Disaster Management

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Visakhapatnam
Vulnerable groups

• **Vulnerability**: The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.

• **Vulnerable groups**: People who are easily susceptible to physical or emotional injury, or subject to unnecessary criticism, or in a less advantageous position in any society may be defined as vulnerable people.

[Special needs and at-risk]
VULNERABLE POPULATIONS

(1) individuals with physical and mental disabilities,
(2) elderly persons,
(3) pregnant women,
(4) children,
(5) prisoners,
(6) economically disadvantaged,
(7) undocumented workers, and
(8) those with language barriers.
Differential Risk

- Physiological susceptibility
- Differential exposure
- Religion and differential vulnerability
- Socio-economic conditions
- Education as a key to reduce vulnerability
Leave no one behind

- FUTURE DISASTER RISKS
- POVERTY AND INEQUALITY
- INTENSIVE AND EXTENSIVE DISASTERS
- CITIES AT RISK
- RESILIENCE IN AGRICULTURE

The 2030 Agenda for Sustainable Development aims to reach everyone – to leave no one behind.
Leaving no one behind (LNOB)

Leaving no one behind (LNOB) is the central, transformative promise of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs). It represents the unequivocal commitment of all UN Member States to eradicate poverty in all its forms, end discrimination and exclusion, and reduce the inequalities and vulnerabilities that leave people behind and undermine the potential of individuals and of humanity as a whole.
LEAVE NO ONE BEHIND
– POLICIES, ACTIONS AND TOOLS

Six separate but interrelated agreements:

• Sendai Framework for Disaster Risk Reduction 2015–2030
• 2030 Agenda for Sustainable Development
• Paris Agreement under the United Nations Framework Convention on Climate Change
• Agenda for Humanity
• New Urban Agenda
• Addis Ababa Action Agenda under the Third International Conference on Financing for Development
The scale of the challenge

• SDG1: No poverty
• SDG3: Good health and well-being
• SDG4: Quality education
• SDG8: Decent employment
• SDG16: Peace, justice and strong institutions

The need to act now
A critical pathway to leaving no one behind

- A theory of change for leaving no one behind
- Agency for marginalised people
- Governments that choose to marginalise
- Setting out the critical pathway
- Key services
- Raising public awareness
- Institutional and legal reform
Means of implementation
what is needed to deliver the change?

• Data
• Governance
• Finance
Governments aiming to build resilience

The overall strategy should be to:

– Make SDG implementation plans risk informed
– Address the risks faced by different poor populations
– Strengthen risk governance at all levels
– Invest in disaster risk reduction
– Manage the fiscal burden of disasters
– Monitor progress in resilience-building
ACTION FOR REGIONAL COOPERATION

- Regional early warning systems
- Sharing data and knowledge
- Building regional capacity
Reducing Risk; Enhancing Resilience

- The role of the central agencies is to support the disaster-affected State or the UT in response to requests for assistance. However, the central agencies will play a pro-active role in disaster situations.

- **Disaster Risk Reduction** under the **five Thematic Areas for Action:**
  1. Understanding Risk
  2. Inter-Agency Coordination
  3. Investing in DRR – Structural Measures
  4. Investing in DRR – Non-Structural Measures
  5. Capacity Development

- The activities envisaged in the NDMP and the Sendai Framework fall into short/ immediate (within 5 years), medium (within 10 years), and long-term (within 15 years) categories.
Recovery Process

- Damage assessments
- Debris clearance, removal and its environmentally safe disposal
- Restoration and upgrading utilities inc. communication networks
- Re-establishment of major transport linkages
- Temporary housing
- Detailed building inspections
- Redevelopment planning
- Environmental assessments
- Demolition
- Reconstruction
- Integrating DRR into various development initiatives
- Financial management
- Economic impact analyses
Reconstruction efforts

- Reconstruction of public infrastructures and social services damaged by the disaster, which can be completed over the long-term
- Re-establishment of adequate housing to replace that has been destroyed
- Restoration of jobs/livelihood that was lost
- Restoration of the economic base of the disaster areas
Rehabilitation

- Physical
- Social
- Economic and
- Psychological
Build Back Better

“Build Back Better” – it signifies an ideal reconstruction and recovery process that delivers resilient, sustainable, and efficient recovery solutions to disaster affected communities. The motivation behind the Build Back Better concept is to make communities stronger and more resilient following a disaster event.
Build Back Better

Key Concepts

– Risk Reduction
– Psychosocial Recovery
– Economic Recovery
– Effective Implementation
– Monitoring and Evaluation
Build Back Better


- **Proposition 1**: Governments, donors and aid agencies must recognize that families and communities drive their own recovery.
- **Proposition 2**: Recovery must promote fairness and equity.
- **Proposition 3**: Governments must enhance preparedness for future disasters.
- **Proposition 4**: Local Governments must be empowered to manage recovery efforts, and donors must devote greater resources to strengthening Government recovery institutions, especially at the local level.
- **Proposition 5**: Good recovery planning and effective coordination depend on good information.
Build Back Better


• **Proposition 6:** The UN, World Bank, and other multilateral agencies must clarify their roles and relationships, especially in addressing the early stages of a recovery process.

