

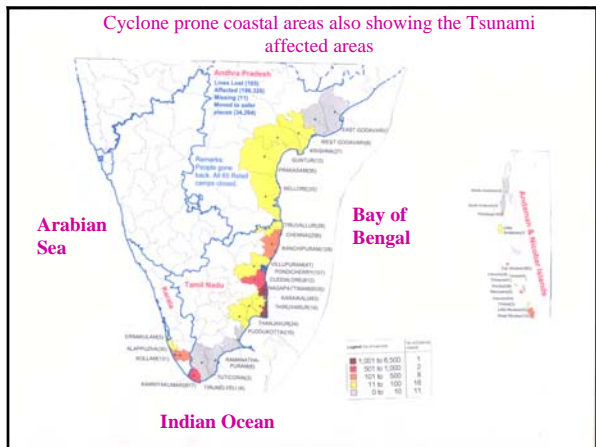
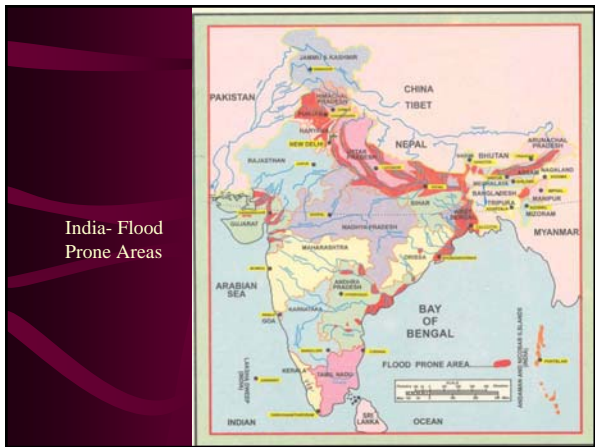
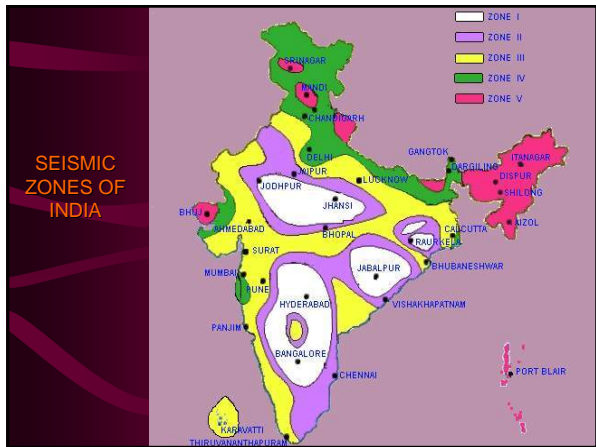
**Regional Consultation on SEAR Member Countries**  
**on**  
**Keeping Health Facilities Safe from Disasters**  
 15-17 April 2008; New Delhi

**Country Overview**  
**INDIA**

Dr.P.Ravindran  
 Director, Emergency Medical Relief  
 Directorate General of Health Services  
 Ministry of Health and Family welfare; Government of India

**India-key vulnerabilities**

- Tropical & sub tropical climate with heavy concentration of rainfall over 3 Months.
- 40 million hectre landmass vulnerable to floods.
- 8000 Km of Coast line/ prone to cyclones/ Tsunami's
- Arid and semi arid regions render 68% net sown area vulnerable to drought
- Young and unstable tectonic plates of Indian sub continent makes it vulnerable to frequent earthquakes (54% seismic Zones III & IV).
- Sub himalayan/ Western ghats vulnerable to landslides.



**Damage to Health Infrastructure**

- Gujarat Earth quake 2001
- Tsunami 2004
- Jammu and Kashmir Earth quake 2005
- Avalanche Jammu and Kashmir Quasikund 2005
- Bihar Floods 2007



### Damaged Health Facilities

4	General Hospital	Kutch-Bhuj
57	Community Health Centre	4 CHC
154	Primary Health Centre	18 PHC
18	Dispensary	15 Disp
499	Sub Centre	105 SC
711	Staff Quarters	207 SQ
2308	Anganwadi	192 AN
		541 Total

