Management of Cyclone “PHAILIN”

Presentation by:
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Odisha: Disaster profile

- Amongst the most vulnerable regions
- Major natural occurrences include - flood, cyclone, drought, heat wave, lightning
- Coping mechanism strained due to recurring disasters
- Devastation from Cyclones threefold: winds, torrential rains lead to floods and storm surge
- 98 hydro-meteorological formations classified as *cyclones* recorded between 1891 and 2014
- Majority of cyclones in Bay of Bengal passed through Odisha coast
- Cyclones of 1971 and 1999 accounted for nearly 10,000 deaths/missing each
Cyclone - PHAILIN: 12\textsuperscript{th} October 2013

- Initial estimation: ‘half the size of India’
- Classified: “Very Severe Cyclonic Storm’ or Cat-V
- Recorded wind speed of 230 kmph
- Storm surge up to 3.5 metres
- Landfall near Gopalpur on 20:30 hrs, 12 Oct 2013
- Coincided with eastern India’s biggest festival of Dushhera
- Impact on the most populous districts
- Followed by two phases of floods
Cyclone Phailin & floods

A Twin-Disaster

Cyclone Phailin and consequent floods
• 12-15 Oct 2013
• 19 districts affected

Phase-II floods
• 21-26 Oct 2013
• 13 districts affected

Disaster situation prevailed for a very long duration
Magnitude of Phailin

- Recorded wind speed of 230 kmph
- Many places recorded 600 mm rainfall during the period - 40% of the average annual rainfall in the state
- Storm surge up to 3.5 meters
- Affected 19 out of 30 districts and population of 13.2 million in cyclone and 8.1 million by 2nd phase of floods
- Nearly a million houses partially or totally damaged
- Ready-to-harvest crop loss in 1.3 million ha.
- Power disruption for 3.8 million consumers
ODISHA STATE
AFFECTED DISTRICTS
2ND PHASE FLOODS
21-26 OCTOBER 2013

[Map showing flood-affected districts in Odisha with indicators for district headquarters and boundaries.]
An altar for the festival (*Puja Pandal*)
Wide scale damage
More than 2.6 million trees uprooted

Livelihoods and assets ruined
Yet...loss of lives was minimal
What made it possible: a rounded approach

Preparedness
- Forecast coordination
- Risk identification and assessment
- Outreach and evacuation
- Emergency preparedness

Relief
- Emergency planning
- Rescue and relief operations
- Restoring critical networks/supply
- Coordinate agencies including CSOs/NGOs

Reconstruction
- Long term rehabilitation
- Rebuilding better and stronger
- Livelihoods restoration
- Longer term financing
Learning from Super Cyclone of 1999

**Mitigation Measures Undertaken**

- Odisha Disaster Management Authority (OSDMA) set up in December 1999 to look after Disaster Mitigation activities
- Systemic improvement and capacity enhancement of official machinery and community taken up after super cyclone
- Cyclone-proof shelter buildings along the coast constructed
- Dedicated Odisha Disaster Rapid Action Force (ODRAF) in the year raised in 2001 to deal with the task of search & rescue
- Massive awareness raising activities taken up
- Community mobilisation taken up in large scale with provision of training on key aspects in more than 23000 villages under Disaster Risk Management programme
- Forecasting and warning dissemination systems improved
- Paradigm shift in approach to disaster management helped overcome latest disaster with minimal casualty and damage
India Meteorological Department officially issued cyclone warning on 08.10.2013 and the preparedness commenced immediately.

