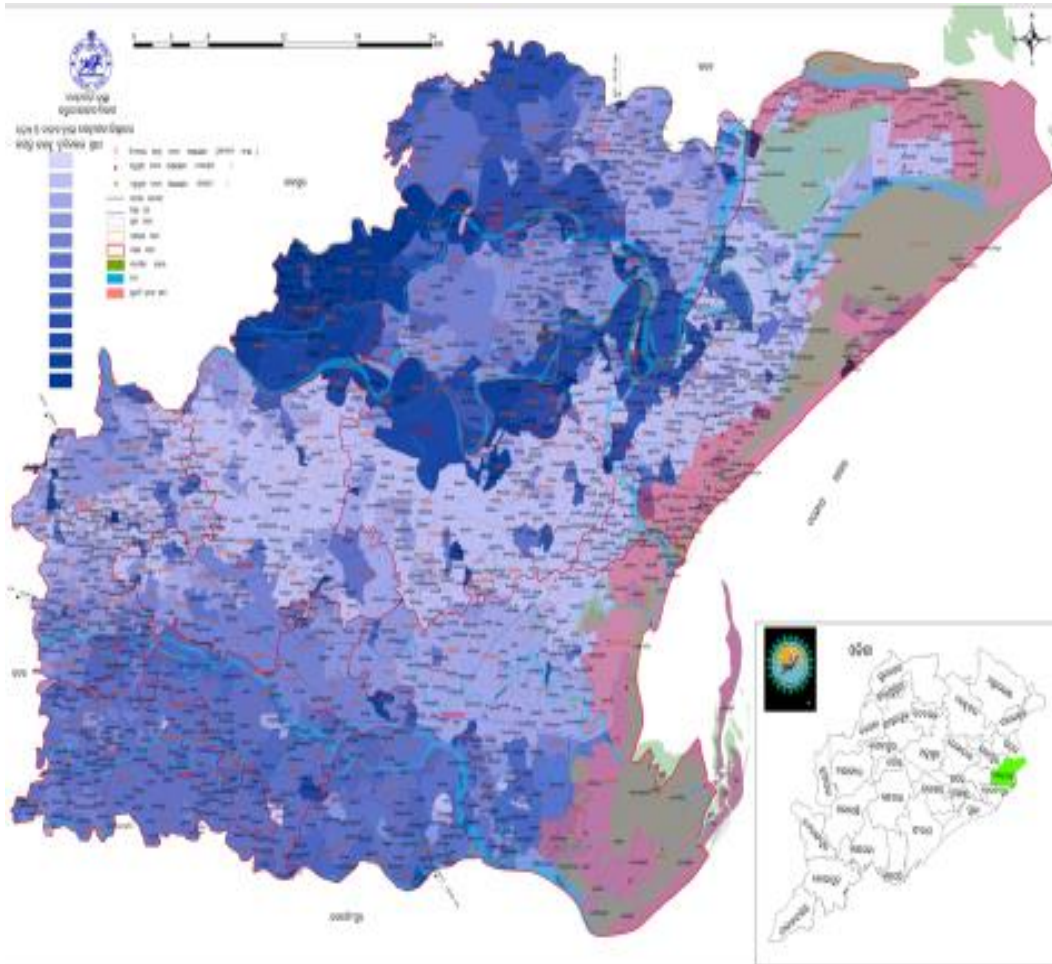




DISTRICT DISASTER MANAGEMENT PLAN

2022 - 2023

District - Kendrapara



District Disaster Management Authority (DDMA), Kendrapara

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P R E F A C E

The Disaster management Act, 2005 mandates for development of comprehensive and holistic District Disaster Management Plan (DDMP) to negate the impact of disasters on the communities, to facilitate timely and effective response to the disasters, and to facilitate holistic disaster management through integration of mitigation, preparedness and Disaster Risk Reduction (DRR) measures into development. In the disaster concern, Kendrapara district is multihazard prone area as per its geographic, socio-economic and climatic condition. Therefore, a systematic process of mainstreaming of Disaster Risk Reduction (DRR) is required in our developmental agenda for developing the District Disaster management Plan for more flexible and holistic in nature.

The District Disaster Management Plan prepared with incorporating the developmental plan adopting the three landmarks of international agreement i.e. Sendai Framework for DRR-2015, Sustainable developmental goals 2015-2030 and Paris agreement on Climate change at 21st of parties under United National Framework Convention on Climate Change in December 2015. The Sendai Framework for DRR-2015 has a sharper focus on preventing the creation of new risk and improving the governance of disaster risk reduction.