3812 Total Damaged Health Facilities in 14 District

### Over View of Hospitals and Health Facilities

- Three Tier system of Delivery
  - Primary
  - Secondary
  - Tertiary
- 70 per cent of the service delivery by Private Sector mainly at the secondary and tertiary level
- Rural / Urban Divide

### Hospitals/ Health Facilities

- There are 7,663 hospitals having 4,92,698 beds
  - 4,256 hospitals are in rural area with 1,32,475beds
  - 3,300 hospital are in Urban area with 3,40,308 beds.
- One bed per 2257 population (Govt Sector)
- 262 medical colleges, on an average with 500 beds

### Hospital / Health Facilities

- 1,44,988 Sub Centers (1 per 5000/ 3000 population),
- 22,669 Primary Health Centers (1 per 30000 population)
- 3,910 Community Health Centers [1 per 100,000 population] (constitutes substantial component of the 4256 hospitals in the rural areas)
- Sub-district Hospital at Tehsil HQ (50-100 beds)
- District Hospital, (1 per district) on an average has 250 beds with all basic specialities.

## Communications

- Internal communication systems not existing in most of the district/ sub-district level hospitals.
- In district/ taluka/ CHC hospitals a single telephone is the only external connectivity.
- Hospitals not in the network of Police/ Fire Service
- Mobile connectivity covers large part of main land and by and large available with institutional heads.
- Satellite communication/ Ham radio etc could be the only source when terrestrial/ wired and Cellular communication fails.

## Hospital Vulnerability to Disasters

- Hospital structure not mitigated to withstand disasters.
- Non-structural measures also not existing
- Most of them do not have alternate source of electricity, water, gas supply, fire extinguishing devices
- No evacuation plan
- Vulnerability assessments not carried out for internal or external disasters.
- Hospital Disaster Plans available with tertiary level urban hospitals (not usually reviewed / not exercised )
- No regulatory Frame work prior to 2005

## Disaster Management Act-2005

- Addresses the issue of "mitigation"
- Recommend provision of a separate fund for the purpose of mitigation;
- Directs to lay down guidelines to be followed by the departments of the Government and the State for the purposes of integration of measures for prevention of disasters and mitigation in their development plans and projects

## Disaster Management Act-2005

- examine the vulnerability of different parts of the State to different forms of disasters and specify measures to be taken for their prevention or mitigation;
- examine the construction, in any local area in the State/ district and, if it is of the opinion that the standards laid for such construction for the prevention / mitigation of disaster is not being or has not been followed, may direct the State / District Authority or the local authority, as the case may be, to take such action as may be necessary to secure compliance of such standards;

## Actions following DMA-2005

### Institutional Mechanism

- National Disaster Management Authority constituted with Prime Minister as Chairperson
- Of the nine members equivalent to the Minister of State, one member dedicated to Health.
- National Executive Committee constituted
- SDMA/ DDMA in the process of being constituted in states/ Districts
- NDMA preparing guidelines for the Central/ State/ District authorities.

### Initiatives for a Disaster Safe Hospital

- Hospitals / Health Facilities classified as life line buildings
- Building codes and By-laws reviewed by Expert Committee
- Architects / civil engineers being trained and certified
- To be incorporated to the proposed National plan

## Initiatives for a Disaster Safe Hospital-cont'd

- Model Amendment in Town and Country Planning Legislations, Regulation for Land Use Zoning and Building Byelaws for Structural Safety
- Guidelines prepared for Seismic safety of non-structural elements and contents of Hospital Building
- Health system Projects supported by World Bank etc –emphasis on adherence to bye Laws.

## Initiatives for a Disaster Safe Hospital-cont'd

- “Urban Earthquake Vulnerability Reduction Project” to address structural mitigation issues in 38 cities (UNDP-GOI Project).
- Disaster Risk Reduction Program (UNDP-GOI)
- Hospital Preparedness for Emergencies [HOPE] course adapted and instituted.
- Retrofitting –Guru Teg Bahadur Hospital in Delhi (DDMA / US-AID project)

## Challenges

- Wide differential in planning and implementation among the states
- Making existing facilities Disaster Safe (retrofitting etc) highly cost intensive and may not be feasible
- Planning vulnerability assessments, implementing and monitoring structural/ non-structural mitigation
- Review of Hospital Disaster Plans and conducting mock drills/ simulation Exercises.

*Thank You*