunami	Indian National Centre for Oceanic Information Services(INCOIS)



Disaster Communication Eco-System

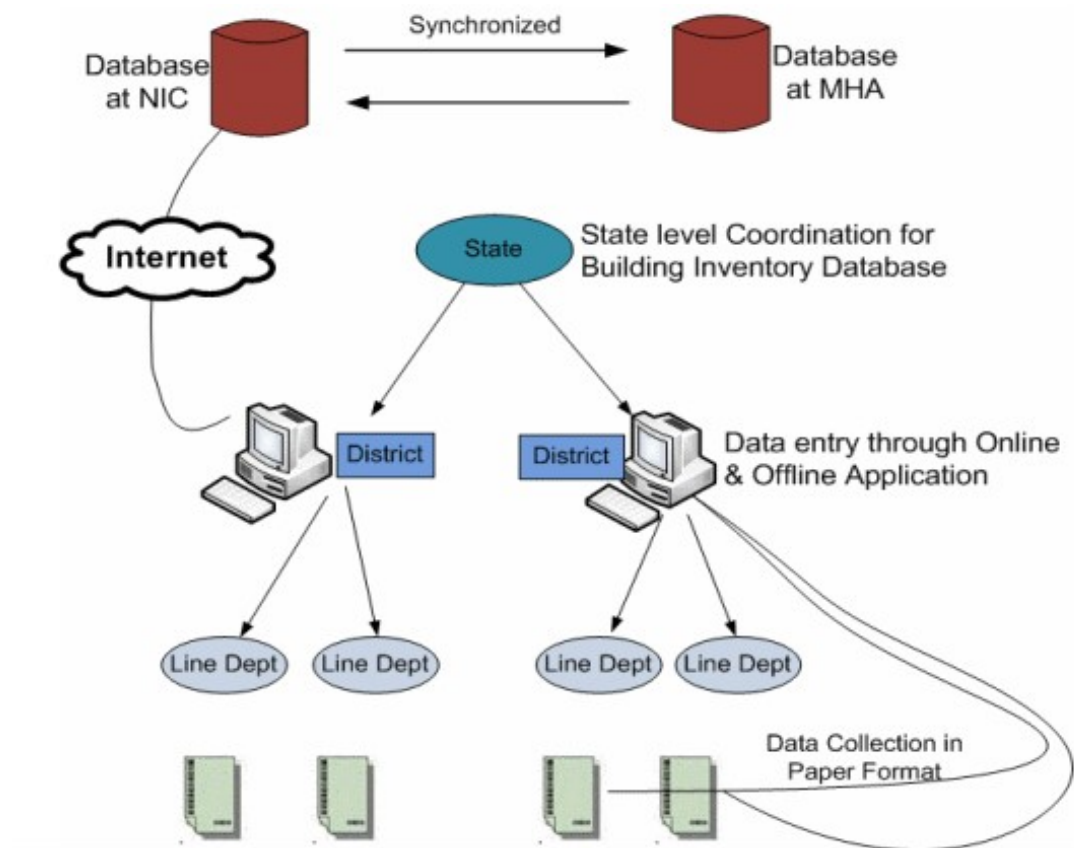




Resource Inventory Management Systems

- *India Disaster Resource Network (IDRN) :*
- *Corporate Disaster Resource Network (CDRN)*

India Disaster Resource Network (IDRN)





Challenges in extant DM System

Recent devastating disasters :

- 1. Leh Cloudburst (August 6: 2010);**
- 2. Sikkim Earthquake (September 18:2011) ;**
- 3. Uttarakhand Cloudburst (June 16-17:2013); and**
- 4. Kashmir Floods (Sept. 2014)**

Indicated common problem areas :

- Piecemeal strategy due to lack of preparedness at all levels**
- Poor Implementation of Policy/Programmes/ Guidelines and National Plan**
- Lack of an Integrated Early Warning and Disaster Communication setup**



Challenges in extant DM System

- ***Absence of Telecom Infrastructure Norms for private telecom operators***
- ***Poor coordination between state authorities and telecom service providers***
- ***Single Emergency Number***
- ***Priority Call Routing***
- ***Common Alerting Protocol (CAP)***
- ***Capacity Deficit***
 - ***Community based preparedness***
 - ***Exercise and Drills***
 - ***Emergency Operation Centers***
 - ***Multi lingual IERCS***

Government Initiatives



National Telecom Policy(NTP) – 2012

NTP-2012, recognises importance of creation of the robust and resilient telecom networks for adequately addressing the need for proactive support for mitigating disasters, natural and manmade. NTP 2012 mandates :

- Standard Operating Procedures for aiding effective and early mitigation during disasters and emergencies**
- Creation of appropriate regulatory framework TSPs for provision of reliable communication**
- Encourage use of ICTs in prediction, monitoring and early warning of disasters and dissemination of information.**
- Facilitate an institutional framework to establish nationwide Unified Emergency Response Mechanism by providing nationwide single access number for emergency services**



