NATURAL DISASTER
FLOODS
OF
SEPTEMBER & OCTOBER 2009
INDIA

Outline of Damage
Outline of Disaster Risk Management implemented
Issues faced and lessons learnt in Disaster Risk Management
What were successful in the Disaster Risk Management
Vulnerability

- 54% of land mass prone to earthquakes
- 40 million hectares of landmass prone to floods
- 7500 Km (approx.) long coastline with two cyclone seasons
- Drought – low and medium rainfall regions which constitute 68% of the total area vulnerable to drought
- Hilly regions vulnerable to avalanches & landslides/Hailstorms/cloudbursts
CABINET COMMITTEE ON DISASTER MANAGEMENT
Chairman: Prime Minister

NATIONAL EXECUTIVE COMMITTEE
Ministry of Home Affairs
Home Secretary

NATIONAL CRISIS MANAGEMENT COMMITTEE
Head: CABINET SECRETARY

Secretaries of all line Ministries

MHA Control Room (24X7)

WARNING
(Nodal agencies)

Directors-Response, Logistics, Preparedness & Mitigation

State Control Room (S-EOC)
Department of Relief & Disaster Management

State Crisis Management Group
Head: CHIEF SECRETARY

District Control Room (D-EOC)

IDS OPS Room (24 X 7)

AFFECTED SITE
- Relief and Rescue Operations
- Establish Communication Network
- Drinking Water
- Restoration of Power
- Supply
- Prevention of Outbreak of Epidemics

Department of Relief & Disaster Management

CABINET COMMITTEE ON DISASTER MANAGEMENT
Chairman: Prime Minister

Institutional Mechanism-
Setting up of DM Authorities/ Policy/Act/ Codes/ Techno-legal/ Techno-Financial regime

Response Mechanism-
Specialist Response Team/
Regional Response Centres/Emergency Operation Centres/
Incident Command System/ India Disaster Resource Network/
Emergency Communication Plan

Preparedness-
Emergency Support Functions/Pre-contract/
DM Plans/ DRM Programme/ Urban Earthquake Risk Reduction Programme /
Mass Media Campaign/ Upgradation of Civil Defence

Mitigation-
Core Groups on Earthquake Mitigation/ Cyclone Mitigation/ Techno-legal Regime/ Human Resource Development/ Disaster Risk Mitigation Technology in education/ Mainstreaming Disaster Risk Reduction in other Ministries/ Depts

Crisis Management-
Public disorder/ terrorist outrages/ Mutiny

Disaster Surveillance
A low pressure system developed in the west central Bay of Bengal and adjoining areas on 29th Sept. 2009 and persisted till 4th October 2009.

Under the influence of the above system the westerly along the west coast strengthened and consequently fairly widespread to widespread rainfall activity with heavy to very heavy rainfall at isolated places occurred over Orissa, Andhra Pradesh, Karnataka, Kerala and along the west coast.
The combination of torrential and incessant rains and abnormal discharges from the projects /dams in the river basin assumed catastrophic proposition causing huge damage.

The huge overland flows resulted in the swelling of not only rivers but also streams and there by causing extensive flooding of agricultural lands and habitations.

**Damage Caused**

- Two States of Andhra Pradesh and Karnataka severely affected due to floods.
- Population of around 20 million affected due to the floods.
- State of Andhra Pradesh has estimated a loss of Rs.11707crore (Rs.3166.01crore + Rs.8541.84crore) equivalent to USD 2.6 bn (USD 703 mn).
- State of Karnataka has estimated a loss of Rs.18568.25crore (Rs.7195.12crore + Rs.11373.13crore) equivalent to USD 4.2 bn (USD 1.5bn).
### Extent of Damage cont’d

<table>
<thead>
<tr>
<th>Areas</th>
<th>Andhra Pradesh</th>
<th>Karnataka</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Districts affected</td>
<td>13</td>
<td>15</td>
<td>28</td>
</tr>
<tr>
<td>No. of Villages affected</td>
<td>525</td>
<td>4292</td>
<td>4817</td>
</tr>
<tr>
<td>Population affected</td>
<td>1.8 mn</td>
<td>18 mn</td>
<td>19.8 mn</td>
</tr>
<tr>
<td>No. of Human lives lost</td>
<td>90</td>
<td>229</td>
<td>319</td>
</tr>
<tr>
<td>No. of Houses damaged</td>
<td>259095</td>
<td>655484</td>
<td>914898</td>
</tr>
<tr>
<td>Damage to crops</td>
<td>0.24 mn ha</td>
<td>2.19 mn ha</td>
<td>2.43 mn ha</td>
</tr>
<tr>
<td>No. of livestock</td>
<td>16149</td>
<td>7882</td>
<td>24031</td>
</tr>
</tbody>
</table>
Breached Checkdam, Athani taluk, Belgaum District

Disaster Risk Management (DRM) Implementation
DRM Implemented Cont’d

- Activation and Monitoring of the situation through Emergency Operation Centre on 24*7 basis and generation of SITREPS at regular intervals.
- Issue of alert/advisories to the State Governments prior to the event.
- All nodal agencies informed in advance for the response preparedness.
- Continuous monitoring of the situation at the highest level both at the States and National level.