The District has adopted a novel, concise and action oriented approach towards structuring of the document of District Disaster Management Plan (DDMP). The structure adopted has tried to minimise excessive narrative text and has focused sharply on the thematic area for planning and implementation with clearly defined roles and responsibilities. It has attempted to highlight who among the line department agencies are responsible for what and when. The document enjoins all the stakeholders to develop detailed plans in accordance with the responsibilities commensurate with their role to reduce disaster risk at local level and to respond when a disaster strikes in any part of the district if their involvement is required as per the assessment of the situation. The disaster management plan document includes the information which has been collected from various formal and informal sources with a view to meet the challenges during any Natural and manmade disaster. This plan has been prepared after intensive discussion and interactions with different stakeholders like Government Offices, Non-Government Organisations, Peoples' Representatives and Community-Based Organizations.

This Plan has included various short, medium- and long-term measures. Some of these will have to be implemented concurrently rather than sequentially. The scales of implementation as well as institutional complexity involved in implementation vary depending on the specific measures. The Plan also lays out the coordination structures at varied levels along with defined level for response as per the impact of the incident.

The Plan will work as guide and reference for all the functionaries involved in prevention and mitigation of disaster. With continuous degradation of Natural Resources and Environment, the frequency of disaster strike is increasing and is likely to increase further. The State Specific or the local disaster like drowning, snake bite, lightning is increasing in numbers. As per the district disaster event the snakebite and drwoning case is most vulnerable to this district. Therefore, it is essential that full-proof measures and plans are put in place to mitigate the sufferings of the affected persons and reduce the impact of disaster. It requires a tremendous sense of commitment and sincerity on the part of Government officials and other stakeholders involved. With this in mind, the present Master Plan is aimed at providing necessary guidelines and help in tackling the disaster in a better way by the Government and other Non-Government functionaries.

I give my thanks to all the Officers for their sincere involvement and inputs for making this Disaster Management Plan. My sincere thanks also to the officer/staff of District Emergency Operation Centre, who have rendered their tireless efforts in preparation of this Document. All other district level officials of various line departments of Government & Non-Government Organisations who have put their utmost efforts in bringing out this operational plan on Disaster Management are also deserve praise for their contribution.

May these efforts help the actual persons for whom it is intended i.e. the victims of Disaster.

**Shri Amrit Raturaj, IAS
Collector & District Magistrate
Kendrapara.**

Abbreviation

AAO	: Assistant Agriculture Officer
ACSO	: Assistance Supply Officer
ADB	: Asian Development Bank
ADMO	: Additional District Medical Officer
ADVO	: Additional District Veterinary Officer
APRS	: Automatic Position Reporting System
ARC	: Administrative Reforms Commission
ASHA	: Accredited Social Health Activist
ATC	: Air Traffic Control
ATI	: Administrative Training Institute
BEO	: Block Education Officer
BIS	: Bureau of Indian Standard
CADP	: Community Awareness on Disaster Preparedness
CBDM	: Community Based Disaster Management
CBDP	: Community Based Disaster Preparedness
CBO	: Community Based Organization
CBRN	: Chemical Biological Radiological Nuclear
CBSE	: Central Board of Secondary Education
CCF	: Community Contingency Fund
CCMNC	: Cabinet Committee on Management of Natural Calamities
CCS	: Cabinet Committee on Security
CDMO	: Chief District Medical Officer
CDVO	: Chief District Veterinary Officer
CDRN	: Corporate Disaster Resource Network
CFCs	: Chlorofluorocarbons
CGI	: Corrugated Galvanized Integrated
CMG	: Crisis Management Group
CRF	: Calamity Relief Fund
CS	: Chief Secretary
CSO	: Civil Society Organization
CSO	: Civil Supply Officer
CSR	: Corporate Social Responsibility
DAO	: District Agriculture Officer
DDMP	: District Disaster Management Plan
DDMA	: District Disaster Management Authority
DDMA	: District Disaster Management Authority/Delhi Disaster Management Authority
DEO	: District Education Officer

