DR and DRR
A Ringside View of
The Indian Context

Group Work Session 2 – Thursday, 08 Apr 21
Capacity Development Workshop on Disaster Risk Reduction Strategies and Digital Governance for Local Resilience

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DR and DRR – The Indian Context

Key Stakeholders

- Vulnerable Communities
- Local governance bodies
- Fire & Rescue Department – first line of defence
- Local language media
- Public and Private sector communication agencies
- Private Sector involved in major infrastructure projects
- Regulatory bodies – CRZA, TPA, Village and Municipal Offices, F & R Dept., PCB, Environmental Regulatory Authority
- NDRF – Second line of defence
- Armed Forces – Third line of defence
- Ministry of Environment & Forests
- Home Ministry

Institutional Framework

- Disaster Management Act 2005
- NDMA – overall, National body
  - NEC – responsible for NDMP
- SDMA – State body
  - SEC – responsible for SDMP
- DDMA – District Body
  - Panchayat / Municipal level
- NDRF – Second Responder
- CCMNC – Cabinet Body
- NDRF – Funding Agency

Note : Organization of and distribution of Roles and Responsibilities of Panchayat / Municipal Level (Grass Roots Level) is not clear

DR and DRR – The Indian Context

ICT Tools

- IDRN – web based resource tool (www.idrn.gov.in)
- National Database for Emergency Mgmt. (GIS-based platform)
- National Emergency Communication Plan (VSAT / ISDN based commns network)
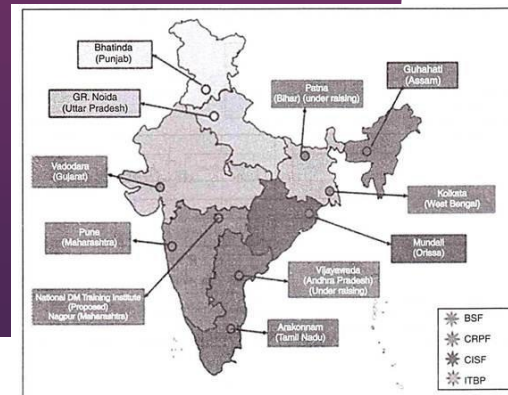
Data Requirements

- Hazard Heat Map
- Vulnerable Areas Map
- Affected Areas Map
- Disaster Management Resources map
- Ocean Data Mapping – submarine fault monitoring, submarine tremor monitoring and wave monitoring
- River run-off monitoring through coastal gauges and satellite based analyses
- Wetland database
- Forestry coverage map, Deforestation heatmap and afforestation monitor
- Ambient Temperature and SST heatmap

Note : List may also include gaps in the data already available in the DR and DRR framework

DR and DRR – The Indian Context

Data Gaps - IDRN

o IDRN database needs (not limited to :)

- Integration with National Motor Vehicle Database with particular attention to be accorded to linking privately owned heavy vehicles and machinery

- Integration of Fisheries Asset Database (boat owner database along with specs of each boat with leading particulars mapped)

- Increase the number of NDRF units

Data Gaps - NDEM

o NDEM needs (not limited to :)

- Integration with real-time GPS feed from vehicles and general public to show optimum routes for evacuation

- Remote link-up with route cameras to enable detection of traffic accidents / traffic jams and to supplement decision making for choice of evacuation routes in the case of natural disasters

- Real-time satellite imagery mapping and integration with high quality processed METOC Information

Source: Google map

Fig. 6.13. Showing NDRF team location across India

DR and DRR – Adopting ICT Tools

Drivers

- A clear understanding in the minds of Disaster Managers of hazards, vulnerable areas, capacity constraints and resource availability

- Awareness on ICT and how it may be used to develop DRR models

- Training and boots-on-the-ground exposure of Disaster Managers to enable them to gain (preferably) first-hand experience of how disasters happen

- Lessons Learnt from previous Disasters and documenting them comprehensively

- Root Cause Analysis of Disasters

- Conduct of LL Workshops at District and Panchayat Levels

- Conduct of Awareness sessions and Confidence Building Measures among vulnerable communities and educating them on how to handle repeated disasters

A passion for DRR and a passion for building Resilience

Challenges

- Lack of Awareness amongst :
    - vulnerable population on the existence of hazards
    - local body public servants on the consequences of ill-informed decisions

- Lack of proper training amongst government servants on Disasters, Risk Evaluation and DRR concepts

- Absence of basic risk evaluation orientation amongst vulnerable population prior engaging in local development of lands and coastal areas

- Scarcity of staff in Village and Panchayat organisations for committed role-play and advisory needs of public

- Lack of political will among elected representatives to critically evaluate business development programmes put forth by private investors / groups

- Scarcity of sufficient facilities with all basic amenities to accommodate vulnerable population in the event of disasters

DR and DRR – Future Vision

Capacity Demands – DDMA Level

o Training modules for government servants attached to the DDMA units in Hazard Identification, Risk Assessment, Risk Ranking and DRR techniques

o Training modules for field work for municipal surveyors, field staff and their superior officers of municipal / revenue and village offices in the identification of vulnerable areas and projects that have the potential to adversely affect the ecological / geological balance of a vulnerable area using modern RS and AI based techniques.

o Conduct of Awareness sessions for the general public with the aid of videos and ICT Tools to make them aware of hazards, risk of disaster and understand the risk ranking philosophy

o Funds for undertaking above training sessions and creation of Rescue Shelters with all basic amenities to accommodate vulnerable population

o Setting up of multidisciplinary panels of specialists with empowered authority over fund mgmt. and organizational decision-making

Suggested Good Practices

o Training sessions and continuous professional development for public and private sector employees who are involved in supporting DR & DRR

o Funds allocation and establishment of controlling bodies for activities

o Use a more immersive system on a GIS-based resource monitoring system by integrating real-time satellite based data and processed information.

o Develop intelligent systems that can draw data from open and closed databases alike and process the data to provide information that is precise to aid in DR and DRR decision making processes

o Minimalistic front end interfaces for web-based tools

o Increase the telecommunication bandwidth available for use by general public through government operators such as BSNL thus providing greater reach through cheaper means

o Adoption of coming-of-age technologies which have lesser risk of operation, but higher efficiencies for decision-making