• **Proposition 7:** The expanding role of NGOs carries greater responsibilities for quality in recovery efforts.

• **Proposition 8:** From the start of recovery operations, Governments and aid agencies must create the conditions for entrepreneurs to flourish.

• **Proposition 9:** Beneficiaries deserve the kind of agency partnerships that move beyond rivalry and unhealthy competition.

• **Proposition 10:** Good recovery must leave communities safer by reducing risks and building resilience.
Shelter and Camp Management

• Systematic participation of the displaced communities in all aspects of camp life.
• Access and delivery of humanitarian services to camps.
• Effective coordination of humanitarian services / actors in a camp.
• Systematic information on camp residents, humanitarian services and gaps in a camp.
• Application of international standards across camps.
Shelter and Camp Management

- **Shelter and Settlement Standards:** Strategic Planning, Physical Planning, Covered Living Space, Design, Construction, Environmental Impact etc.

- **Non-Food Items Standards:** Clothing and Bedding, Personal Hygiene, Cooking and Eating utensils, Stoves, Fuel, Lighting, Tools, Equipment etc.
Shelter and Camp Management

• **Camp management** operates at the level of a single camp. Camp management responds to the changing needs of a dynamic camp environment, and is therefore by its nature, non-prescriptive and context specific.

• **Camp Administration** refers to the functions carried out by governments and national (civilian) authorities that relate to the oversight and the supervision of activities in camps and camp-like situations. It comprises such sovereign State functions.

• **Camp Coordination** function is to create the humanitarian space necessary for the effective delivery of protection and assistance.
Directions for Disaster Management

• The National Disaster Management Authority (NDMA) has been set up as the apex body for Disaster Management in India, with the Prime Minister as its Chairman.

• Disaster Management Authorities will be set up at the State and District Levels to be headed by the Chief Ministers and Collectors/Zilla Parishad Chairmen respectively.
Structure of the NDMP Plan

The NDMP has ten chapters

1. Introduction to the plan
2. Hazard Risk and Vulnerability - National Profile
3. Reducing Risk; Enhancing Resilience
4. Preparedness and Response
5. Strengthening Disaster Risk Governance
6. Recovery and Building Back Better
7. Capacity Development - An Overview
8. Financial Arrangements
9. International Cooperation
10. Maintaining and Updating the Plan
The District Disaster Management Plan should be addressing these issues.
Objectives of the DDMP

- To **identify the areas vulnerable** to major types of the hazards in the district.
- To **adopt proactive measures** at district level by all the govt. departments to prevent disaster and mitigate its effects.
- To define and assign the different **tasks and responsibilities** to stakeholders during the pre-disaster and post-disaster phases of the disaster.
- To **enhance disaster resilience of the people** in the district by way of capacity building.
- **Reduce the loss of public and private property**, especially critical facilities and infrastructure, through **proper planning**.
- **Manage future development** to mitigate the effect of natural hazards in the district.
- To **set up an Emergency Operations Centre** at the District level to function effectively in search, rescue, response.
- To **develop the standardized mechanism to respond** to disaster situation to manage the disaster efficiently.
Objectives of the DDMP

• To **set up an early warning system** so as to prepare the community to deal with the disaster and responsive communication system based upon fail-proof proven technology.

• To **prepare a response plan** based upon the guidelines issued in the State Disaster Management Plan so as to provide prompt relief, rescue and search support in the disaster affected areas.

• To **adopt disaster resilient construction mechanism** in the district by way of using Information, Education and Communication for making the community aware of the need of disaster resilient future development.

• To make the use of **media** in disaster management.

• **Rehabilitation plan** of the affected people and reconstruction measures to be taken by different govt. departments at district level and local authority.
Plan Development

Steps in a collaborative planning process include –

– formation of team,

– understanding hazards, vulnerabilities and risk in the district,

– plan development (develop and analyse course of action, identify resources, identify information needs),

– plan preparation (write, review, approve and disseminate),

– plan implementation and maintenance (exercise, review, revise and maintain).
An ideal team for DDMA

• District Magistrate / District Collector (Chairperson)
• Elected member of the district
• DEOC coordinator / Manager (nominate him/her as plan coordinator)
• District Fire Chief
• Head of the Primary agency supervising each ESF (Telecom, Public health, Agriculture, Power, Transport, Education, PWD, Food and civil supplies, Water supply and sanitation, Law and order, Information / Media)
• Representatives from central agencies located in / around the district (Army/Navy/Air Force, Coast Guard, Port and fisheries, AIR, IMD and CWC etc.)
• Representatives from major places of worships
• Local NGOs / Corporate
COMPOSITION OF DDMA