Priority routing of calls of persons engaged in 'response and recovery'

- **To devise a system that can facilitate communication amongst the persons responsible for response and relief operations**
TRAI sent its recommendations on 26th November, 2013 to the Government
- **These recommendations have been accepted by the Government in April 2015**



Single Number based Integrated Emergency Communication & Response System (IECRS)

- **To facilitate establishment of an efficient and robust Integrated Emergency Communication & Response System (IECRS) in India, TRAI suo-motu issued recommendations on 7th April, 2015. Salient features of the recommendations are:**
 - **Number '112' be adopted as single emergency number for India.**
 - **Calls made from a landline or mobile phone/device to '112' will be routed to a Public Safety Answering Point (PSAP).**
 - **Existing emergency calling numbers 100, 101, 102, and 108 helplines to be retained as secondary numbers.**
- **Recommendations accepted by Government and 112 designated as single emergency number now it will be implemented in phased manner starting from 1st January.2017.**



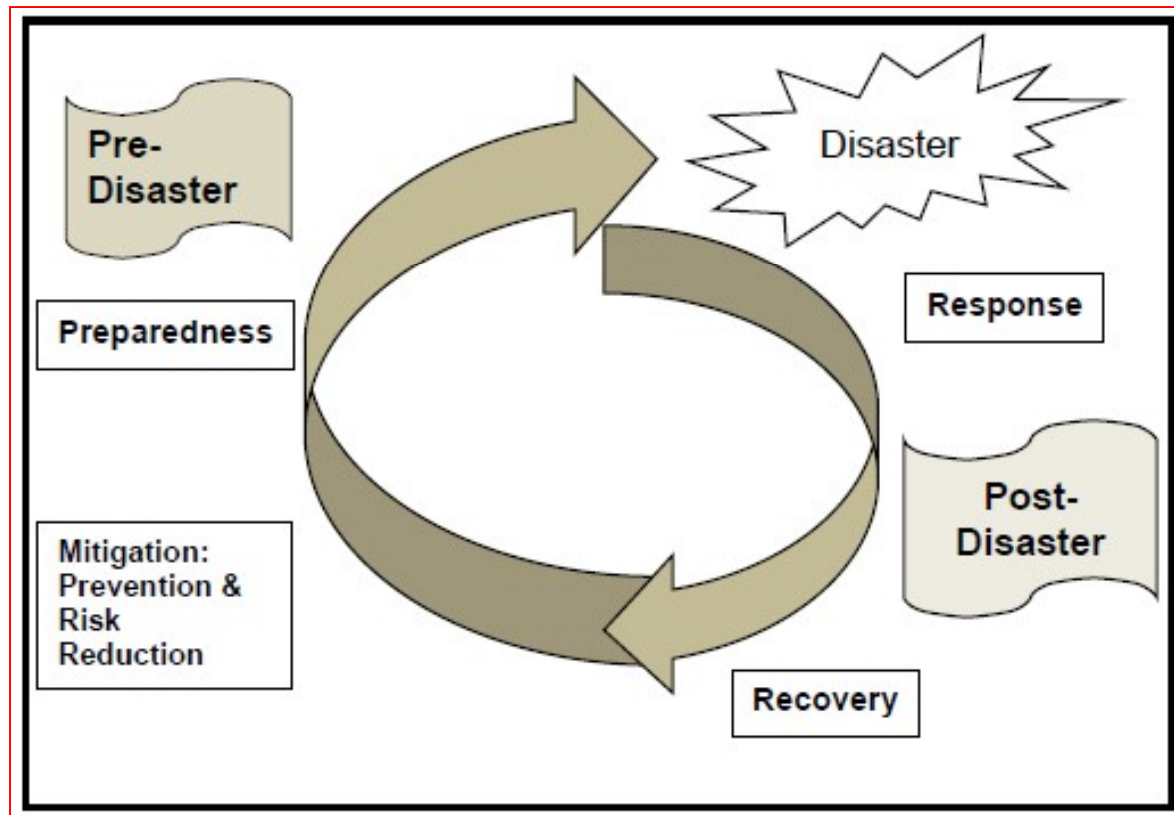
Crisis Management Plan For Telecommunications

- **Ministry of Communication and IT has prepared a Crisis Management Plan for Telecommunication in 2015**
- **Plan lays down the sequence of actions to be taken by all relevant agencies in crisis/emergency/disaster situations and defines Standard Operating Procedures(SOP) for telecom services in the aftermath of a disaster**
- **The Plan defines emergency communication framework and formed standard committees at national and state levels**
- **Each TSP will have to prepare Emergency Telecommunication Plan and Standard Operating Procedure to deal with crisis/emergency/disaster related situation**
- **TSPs are required to conduct periodic mock-drills within their network and in coordination with other support agencies**