DEOC- District Emergency Operation Centre
DFID : Department of International Development
DIPECHO : Disaster Preparedness European Commission's Humanitarian Aid Department
DLO: District Labour Officer
DM : Disaster Management
DMC : Disaster Management Committee
DMD : Disaster Management Department
DMF : Disaster Management Facility
DPM : District Programme Manager
DRM : Disaster Risk Management
DRR : Disaster Risk Reduction
DSWO : District Social Welfare Officer
EIA : Environmental Impact Assessment
EIC : Emergency Information Centre.
ENSO : El Nino-Southern Oscillation
EOC : Emergency Operation Centre
FC : Finance Commission
FFTP : Face-to-Face Training Programme
GHG : Green House Gas
GIS : Geographic Information System
GO : Government Official
GoI : Government of India
GP : Gram Panchayat
HCFCs : Hydrochloric Fluorocarbons
HLC : High Level Committee
HPC : High Powered Committee
HRVA- Hazard Risk and Vulnerability Analysis
HS : Home Secretary
HUDCO : Housing and Urban Development Corporation
IBRD : International Bank for Reconstruction and Development
ICDS : Integrated Child Development Services
ICS : Incident Command System
ICT : Information Communication Technology
IDNDR : International Decade for Natural Disaster Reduction
IDRN : India Disaster Resource Network
IEC : Information Education Communication
IFRC : International Federation of the Red Cross
IGNOU : Indira Gandhi National Open University
IIRS : Indian Institute of Remote Sensing
ILO : International Labour Organization

IMD : India Meteorological Department
IMG : Inter-Ministerial Group
IRS : Incident Response System
KSA : Knowledge Skill Attitude
LI : Life stock Inspector
LI: Labour Inspector
LOS : Law of the Sea
LRRD : Linking Relief and Rehabilitation with Development
MCE : Mass Casualty Event
MFO : Micro-Finance Organization
MHA : Ministry of Home Affairs
MI : Marketing Inspector
MO : Medical Officer
MVI : Motor Vehicle Inspector
NBC : Nuclear Biological Chemical
NFSA: National Food Security Act.
NCAP : National Contingency Action Plan
NCCF : National Calamity Contingency Fund.
NCCM : National Crisis Management Committee
NCRMP : National Cyclone Risk Mitigation Project
NDCNP : National Disaster Communication Network Project
NDMA : National Disaster Management Authority
NDMRC : National Disaster Mitigation Resource Centre
NDRF : National Disaster Response Force/National Disaster Response Fund
NEC : National Executive Committee
NERMP : National Earthquake Risk Mitigation Project
NGO : Non-Governmental Organization
NIAR : National Institute of Amateur Radio
NIDM : National Institute of Disaster Management
NSS : National Service Scheme
NSSP : National School Safety Project
PESA : Panchayat Extension to Scheduled Areas
PGDDM : Post Graduate Diploma in Disaster Management
PPP : Public-Private Partnership
PRI : Panchayati Raj Institution
RTO : Regional Transport Officer
SAR : Search and Rescue
SDMA : State Disaster Management Authority
SDRF : State Disaster Relief Fund
SDWO : Sub-divisional Welfare Officer

SEC : State Executive Committee

SHG : Self-Help Group

SI : Supply Inspector

SOP : Standard Operating Procedure

SSA : Sarva Shiksha Abhiyan

TNA : Training Needs Analysis

ULB : Urban Local Body

UNDP : United Nations Development Programme

UNESCO : United Nations Educational, Scientific and Cultural Organization

UNFCCC : United Nations Framework Convention on Climate Change

UNISDR : United Nations International Strategy for Disaster Reduction

USAID : United States Agency for International Aid

V/CA : Vulnerability/Capacity Assessment

VDMC : Village Disaster Management Committee

VAW : Village Agriculture Worker

WHO : World Health Organization.

Chapter – 1: Introduction

Introduction:

Kendrapara is a coastal district with many rivers crisscrossing the district. The district is located in the delta region of major river systems like the Mahanadi, the Brahmani, and the Baitarani and thus the district has the deposits of sediments which consist of alluvial soil. Cultivable alluvial plains formed from the deposits of great rivers like Brahmani, Baitarani, Kharasrota, Luna, Karandia, Gokhani, Mahanadi, the marshy strips along the coast is a low woodland tract abounding in swamps, morasses and intersected by innumerable winding creeks with a dense mangrove forest growth of reed (grass) and bush-wood on either side. The region is subject to inundation of seawater, which leaves deposits of salt on the surface of the low-lying land and in many parts renders' cultivation impossible.