• COLLECTOR & DISTRICT MAGISTRATE ==> CHAIRMAN
• STAKEHOLDER DEPARTMENTS
  ✓ REVENUE
  ✓ POLICE
  ✓ FIRE
  ✓ MEDICAL & HEALTH
  ✓ WATER SUPPLY
  ✓ ROADS & BUILDINGS
  ✓ TRANSPORTATION
  ✓ PANCHAYAT RAJ
  ✓ IRRIGATION
  ✓ ELECTRICITY POWER SUPPLY
  ✓ LOCAL BODIES
  ✓ BSNL, IMD, RAILWAYS, ALL INDIA RADIO
  ✓ ANIMAL HUSBANDRY
  ✓ AGRICULTURE
  ✓ HORTICULTURE
ROLES & RESPONSIBILITY

COLLECTOR:

• Facilitate and, coordinate with, local Government bodies to ensure that pre and post - disaster management activities in the district are carried out.

• Assist community training, awareness programmes and the installation of emergency facilities with the support of local administration, non-governmental organizations, and the private sector.

• Take appropriate actions to smoothen the response and relief activities to minimize the effect of disaster.

• Recommend State Government for declaration of disaster.
ROLES & RESPONSIBILITY

LOCAL AUTHORITY

• Provide assistance to Collector in disaster management activities.

• Ensure training of its officers and employees and maintenance of resources so as to be readily available for use in the event of a disaster.

• Ensure that all construction projects under it conform to the standards and specifications lay down.

• Each department of the Government in a district shall prepare a disaster management plan for the district.

• Carry out relief, rehabilitation and reconstruction activities in the affected area within its jurisdiction.
ROLES & RESPONSIBILITY

PRIVATE SECTOR
• The private sector should ensure their active participation in the pre-disaster activities in alignment with the overall plan developed by the DDMA. They should also adhere to the relevant building codes and other specifications, as may be stipulated by relevant local authorities.

Community Groups and Voluntary agencies
• Local community groups and voluntary agencies including NGOs should actively assist in prevention and mitigation activities under the overall direction and supervision of the DDMA. They should actively participate in all training activities as may be organized and should familiarize themselves with their role in disaster management.

CITIZEN
• It is a duty of every citizen to assist the DDMA or such other person entrusted with or engaged in disaster management whenever his aid is demanded generally for the purpose of disaster management.
FUNCTIONS OF DEOC

- District Collector is the nodal officer
- Responsible to provide prompt and relevant information to both MEOC & SEOC concerning any disaster events within their district.
- Also responsible to coordinate local and state resources within their district and those allocated to it for disaster management.
- It is a bridge between MEOC & SEOC
- Collection of information on RT basis and disseminate to all stakeholders especially to SEOC and relevant to MEOC & the public etc.,
- Tracks accomplishment of pre-defined action plans by MEOC and district level officers of various line departments and escalates the gaps if any to SEOC to arrange reinforcements at required location in time.
• Tahsildar /MPDO is the Nodal officer responsible for collection, collation and dissemination of information to DEOC, Relevant local agencies and officers and the public.
• Implementation of operational decisions of DEOCs.
• Coordination of available resources including those allocated by SEOCs or DEOCs.
• Coordination of available resources including those allocated by SEOCs or DEOCs to support the disaster affected community.
• Report the compliance of the activities entrusted to it.
• Appraise the requirements and ground situations to DEOCs for better understanding of the event by DEOCs / SEOCs.
Relief camps

• Providing of food & Drinking water

• Milk/ bread/ biscuits to children

• Lighting arrangements

• Medical Camp
Inventory of Rescue & Relief

The inventory has been uploaded in the NDMA idrn portal (India Disaster Resources Network) [http://idrn.gov.in](http://idrn.gov.in)

1. Roads & Buildings Dept.
   * JCBs., Bull Drovers, Power Saws, Tree Cutting equipment,
2. Road Transport Dept.
   * trucks, busses, lorrys, jeeps etc
3. Fire Services Dept
   * Fire Fighting equipment, heavy cutters, life save jackets, ropes, etc
   * Water Tanks, water cans, water plants
5. Panchayats Dept
   * Sanitary material suppliers
6. Fisheries Dept.
   * Swimmers, Boats
Communication

State Emergency Operation Center (SEOC)
(Information communicated by the Nodal Department)

District Collector
District Emergency Operation Center (DEOC)

Through DEOC
SDMS and All Nodal Departments at District HQ are informed

Tehsil and Block
Tehsildar/BDO/ Panchayat Pradhans / Others at Village level
Communication
Mitigation Plans

- ALL DEPARTMENTS SHOULD HAVE THEIR OWN PLAN OF MITIGATION

- ALL DEPARTMENT PLANS SHOULD BE INTEGRATED IN THE DDMP

- THE DDMP SHOULD BE INTEGRATED WITH HISTORY OF CYCLONES, GEOGRAPHICAL AREAS, LATITUDE/LONGITUDE DETAILS, CONTACT NUMBERS, INVENTORY DETAILS, MANDAL MICRO PLANS ETC.
Standard Operation Procedure (SOP)