Disaster Management Plan

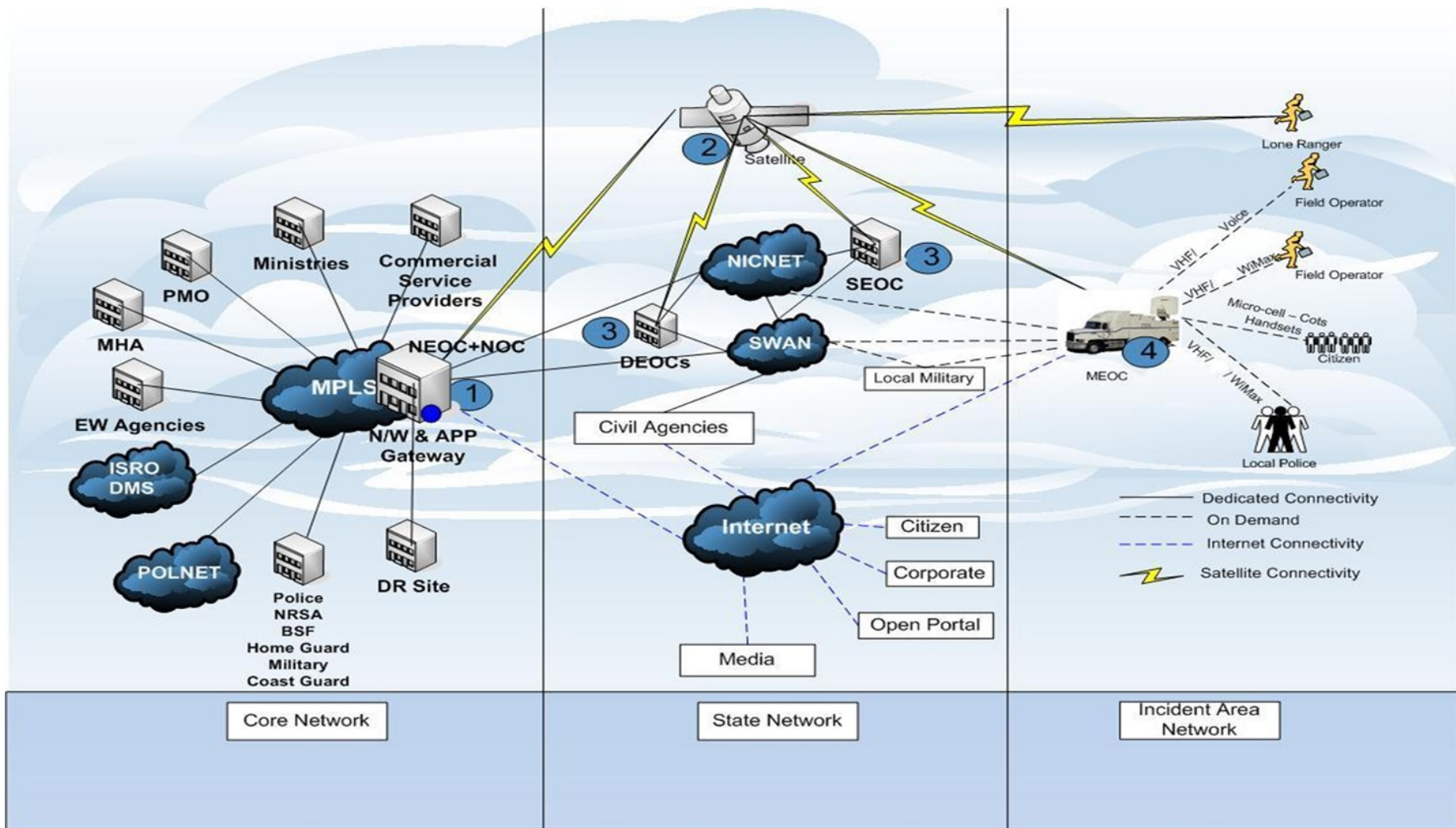
National Disaster Management Plan (NDMP) (May 2016): provides a framework and direction to the government agencies for all phases of disaster management cycle:



National Plan has adapted inferences from Sendai framework for DRR(2015) and Sustainable Development Goals (2015-2030)



Proposed Disaster Communication Layout





Way Forward

- 1. Mainstream and integrate DRR with development plans and Institutional Strengthening**
- 2. Integration of Early warning and disaster communication system through a dedicated communication network**
- 3. National Database on Emergency Management**
- 4. Single number based IECRS**
- 5. Promote community based participatory DM approaches**



Thank You

SANJEEV BANZAL

Advisor (TRAI)

sbanzal@gmail.com