The district is directly in the belt of the cyclonic storm, which frequently cross the district during the monsoon season. Annual average rainfall is about 60 inches. The district headquarters is located at Kendrapara, which is the oldest Municipality of Odisha, constituted in 1869. The entire coastal belt of the district, which extends from Mahanadi Mouth in South to Dhamara in the North, represents unique bio-diversity rarely seen in other parts of the world. A network of rivers and creeks constitute the most conspicuous feature of the district. The district is clearly delineated by 48kms shoreline of Bay of Bengal. It has the second largest mangrove in the country and home to salt water crocodile (*Crocodylus Porosus*) the largest lizard at Bhitarkanika National Park. It has Batighara, the first lighthouse installed in eastern coast of India.

Considering the consequences of past disasters priority has been given to preventive, mitigation and preparedness measures. Preparation of District Disaster Management Plan (DDMP) is a part of it. Apart from this statutory requirement, the hazard profile and disaster history of the district demands for a comprehensive District Disaster Management Plan to be in place for coordinated and streamlined management of disaster in the district.

In accordance with the provisions of the DM Act the District Disaster Management Plan (DDMP) of Kendrapara District has been updated and prepared covering with all aspects of Hazard, Risk, Vulnerability and Capacity Assessment (HRVCA), prevention, mitigation, preparedness, response plan and procedures to reduce the impact of various disasters in the district.

1.1-Vision:

The aim of the District Disaster Management Plan is to assess the available resources of the District and ensure the optimum utilization of the resources in the shortest possible time with minimum simple orders and procedure by activating the participation of Government, Community and volunteers at all levels. Further this plan will focus on making maximum utilization of human resources, material resources, and social resources to prevent loss of lives and minimize the loss of property serving fastest restoration of the situation.

1.2-Aims and Objectives: The DDMP identifies the roles and responsibilities of all the government line departments and other supporting organizations:

-  To improve preparedness at the district level, through risk and vulnerability analysis of disasters and to minimize the impact of disasters in terms of human, physical and material loss.
-  To ascertain the status of existing resources and facilities available with different departments & agencies involved in the management of disaster risks in the district that enhance the capability of the district administration in handling the disaster risks. This enables the district to respond to a disaster in an effective way and builds confidence across different segments of society.

- ✚ To develop a framework for proper documentation of future disasters in the district, to have an update on critical information essential to a plan, to critically analyze and appraise response and to recommend appropriate strategies.
- ✚ To evolve DDMP as an effective managerial tool within the overall policy framework of Government of Odisha.

1.3-Preparation and Approval of DDMP:

The District Collector discussed the modalities and seek views for preparation of a holistic plan in the Heat wave prepradness & DDMP prepradness meeting held on 10.03.2022 in the OSWAN Kendrapara. It was also discussed that the information collection, compilation and completion of the DDMP preparation should be completed by 20th May 2022. After finalisation of the DDMP, the DDMA will approve the same by the last week of May 2022 and then send a copy of the DDMP to the State Disaster Management Authority for their kind reference.

1.4-Multi-disaster Response Plan:

The Kendrapara District Disaster Management Plan (KDDMP) dresses the districts' response to disaster situations such as cyclone, floods, epidemics, off-site disasters and roads accidents and fires. The present plan is a multi-hazard response plan for the disasters and outlines the institutional framework required for managing such situations. However, the plan assumes a disaster specific form in terms of the actions to be taken by the various agencies involved in the disaster. The from-end or local level of any disaster response organization will differ depending upon the type of disaster, but at the level of the back-end i.e, at the controlling level at the district it will almost remain same, for all types of disasters.

1.5-Non-Governmental Organization (NGOs) and Voluntary Agencies:

The capacity of non-governmental organization and voluntary agencies to reach out to community groups and their sensitivity to local traditions of the community, gives them an added advantage during disasters. Some of the agencies, both from within and outside the state, have technical expertise and capabilities which can be brought into managing difficult situations. During the post-disaster phase, therefore, efforts should be made to enlist partnership of some of the NGOs with relevant expertise, to assist the district administration in the process of relief and rehabilitation.

1.6-Role of District Administration:

The Deputy Collector, in charge of Emergency is assisted by the all the administrative officers incorporating with line departments, NGOs and multilateral agencies is responsible for developing plans and activities to mitigate (Preparedness & prevention) during disaster.