A Standard Operation Procedure (SOP) is the manual indicated step by step procedures of emergency response for officials to understand the specific emergency response activity in the case of disaster. It is important for officials to confirm each role and responsibility by using SOP for swift emergency response and recovery in case of disaster.
# Role of Stakeholder Departments in Disaster Management

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Name of the Dept.</th>
<th>Role of the Dept. in brief</th>
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</table>
| 1     | Revenue Dept.                     | • coordination with all departments  
• Identification of vulnerable areas/ villages 
• comprehensive plan of action macro and micro level 
• evacuation plan, 
• relief camps 
• providing of food, water, lighting arrangements at relief camps 
• Over all monitoring                                      |
| 2     | The Commissioner of Police, VSP    | • Action plan for deployment of Police personnel for evacuation and rescue operations in City limits |
| 3     | The Superintendent of Police, VSP | • Action plan for deployment of Police personnel for evacuation and rescue operations in Rural Areas |
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| 4     | The Commissioner, GVMC, VSP | • City Disaster Management plan with past experiences and wayouts, challenges etc  
• Preparation of micro level plan in case of cyclone/flood |
| 5     | The CEO, Z.P. Visakhapatnam | • Involvement of elected public representatives  
• deployment of personnel  
• MPDOs to take part in all activities along with Tahsildars |
| 7     | The DM& HO, Visakhapatnam | • Procurement of medicines  
• conduct of health camps  
• deployment of paramedical staff  
• Deployment of ambulances  
• The plan should contain the details of suppliers of medicines |
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<td>8</td>
<td>The D.M, APSCS Corpn, VSP</td>
<td>• Procurement and availability of essential commodities</td>
</tr>
</tbody>
</table>
| 9     | The DSO (City) Visakhapatnam. | • Distribution of essential commodities including K.Oil to MLS Points/ FP Shops in City area.  
• Ensure to open Petrol bunks  
• Details of supplies of ECs / vegetables |
| 10    | The DSO (Rural) Visakhapatnam | • Distribution of essential commodities including K.Oil to MLS Points/ FP Shops in Rural areas  
• Ensure to open petrol bunks  
• Details of supplies of ECs / vegetables |
| 11    | The Joint Director, Agricultural, VSP | • Plan of action for protection of Agrl. Crops  
• Plan of action for enumeration of crop damages |
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| 12    | The Joint Director, (AH), VSP | • plan of action for livestock, cattle camps,  
|       |                  | • procurement of concentrated feed, vaccines, and its  
|       |                  | • distribution etc  
|       |                  | • details of suppliers and their contact numbers  |
| 13    | The Asst. Director, Horticulture, VSP | • Plan of action for protection of Agrl. Crops  
|       |                  | • Plan of action for enumeration of crop damages  |
| 14    | The Joint Director, Fisheries, VSP | • Inventory of boats, swimmers  
|       |                  | • warning to fishermen not to venture into sea  
|       |                  | • Action plan for enumeration of damages  |
| 15    | The District Fire Officer, VSP | • Deployment of rescue team  
|       |                  | • Deployment of fire engines  
|       |                  | • Inventory of Gas cutters, life jackets, ropes, gum shoes and other rescue equipment  |
| 16    | The Dy. Transport Commissioner, VSP | • Procurement of vehicles for evacuation of people of low laying areas,  
<p>|       |                  | • inventory of Trucks, Lorries, Jeeps, Busses and their contact numbers  |
| 17    | The Regional Manager, APSRTC, VSP | • Deployment of Buses for evacuation of people of vulnerable areas  |</p>
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| 18    | The Supdt., Engineer, APEPDCL, VSP | • Action plan for stopping of power supply during disaster and restoration immediately after disaster.  
• Deployment of personnel at each substation/ control point  
• Procurement of equipment, Generators, alternate power supply units etc  
• Inventory of Generators, UPS units suppliers and their contact numbers |
| 19    | The Superintending (Public Health), VSP | • Action plan for distribution of potable drinking water in the city and municipalities  
• Inventory of water tanks.  
• Inventory of water supply agencies/ their capacity and contact numbers |
| 20    | The Superintending Engineer, RWS, VSP | • Protection of water supply schemes  
• Inventory of water tanks, supply of potable drinking water in rural areas  
• Deployment of staff at relief centre  
• Details of suppliers of water purifier chemicals/ items |
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| 21    | The Superintending Engineer, PR, VSP     | - action plan for strengthening of approach roads, bridges  
- maintaining of Cyclone shelters  
- creation of alternative ways in case branches to approach roads  
- deployment of staff at Relief Centres |
| 22    | The Superintending Engineer, R&B, VSP    | - action plan for strengthening of Roads near river/canal bunds and Bridges  
- inventory of JCBs, Bull drozers, Power Saws, other tree cutting equipment |
| 23    | The Superintending Engineer, Irrigation, Vsp | - Strengthening of river bunds, canals, tanks  
- monitoring of reservoirs water levels  
- Continuous monitoring of inflow and outflow of water in Reservoirs  
- Timely action in lifting of flood gates and discharge of flood water  
- Advance intimation to the public of low laying areas in case of releasing of flood water  
- Giving of wide publicity  
- Opening of separate control room for monitoring of reservoirs/floods. |
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<td>24</td>
<td>The Chief Planning Officer, VSP</td>
<td>• Information of rain fall on hourly basis and deployment of statistical persons at mandals/ divisions for consolidation of reports</td>
</tr>
<tr>
<td>25</td>
<td>The Jt. Chief Insp. of Factories, Vsp</td>
<td>• plan of action of for closure of factories/ industries, safety precautions</td>
</tr>
<tr>
<td>26</td>
<td>The General Manager, DIC, Vsp</td>
<td>• plan of action for protection of small scale industries</td>
</tr>
</tbody>
</table>
| 27     | The District Panchayat Officer, VSP | • procurement of Bleaching powder, sanitation material and its distribution to GPs  
• details of suppliers and their contact numbers |
| 28     | The DPRO, VSP | • wide publicity  
• releasing of alerts  
• scrolling of news in local cable TVs etc/ print and electronic media |
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<td>1</td>
<td>NDRF</td>
<td>• Deployment of rescue teams with rescue equipment for rescue and relief operation</td>
</tr>
<tr>
<td>2</td>
<td>Army</td>
<td>• Deployment of Army personnel for rescue and relief operation</td>
</tr>
</tbody>
</table>
| 3      | Indian Navy       | • Deployment of Rescue Team  
• Rescue boats, rescue equipment  
• Contact person details |
| 4      | Coast Guard       | • Deployment of Rescue Team  
• Deployment of life boats  
• Contact person details |
| 3      | Indian Railways   | • Protection of railway lines,  
• Running of spl. Trains  
• Providing of food, water to the stranded passengers |
| 4      | BSNL              | • Ensure communication network in the affected areas  
• Restoration of network, functioning of cell towers, landline communication etc  
• Supply of generators at cell towers |
| 5      | All Inida Radio   | • creation of wide publicity  
• release of news bulletins |
| 6      | Cyclone Warning Centre | • release of bulletins/ warning  
• contact details |
| 7      | FCI               | • Supply of food grains to the Civil Supplies Dept. as per the requirement |
Mandal wise plans