IMD also provided regular updates

Electronic and Print Media played a great role in disseminating warning messages

Warning communication provided to people on a continuous basis through different channels – Special bulletin by AIR every 15 minutes

Warning broadcast by FM channels continuously

Extensive media coverage by Government at all levels

Appeal by Chief Minister of the State to the people not to panic and cooperate with administration

Advisories issued by SRC to General public through media to cooperate for evacuation

Communication in the commonly used language
Appeal to People through print media in vernacular language

ঠাকুরদাঘাট নগরী

- ঠাকুরদাঘাট নগরীতে Very Severe Cyclonic Storm “সোনি” হুমকি অতিক্রান্ত হবে যেন কোনো সমস্যা উপস্থাপনা হয়নি।
- একক জন ও বাড়ির জন্য নিরাগ হলে সেই ক্ষেত্রে সহায়তা গ্রহণ করা প্রয়োজন।
- হামলার উপরে কোনো ধরনের ভূমিকা পালন না করা। জনসাধারণের জন্য সহায় হওয়া চর্চা।
- সথায়িত্ব স্বার্থে অবস্থান, এর ঠিক মূল একটি মন্তব্য, যাই হোক কই কহিয়ে, সে জন্য যত দায়িত্ব হয় তাতেই যথাযথ হুমকি দেওয়া হুইল।
- সম্প্রতিক্ষণের মহামারীর মধ্যে স্বাস্থ্যের দিকে যত দায়িত্ব হয় তাতেই যথাযথ হুইল।
- প্রতিটি খাঁড়ি থেকে দেওয়া বিকল্প, প্রতিটি কেন্দ্রে হামলার স্বাস্থ্য মন্তব্য করা প্রয়োজন।
- স্বাস্থ্য পরিষেবায় চর্চা আরম্ভ করা।

নির্দেশনা অনুসরণ করুন এবং সমস্যা বিস্তারের জন্য সহায়তা করুন।

শাহ বিনির, ঠাকুরদাঘাট
Strategic Planning & Milestones

- Getting accurate technical information about the upcoming cyclone including likely wind speed, cyclone path for correct decision making.
- Prepositioning men and materials in likely to be affected districts for faster rescue, relief and restoration operation.
- Execution plan for large scale evacuation to safe shelters
- Provision of food, water, sanitation for all people to be evacuated
- Provision of relief for all affected people
- Fixing timelines for restoration of various services and infrastructure:
  - Restoration of road communication within 12-24 hours of abatement of cyclone
  - Restoration of water supply in most places within 24-48 hours
  - Restoration of electricity to all lifeline establishments within 48 hours
- Coordination with all the agencies for flawless execution
- Durga Puja holiday cancelled – Officials recalled from leave - all offices remained open even in unaffected districts to lend support
Prepositioning of Men & Materials

- ODRAF, State Fire service, NDRF (located within State) personnel deployed with equipment in strategic locations
- NDRF, Defence forces joined later and deployed
- Relief line clearance plan finalized & tracks assigned to teams
- Road clearing equipment mobilized and kept ready
- 7 days food, fuel and relief materials were pre-positioned
- During the entire process of evacuation, shelter and post disaster stay, food and drinking water arrangement was made
- Satellite phones provided to the vulnerable districts as last line of communication
- Power back up arrangement for all essential establishments like hospital, water supply and key Govt. offices
- Coordination established with GoI for prepositioning of 7 to 8 MI-17 helicopters at Bhubaneswar to carry out search & rescue operations and airdropping of food packets, if required
Search & Rescue Teams pre-positioned

- 10 units of ODRAF, 28 units of NDRF, 12 units of CRPF and 10 platoons of Odisha State Armed Police (OSAP) pre-positioned at strategic places.

- 350 teams consisting of mostly Fire Service personnel with some Home Guards and Civil Defence volunteers were formed for various tasks to be performed in the pre and post cyclone period.

- These response forces and teams were equipped with disaster response equipment like power saws, power boats, inflatable tower lights, mechanized-cutters, spreaders with power pack and other tools.

- The teams assisted in evacuating people from low lying and unsafe buildings and moving them to cyclone shelters and relief camps.

- Post cyclone, the teams were engaged in cutting the fallen trees and clearing the roads.

- The teams also assisted in cutting the trees required for restoration of electricity.