1.8-Evolution of DDMP:

The DDMP was first evolved in 2004 during the implementation of Government of India-United Nations Development Programme Disaster Risk Management Programme. With the enactment of the National DM Act, 2005 it provides for the preparation of the District Plan as per Section 31.District Disaster Management Plan, Kendrapara district of Odisha.

1.9-Stakeholders & their responsibilities:

The DDMA with Collector Cum District Magistrate as the RO and other line departments at district HQ are the main stakeholders in DM. They are responsible to deal with all phases of DM (Preparedness, Prevention, Mitigation, & Response, Recovery) within the district. Other technical institutions, community at large, local self-governments, NGOs etc. are also stakeholders of the DDMP. The role of the stakeholders have been prepared with the avowed objective of making the concerned organizations understand their duties and responsibilities regarding disaster management at all levels and accomplishing them.

1.10-Approach to Disaster Management:

The Government of Gujarat takes an inclusive approach to disaster management. Disaster impact decrease is divided into three broad areas:

1.11-Warning, Relief and Recovery:

Necessary actions are intended to eliminate the loss of life and property and hardship due to disasters. Plans and SOPs at District level should provide as seamless as possible provision of warning, relief and recovery assistance to avoid or reduce losses and hardship.

The focal point for early warning, relief and recovery is the District Collector, who directs and coordinates these efforts within the district. The Collector is also answerable for coordinating warning, relief and recovery with similar activities in neighbouring districts and with the OSDMA and Revenue Department.

1.12-Mitigation, Preparedness and Prevention:

Mitigation, preparedness and prevention actions are to be taken before a disaster to reduce the probability of a disaster (risk reduction) or the level of damage (vulnerability reduction) expected from a possible disaster. Vulnerability reduction is given priority over a risk reduction. The district can avail itself of four mechanisms (singularly or together) to reduce risk and vulnerability;

- Long term planning for mitigation, preparedness and prevention investments in the district,
- Enforcement of regulations, particularly building and safety codes and land use plans,
- Review and evaluation of development plans and activities to identify ways to reduce risks and vulnerability, and,
- Capacity building including warning, the provision of relief and recovery assistance and community-level identification of risk and vulnerability.
- The Collector, assisted by the District Emergency Officer is responsible for developing plans and activities to effect mitigation, preparedness and prevention using the mechanism noted above.

1.13-Finance:

The finance arrangement as per the fund granted by OSDMA / State nodal agencies to the district. District Collector has authorities to distribute / impart the fund to the counter partners of Disaster management in the district as per required activities, according to the instructions of Government of Odisha.

1.15-Preparation Process:

- District level Consultation workshop with District administration, line departments and Agency, NGO, CSR and authorities of District.
- Sharing of data format designed by OSDMA and Collection of Data and Plan from line departments and agencies.
- Data consolidated, validation & compliance and preparation of draft plan.

1.16- District Collector & District Magistrate, Kendrapara.

- 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.
- Function as leader of the team and take appropriate actions to smoothen the response and relief activities to minimize the adverse impact of disaster.
- Recommend Relief Commissioner and State Government for declaration of disaster.

Different Departments at District level

Every Office of the District level shall prepare a Disaster Management Plan setting out of the following:

- Provisions for prevention and mitigation measures as provided in the District Plan and as assigned to the department or agency concerned;
- Provisions for taking measures relating to capacity-building and preparedness as laid down in the District Plan;
- The response plans and procedures, in the event of, any threatening disaster situation or disaster;
- Coordinate the preparation and the implementation of its plan with those of the other organizations at the district level including local authority, communities and other stakeholders;
- Regularly review and update the plan; and submit a copy of its Disaster Management Plan, and of any amendment thereto, to the District Authority. District Disaster Management Plan, Keonjhar District, Odisha.
- District Disaster Management Authority, Kendrapara.

Local Authorities

- Provide assistance to DC in Disaster Management activities.
- Ensure training of its officers and employees on Disaster Management
- Ensure that resources relating to Disaster Management are maintained as to be readily available for use in the event of any threatening disaster situation or disaster.
- Ensure that all construction projects under it conform to the standards and specifications laid down.
- Carry out relief, rehabilitation and reconstruction activities in the affected area within the district.