a. Mandal profile
b. Details of mandal level monitoring, rescue and rehabilitation team
c. Functioning of control room
d. Villages/ hamlets likely to be affected
e. Particulars of cyclone shelters
f. Particulars of relief camps
g. Procurement/ requirement of vehicles
h. Arrangement of food
i. Procurement of food grains
j. Health camps
k. Restoration of power
l. Drinking water
m. Publicity measures
n. Particulars of swimmers
o. Low laying areas
p. Equipment available for rescue and relief operations
q. Voluntary organizations in the mandal
Why involve communities?

• Ultimate sufferer
• First responder
• In-depth knowledge about the area
• External/professional help takes time to reach

FINALLY

Evidence shows that top-down disaster risk management and response programs fail to address specific local needs of vulnerable communities, ignore the potential of local resources and capacities, and may in some cases even increase people’s vulnerability.
Community Based Disaster Risk Management (CBDRM)

A process in which risk communities (people) are actively engaged in the identification, analysis, treatment, monitoring and evaluation of disaster risks in order to reduce their vulnerabilities and enhance capacities. This means the people are at the heart of decision making and implementation of disaster risk management activities.
Objectives of CBDRM

• Response Mechanism To Save Life, Livelihood, Livestock & Assets With Available Resources
• Leads To Multi-pronged Development Interventions To Address The Root Cause Of Vulnerability
• To hasten post – event recovery
• Leads To A Self Reliant Disaster Proof Community
CHARACTERISTICS OF A DISASTER RESILIENT COMMUNITY

Resilience in a communities can be compared to the characteristics of a bamboo plant.

• It is able to recover fast
• Resume its original form
• Adjust easily to changed situation.
• Cope with the situation without outside support.