- 300 personnel of Indian Army divided into 4 groups were deployed in strategic locations of Ganjam, Puri and Cuttack districts for search, rescue & relief operation during cyclone.
Monitoring

- Daily inter-departmental coordination meeting at 11 AM by Minister, Revenue & Disaster Management and Chief Secretary
- Preparedness review by Chief Minister at 5 PM everyday
- 14 key Departments identified
- Departmental SOPs reiterated
- NGO coordination cell opened and first meeting conducted on 10.10.2013 for their support in evacuation
- Shelter level mock drills conducted on 10.10.2013 and all equipment in cyclone shelters test-checked
Mission ZERO Casualty

- Considering the dimension of Calamity it was difficult to conceptualize the Mission
- Yet, the State Government made all out efforts to save lives at any cost
- Complete evacuation undertaken from:
  - 5 km stretch from the coast in the areas likely to be affected by the cyclone/storm surge
  - habitations adjacent to rivers and creeks up to 20 km upstream from mouth
- People living in low lying areas and in kutcha houses were also shifted
- Section 34 (C) of Disaster Management Act 2005 invoked empowering District Administration to use force, where resistance was faced
- Evacuation completed by 11.10.2013
- **9,83,642** people shifted in **36 hrs.** preceding landfall of cyclone
- Special care was taken for evacuation of vulnerable groups
- Free Kitchen centers were opened from the night of 10\(^{th}\) October 2013
- As many as **4197** free kitchen centres were opened.
- **Resulted in only 21 deaths due to cyclone**
- Cattle population also shifted to safety and cattle feed/fodder arranged
Undertaking mass evacuation
Challenges of evacuation

- Urging people to leave their homes with minimum belongings
- Uncertainties about period of stay, availability of food, drinking water, sanitation and basic services
- Early better than late, but how early? Just-in-time evacuation for minimal dislocation, efficiency of logistics and cost
- Special needs of sections such as pregnant women, children, differently abled, old and infirm
- Resultant law and order situation in shelters and evacuated settlements
Priorities in the immediate aftermath of cyclone

- Clearance of roads
- Restoration of water supply
- Restoration of electricity supply
- Distribution of relief
- Timeline fixed for all jobs
- As already planned before, teams were present in the districts
- Teams pressed into service without loss of time
Emergent food & temporary shelter materials assistance

- Hot meals provided to people evacuated through 4197 free kitchen centres
- Dry ration to the affected people in package for convenience and speedy distribution:
  - Very severely affected families - 50 kg rice + Rs. 500/- towards cost of dal + polythene + kerosene, where required.
  - Severely affected families - 25 kg rice + Rs. 300/- towards cost of dal + polythene + kerosene, where required
  - Additional food assistance for 10 days to fishermen families prevented from fishing.
  - Food assistance in shape of rice for 3 more days provided to families affected by 2nd phase floods
- Total food assistance accounted for 1 lakh MT Rice besides chuda, gur, etc.
- Temporary shelter materials (polythene sheets) to families whose houses were damaged - 4.23 lakh sheets
- One month’s additional pension of Rs.300/- to 21 lakh old age, differently-abled, widow and destitute pensioners out of CMRF
Livelihood Support in various sectors

- **Ex-gratia** assistance for death Rs.1.50 lakh under SDRF
- **Additional ex-gratia** assistance @ Rs.4.50 from CMRF and PMNRF
- Assistance to *fishermen* for loss of boat, net & farm pond
- Assistance for *loss of animals/poultry and cattle feed*
- Assistance to *handloom weavers & rural artisans*
- Assistance to *sericulture farmers*
- Assistance for *repair/reconstruction of dwelling houses*

All assistance as per the Norms of SDRF/ NDRF passed on to the affected people **within one month** after due enquiry and enumeration

- Crop loss assessment completed as per Odisha Relief Code and agriculture input assistance administered.
Clearance of road communication

- The fallen trees obstructing the road communication were cleared and roads were opened for smooth relief operation in record time.
- All highways and major roads were cleared in record 24 hours and the rest within 48 hours.
- ODRAF, NDRF, Fire Services teams, Home Guards and Civil Defence Volunteers, who carried out evacuation, search & rescue operations, also assisted in road clearance.
- Airdropping operation was minimal due to early restoration of road communication
Restoration of Water Supply