DRM Implemented cont’d..

- Constitution of teams for rescue and relief at the district level
- Logistic support for rescue and relief by providing Aircraft, helicopters, boats, manpower etc. at the National level.
- Setting up of Relief camps, shelters, medical camps, etc. for the flood affected people.
- Providing food and drinking water to the stranded population.
The State Governments launched massive rescue and relief operations immediately after 29th September 2009. The State police, Home Guard, Civil Defence, Fire Personnel, NGOs and Local community played vital role. The assistance of National Disaster Response Force, Army, Navy and Airforce provided from 1st October 2009 onwards for Relief and Rescue.

### Rescue & Relief

<table>
<thead>
<tr>
<th></th>
<th>Andhra Pradesh</th>
<th>Karnataka</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons rescued/evacuated</td>
<td>.54 mn</td>
<td>5197</td>
<td>.54 mn</td>
</tr>
<tr>
<td>Food packet distributed</td>
<td>5.44 mn</td>
<td>2.5 mn</td>
<td>7.94 mn</td>
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<tr>
<td>Relief camps (nos.)</td>
<td>403 (440123)</td>
<td>1715 (765623)</td>
<td>2118 (1.06 mn.)</td>
</tr>
<tr>
<td>(people accommodated)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical camps (nos.)</td>
<td>378</td>
<td>-</td>
<td>378</td>
</tr>
<tr>
<td>Veterinary camp</td>
<td>131</td>
<td>-</td>
<td>131</td>
</tr>
<tr>
<td>Water sachet</td>
<td>3.65 mn</td>
<td>-</td>
<td>3.65 mn</td>
</tr>
</tbody>
</table>
### Logistic Support

<table>
<thead>
<tr>
<th></th>
<th>Andhra Pradesh</th>
<th>Karnataka</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>1269</td>
<td>629</td>
<td>1898</td>
</tr>
<tr>
<td>Motorized boats</td>
<td>627</td>
<td>402</td>
<td>1029</td>
</tr>
<tr>
<td>Life buoys</td>
<td>310</td>
<td>352</td>
<td>662</td>
</tr>
<tr>
<td>Life Jackets</td>
<td>655</td>
<td>260</td>
<td>915</td>
</tr>
<tr>
<td>BAUTs</td>
<td>23</td>
<td>12</td>
<td>35</td>
</tr>
<tr>
<td>Aircraft</td>
<td>5</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Helicopters</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Swimmers</td>
<td><strong>1186</strong></td>
<td>-</td>
<td><strong>1186</strong></td>
</tr>
</tbody>
</table>
Financial Support

**Andhra Pradesh**
Advance release of 2nd installment of Central Government share of Rs.156.83 crore (USD 34 mn) released from Calamity Relief Fund and Rs.500 crore (USD 110 mn) as advance from National Calamity Contingency Fund

**Karnataka**
Advance release of 2nd installment of Central Government share of Rs.52.26 crore (USD 11.55 mn) released from Calamity Relief Fund and Rs.500 crore (USD 110 mn) as advance from National Calamity Contingency Fund
Issues faced and lessons learnt

Issues Faced

- Volume and magnitude of the flood
- Absence of proper communication between the States.
- To assess the requirement of logistic support.
- Evacuation of the flood affected people
- Distribution of food and water.
- Maintenance of close coordination between different agencies
Lessons Learnt

- To undertake flood mitigation structural measures like construction of embankments, raising the villages, flood proof structures etc.
- Need to have proper drainage system.
- More Community awareness generation programmes and Community based DRM projects
- Better coordination between States with regard to water management.
- More coordination at the ground level in providing relief to the affected people.
- To strengthen communication with last mile connectivity.
- Well trained and equipped management Team.

Success in the Disaster Risk Management
Prompt action at the National level for providing logistic support.

As result of DM set up at National and State level a close coordination could be maintained with Relief commissioners and nodal officers of the supporting Central ministries/Departments.

Timely evacuation of the people to the safer places.

Effective use of the communication system in the Control rooms of both State and National level.

Prompt setting up of Relief camps and shelters for the flood affected people.

Immediate restoration of damaged infrastructure such as roads, communication, water supply etc.

POWER SUPPLY
RESTORATION WORKS AT RAMDURG ROAD IN BADAMI TOWN
Thank You