A community based disaster risk reduction plan would support the community in planning for being resilient.
Who constitutes Community

- Community
- Elected members
- Government
- NGOs/ CBOs/ Civil Society
- Donors
- Academicians
- Corporate Sectors
- Banks/Insurance...etc

The community can be homogenous or heterogeneous a group that is organized around common values and is attributed with social cohesion within a shared geographical location, generally in social units larger than a household.
APPROACHES TO CBDRM

CBDRM

- PLANS
  - PROFILE, R-H-V-C Assessment
  - RESOURCE INVENTORY
  - ACTION PLANS
    - MITIGATION STRATEGY
    - SOPs

- CAPACITY BUILDING
  - MANUALS
  - MOCKDRILLS
  - TRAINING
    - Orientation training of PRI members, govt. officials at various levels

- AWARENESS GENERATION
  - COMMUNITY
  - INDIVIDUAL
  - MASS MEDIA
Mapping: Vulnerability & Risk Assessments

• Identification of Different Hazards & its Impact - Mapping
• Identification of Risk & Weak areas - Mapping
• Identification of Risk Groups - Mapping
Resource Inventory

• Safe Shelters / House – Community as well as privates
• Temporary Shelters – Tarpaulins/ Tents/ Polythene sheets
• Food – Dealers / Godowns
• Transportation – Vehicles, Boats
• List of Volunteers / CBOs / NGOs with Address exact location
• Health Facilities.. etc...
Response Structures- DMTs

Plan of action for different activities for different hazards

• Control room – Information Dissemination
• Protection of Weak Points & Repair
• Evacuation & Rescue Operation
• Food & Water Supply
• Health and First Aid
• Cleaning of Water body/road
• Damage assessment
• Liaisoning and coordination
Mock Drill

• Based on the contingency plan mock drills are to be conducted to internalize roles and responsibility
• Helps in confidence building
• Helps in improvisation of contingency plan
Mitigation strategy: Risk Reduction

- Safe shelter/ elevated land/ insurance
- Retrofitting the traditional structure
- Alternate cropping pattern/short duration crop/grain or seed bank
- Accurate and timely warning
- Identification and registration of risk groups
- Integrating Development programme to reduce vulnerability
Emergency Fund

- Emergency fund generated from the community by individual contribution
- Community Funds/Grain banks
- Use for preparedness activities and emergency consumptions
Support areas

- Awareness Campaigns
- Support in Risk Assessments and Planning process
- Support Early Warning Mechanisms
- Support to community bases DM Taskforces – Capacity Building
- Networking Among all Response Groups- Mobilizing Resources during Crisis
- Legal & Legislative Support to the Victims
- Advocacy \ Pressure Groups for Policy Modification
- Strengthening Existing/traditional Coping Mechanism & Putting into Practice
- Structural and Non Structural Mitigation measures
UNDP-Goi Project
[United Nations Development Program (UNDP) – Government of India (Goi)]

N. Srinivasa Rajamani
City Project Coordinator

Greater Visakhapatnam Municipal Corporation
Visakhapatnam
UNDP-GoI-USAID Project

“Developing Resilient Cities through Risk Reduction in the context of Disaster and Climate Change”

[CRM Project Phase II]
UND-P-GoI-USAID projects

UND-P-GoI (USAID) Project [on going]
“Developing Resilient Cities through Risk Reduction in the context of Disaster and Climate Change”
[CRM Project Phase II] (From October 2016 to Sept 2020)

“Climate Risk Management in Urban Areas through Disaster Preparedness and Mitigation”
[CRM Project Phase I] (January 2014 to Sept 2016)

- urban component part of UNDP-GoI project on
“Enhancing Institutional and Community Resilience to Disasters and Climate Change” (January 2014 to December 2017)
**UNDP-GoI-USAID Project Objectives**

- **Reduce disaster risks** in urban areas by enhancing institutional capacities to
  - integrate climate risk reduction measures in development programs,
  - undertake mitigation activities based on scientific risk assessment.

- **Enhance capacities of local governments and urban communities**, including private sector stakeholders, to manage Disaster and Climate Risks.
UNDP-GoI-USAID Project Activities

• Hazard Risk and Vulnerability Analysis
• Preparation of Management Plans
• Mainstreaming DRR/CCA in development programs
• Capacity Building of Institutions and Community
• Strengthen Early Warning Systems
• Knowledge Management
• Public Private Partnership (PPP) projects for DRR
• Community Resilience
Hazard Risk & Vulnerability Analysis

- Hazard Risk & Vulnerability Analysis (HRVA) (2014)
Hazard Risk & Vulnerability Analysis (HRVA) (2014)

- Focused on cyclonic wind, storm surge, tsunami, epidemics, climate change.
- Main recommended actions for cyclone:
  - Enforcement of building codes
  - Structural changes/retrofitting of buildings
  - Underground power lines
  - Vegetative wind breakers
- Main recommended actions for tsunami/storm surge:
  - Improved coordination with line department for fast response
  - Tsunami shelters
  - DEM considerations
- Main recommended actions for epidemics:
  - Improved monitoring
  - WASH – City + School levels
- Main recommended actions for climate change:
  - Land Use – Horticulture/Plantations
  - Storm water drains
- Awareness campaigns for all disasters
- IT & Database development
- GIS based Decision Support System
- Multi-Hazard Risk, Vulnerability & Capacity Analysis (MHRVCA) (2019) [In progress]
Preparation of Management Plans