- The water supply system was highly affected by the cyclone and flood on account of power failure.
- Drinking water was provided through tankers and water pouches.
- Water supply projects were operationalised through generators in absence of electricity.
- All tube wells were disinfected.
- Large number of water tankers, mobile vans, diesel generators and diesel pump sets deployed.
- Kerosene was provided to the people free of cost in the affected areas where the power restoration was likely to be delayed.
Energy Infrastructure

Energy infrastructure was the worst affected among all public properties

<table>
<thead>
<tr>
<th>Item</th>
<th>Affected</th>
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<tbody>
<tr>
<td>No of Consumers</td>
<td>38,94,950</td>
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<tr>
<td>No. of Sub- Stations</td>
<td>42,753</td>
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<tr>
<td>Nos. of Feeders</td>
<td>1,753</td>
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<tr>
<td>Length of Conductor of LT lines (Km)</td>
<td>36,885</td>
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<tr>
<td>No of EHT Line (KM)</td>
<td>4,074</td>
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<tr>
<td>No of Electric Pole</td>
<td>4,08,360</td>
</tr>
<tr>
<td>No of EHT Tower</td>
<td>93</td>
</tr>
</tbody>
</table>

- Electricity supply restored in most of the areas in 72hrs except core damaged areas of Ganjam and part of Puri district.
- This was possible as gangs and materials were mobilized in advance through Central PSUs, Contractors Association material manufacturers.
The health services both for human and cattle were strengthened in the cyclone and flood affected areas for which there was no outbreak of epidemic.

- All hospitals and dispensaries were made functional in record time
- 140 medical teams were formed and 284 MRCs were opened in affected areas
- All hospitals where power supply was not restored were operated with generators
- Dist HQ hospital, Mayurbhanj which was submerged in 10 feet flood water was made functional within 24 hours
- Special care was taken during evacuation for disabled and also for pregnant women and children
- There was no outbreak of any epidemic or casualty after such a long spell of disaster
Building back better

- Rapid damage assessment conducted to assess needs of different sectors and facilitate effective planning
- State Govt. submitted memorandum to Central Govt. on 20 Oct. for *Phailin* & on 28 Oct. for floods seeking assistance of Rs.5832.51 cr.
- Sectoral outlay: Relief Rs.1571.66 cr., Repair & restoration of public infrastructure Rs.3212.71 cr. and Energy sector Rs.1048.14 cr.
- Special allocation for projects worth Rs.8,770.32 cr. sought from Planning Commission under various Centrally Sponsored Schemes
- To avoid disruption, State Contingency Fund enhanced from Rs.400 to Rs.1,900 crore through emergency meeting of cabinet and promulgation of ordinance for immediate relief & restoration expenditure
- Augmentation through World Bank projects – NCRMP and State’s own Odisha Disaster Recovery Project (ODRP) for 30,000 houses and community infrastructure
Attributes to the success

- Accurate information about the upcoming cyclone from India Meteorological Department
- Perfect planning in pre-positioning of men & materials in the districts proportionate to likely effects of the cyclone
- Excellent Coordination among State Administration, District Authorities, Central Government and Agencies
- Commendable job by ODRAF, Fire Services, NDRF
- Unified Command and Control
- Responsible coverage and support of Media
- Above all, Good Leadership
The Prime Minister is relieved to learn that, even though Cyclone Phailin was a very severe cyclonic storm, the loss of life has been contained to a very large extent because of the preventive measures taken in advance.

PIB Press Release, 15 Oct 2013
United Nations (UN) felicitated Hon’ble Chief Minister Govt.’s valuable effort
Special Jury award at the India Today conclave 2013
Odisha: A Success Story

The Committee observes that various organizations like National Disaster Management Authority, World Bank appreciated the efforts of Odisha Government that while in the 1999 super cyclone the State was the victim but in 2013 and 2014, the State successfully shifted its focus/attention from “mitigation” to “management”. The Committee commends the Government of Odisha for their outstanding work, and desires that the other disaster prone States should learn from Odisha experience in the matter of preparedness and disaster management to meet any eventuality.

(Para 2.12.4)