❖ City Disaster Management Plan (CDMP)
  ➢ CDMP (Basic level) was prepared with the help of Andhra University (2014-15)
  ➢ Review of CDMP (2018-19)
  ➢ Ward level Disaster Management Plans (in progress)
  ➢ School Disaster Management Plans (in progress)

❖ Heat Wave Action Plan

❖ Climate Change Action Plan

❖ Heat Mitigation Plan

❖ Air Pollution Management Plan

❖ Action Plan on SFDRR and PM 10 point agenda
Disaster Risk Reduction (DRR) activities

- Strengthening Early Warning System (EWS)
  - SMS Communication package (web based model).
  - Using this system we can send early warning messages to the selected persons in selected wards/zones or at city level.
  - We can send messages in both English and Telugu languages.
  - Included 10,000+ identified persons contact numbers in the system.
  - Tested in cyclone and tsunami mock drills.
Disaster Risk Reduction (DRR) activities

❖ Strengthening Early Warning System (EWS)
Mainstreaming DRR/CCA in Development

- **Mainstreaming DRR/CCA in Development (Public Health)**
  - Strengthened monitoring activities
  - Heat wave action plan prepared
  - WASH related programs encouraged

- **Mainstreaming DRR/CCA in Development (Engineering)**
  - Underground cabling
  - LED Lighting
  - Plantation activities + Parks
  - Beach front development
  - Road widening
  - Storm water management
Mainstreaming DRR/CCA in Development

❖ **Mainstreaming DRR/CCA in Development (Education)**

❖ Preparation of School level Disaster Management Plans
❖ Training of Trainers (ToTs) programs for school teachers
❖ Awareness programs for students and school committees
❖ Coverage of disaster management topics in classes
❖ Disaster preparedness mock drills in schools

❖ **Mainstreaming DRR/CCA in Development (City Planning)**

❖ Encouraged solar energy projects
❖ Incorporated disaster management components in smart city program
Capacity Building (for Govt. Officials)

Training programs, workshops, meetings etc

- Conducted various training programs, workshops, meetings related to disaster management and climate change for the city officials. Sent government officials for the training programs, workshops, meetings conducted by various agencies at local/state/national level.
Capacity Building (for Govt. Officials)

Training programs, workshops, meetings etc

➢ Training programs: Conducted training programs under UNDP-GoI project on preparation of CDMP, Mainstreaming DRR/CCA, Incident Response System (IRS) (basic, intermediate and advance levels), Sendai Framework etc.

➢ Workshops: Conducted workshops on City Disaster Management Plan (CDMP), Hazard Risk and Vulnerability Assessment (HRVA), Training Needs Assessment (TNA), Knowledge Management, Hudhud Cyclone case study, Livelihood Diversification study, Smart City, etc., for the city stakeholders.

➢ Sent government officials for the training programs, workshops, meetings conducted by various agencies at local/state/national level.
Capacity Building (for Govt. Officials)

Incident Response System (IRS) (Basic & Advance Level)

➢ Provided IRS training to 46 officials from line departments on basic and intermediate level training as per NIDM syllabus.
  - GVMC, Police, Fire Service, Revenue officials
➢ Provided training to five officials on advance level IRS for Planning, Operations and Logistics, as per NIDM syllabus.
Capacity Building (for Community)

➢ Urban Volunteers Trainings (UVTs)
  ➢ Zone/ward level programs
Capacity Building (for Youth)

➢ Urban Volunteers Trainings (UVTs)

➢ GVMC with ‘Civil Defense’ of District Administration conducting UVTs for selected youth, so that both City and District Administrations can utilize the services of trained Urban Volunteers in disaster management activities.
Capacity Building (for Youth)

➢ Urban Volunteers Trainings (UVTs)
Capacity Building (for community & Line dept.)

➢ Urban Volunteers Trainings (UVTs) (Mock drills)
   ➢ One cyclone mock drill was conducted by GVMC with armed forces.
   ➢ One cyclone mock drill was conducted by GVMC with line departments.
   ➢ One tsunami mock drill was conducted by GVMC with district administration and line departments.
   ➢ City administration participated in various mock exercises.
Knowledge Management

➢ Developed Information Education Communication (IEC) material for awareness creation

➢ Developed options for dissemination of information

➢ Case Study on Hudhud Cyclone
  ➢ Conducted case study on Hudhud cyclone and documented best practices and lessons learnt.

➢ Support to knowledge sharing workshops, meetings, events etc.

➢ Base line studies

➢ Psycho-social care
Knowledge Management

➢ **Case Study** on Hudhud Cyclone
  ➢ Conducted case study on Hudhud cyclone and documented best practices and lessons learnt.
  ➢ Case study objectives are:
    ➢ To assess the community preparedness and response
    ➢ To identify gaps and challenges
    ➢ To evaluate the role of state level institutions
    ➢ To outline a resilience building approach
  ➢ Given recommendations both structural and non-structural.
Knowledge Management

➢ Support to **knowledge sharing** workshops, meetings, events etc.
➢ Improved **Networks** and **Coordination**

- Line Departments
- Govt. Ministries
- Research Organization
- UNICEF
- USTDA
- Universities
- Municipalities
- NGOs – Local, National & International
- Experts
- Consultants
- Community
Community Resilience

➢ Livelihood Diversification study

➢ Conducted study on ‘Livelihood Diversification’ in Visakhapatnam district through Andhra University.

➢ Objectives of the study:

➢ To study the livelihood pattern (Past & Present)
➢ To identify pressures from climate change and disasters
➢ To identify alternative livelihoods
➢ To prepare an action plan to introduce alternative livelihoods in the communities.

➢ Covered four communities: Fishing, Agriculture, Tribal and Urban.
➢ Collected data using a questionnaire from fifty locations in the district.
➢ Conducted focus group discussions and workshops.
Community Resilience

- Conducted masonry training programs (Skill Development) for 67 fishermen and persons from weaker sections, with special focus on ‘disaster resistant construction and building safety’.

- Community Based Disaster Risk Management (CBDRM)
  - Preparing CBDRM teams for vulnerable locations
Public Private Partnership [PPP] for Disaster Risk Reduction & Climate Change Adaptation

❖ Objectives:

▪ To develop better understanding of the need for risk sensitive investment planning in private sector to secure their assets and investments;

▪ To promote business continuity planning in private sector industries and corporate houses in the events of disasters;

▪ To facilitate partnership between private sector and state, and city authorities to promote DRR by ensuring CSR investment in disaster risk reduction activities;

▪ To promote private sector to act as supporting pillar during disaster response to mitigate the impact and reduce the loss of life and property;

▪ To improve urban resilience by engaging public-private players through new business opportunities in disaster risk reduction;
PPP Project-1

Developing a Health Information Management System

Activities:

• Develop a database template
• Create pilot database
• Roundtable discussion and pilot database revision
• Develop spatial mapping of health system assets and capabilities and check compatibility with software
• Integrate database with COC/GVMC information system
PPP Project-2

Integrating Emergency Health Services into the City Operations Centre

Activities:

• Develop route maps and SOP for disaster response
• Procure and install GPS tracking and navigation systems
• Integrate vehicle tracking systems with COC
• Conduct training workshop for ambulance drivers
• Conduct training workshop for COC staff
PPP Project-3

Mapping Critical Community Facilities

Activities:

• Geographic scoping of the urban poor settlement pilot
• Inception workshop
• Mapping assets and facilities
• Participatory appraisals
• Disaster risk reduction strategy
PPP Project-4

Enhancing the Resilience of Critical Community Facilities

Activities:

– Enhancing the Capacity of Critical Community Facilities
  • Disaster risk audits
  • Retrofitting interventions
  • Provision of urban WASH services

– Identification and Designation of Community Shelters
  • Facility identification
  • Shelter rehabilitation
  • Solar-powered lighting and charging stations
PPP Project-5

Information, Education, and Communication (IEC) for Building Community Capacity

Activities:

• Awareness campaigns
• Conduct awareness programs for the community
PPP Project-6

Facilitation of establishment of Urban Observatory, networks and governance for Visakhapatnam city under knowledge management component.

Activities:

• Project design meeting
• Comprehensive City Level Early Warning System
• Development of mobile App and web platform
• Partnerships with other stakeholders
• Capacity Building of stakeholders
• Periodic reviews
UNDP-GoI Project
Recovery support to the government in the aftermath of Cyclone Titli

UNDP-GoI Project
Andhra Pradesh
UNDP Project

Title:
Recovery support to the government in the aftermath of Cyclone Titli

Objectives:
Strengthening local governance in building resilience by mainstreaming DRR and CCA initiatives in the Titli Cyclone affected districts of Andhra Pradesh
Short term initiatives

- **Cyclone Titli Case study** - Andhra University
- **Habitat Planning and Management** [GIS Mapping of Cyclone and Flood affected Mandals] – Nagarjuna University and Private Sector
- **Mainstreaming DRR and CCA** [Health, Education, Engineering, Planning, Agriculture and Horticulture] [Trainings to department officials and developing operational guidelines for implementation] - APHRDI
- **Training to Masons for safe construction practices** in Cyclone and Flood affected mandals – APSDMA & APSSDC
- **Training to Engineers of all departments and Planners** on latest technology for **Flood management** - JNTU
- **Strengthening Local Governance** [EWS & IRS] - APHRDI
- **Community Based Disaster Risk Management [CBDRM]** – Indian Red Cross and NFHRC
- **Eco-Restoration** – Forest Department
Long term initiatives

- **Strengthening Institutions [Capacity building]** by mainstreaming DRR and CCA - [In collaborations]
- **Building resilience** of community at grass root level
- **Strengthening lifeline buildings** [School & Hospital safety management]
- **Updation of Disaster Management Plans** on the lines of SFDRR
- **PPP projects in DRR and CCA** in the cyclone prone districts in the state of AP
Thank You

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