Private Sector & Corporate

- Encourage for their active participation in the pre-disaster activities in alignment with the overall plan developed by the DDMA or the DC.
- Adhere to the relevant rules regarding prevention of disasters, as may be stipulated by relevant local authorities.
- As a part of Corporate Social Responsibility (CSR) undertakes DRR projects in consultation with the DC for enhancing district's resilience.

1.4.5 NGOs/CBOs and Volunteer Agencies

- Assist in prevention and mitigation activities under the overall direction and supervision of the DDMA or the DC.
- Participate in all training activities organized and should familiarize themselves with their role in Disaster Management.

1.4.6 Citizens

It is the duty of every citizen to assist the DC or such other person entrusted with or engaged in Disaster Management whenever demanded generally for the purpose of Disaster Management.

Media Supports: - District media cell had plighted their responsible in DDMP preparation process, The SAMBAD a leading daily Odianews paper had published the district disaster management plan process workshop organised at district level on 17th May 2019.

1.5 How to use DDMP Framework

As per Section 31 of DM Act 2005 it is mandatory to prepare a DDMP, for the protection of life and property from the effects of hazardous events within the district.

- The Collector & DM as the chairman of DDMA has the power of overall supervision and direction control as may be specified under State Government Rules/SDMP guidelines.

- The DEOC will be staffed and operated as the situation dictates. When activated, operations will be supported by senior officers from line department's government agencies; private sector and volunteer organizations may be used to provide information, data and resources to cope with the situation.
- Facilities vital to operation of the district government functions have been identified.
- The Collector & DM/RO or his designee will coordinate and control resources of the District.
- Emergency public information will be disseminated by all available media outlets through the designated media and information officer.
- District authority will use normal channel for requesting assistance and resources, i.e., through the DEOC to the SEOC. If state resources have been exhausted, the state will arrange to provide the needed resources through central assistance.
- The DEOC will coordinate with the SEOC, Agencies of the Govt. of India like IMD/CWC to maintain up to-date information concerning potential flooding, cyclones etc. As appropriate, such information will be provided to the citizens of the affected areas in the district.
- Upon receipt of potential problems in these areas, DEOC/designated official will appropriately issue alert and notify action to be taken by the residents.
- Disaster occurrence could result in disruption of government functions and, therefore, all levels of local government and their departments should develop and maintain procedures to ensure continuity of Government action.

Approval Mechanism of DDMP

As per Section 30 of DM Act 2005, the DDMA acts as the district planning, coordinating and implementing body for disaster management and take all measures for the purpose of DM in the district in accordance with the guidelines laid down by the National Authority and the State Authority. Accordingly, the District Plan is prepared by the DDMA, after consultation with the local authorities and having regard to the NDMP and the SDMP. DDMA Committee will approve the DDMA under chairmanship of Chairperson DDMA and Collector & DM.

1.7 Plan review and updation

The District Plan shall be reviewed and updated annually as per Section 31 (4) of the DM Act 2005.

Chapter-2 District Profile

History & Location:

Carved out of the erstwhile Cuttack district, Kendrapara district was formed on 01.04.1993 vide notification No. DRC-44/93-14218 dated 27.03.1993 of Govt. of Odisha. The district was formerly a sub-division of the undivided Cuttack district.

Kendrapara district holds many historical events in its lap. The district is a land rich with cultural heritage. It reveals from the history that Kendrapara has got many names from its origin. It is known as 'Tulasikshetra', 'Guptakshetra', 'Brahmakshetra' and 'Kendrapali' in the pages of the mythological texts and puranas. Epics unveil the fact that, the district owes its name from the death of one mythical demon 'Kandarasura' who was killed by Lord Baladev, the elder brother of Lord Jagannath in this place. Then he married his daughter Tulasi and settled here, since then the place is known as 'Kendrapara' as well as 'Tulasikshetra'. The presiding deity, Lord Baladev Jew is being worshipped in a picturesque temple at Kendrapara. History says that, once upon a time Kendrapara was the trade hub of the ancient Kalinga. Kendrapara is the first municipality of Odisha during British Raj. Kendrapad District lies in 20 degree 20' N to 20 degree 37' N Latitude and 86-degree 14' E to

87-degree 01' E Longitude. Kendrapara is surrounded by Bhadrak district at North, Jagatsinghapur district at South, Cuttack district at West and Bay of Bengal at its East.

. The District covers an area of 2, 644 sq km. Agriculture is the main occupation of the people. A little more than 70 percent people dependent on agriculture. Rice, groundnut, green gram, black gram and jute are the main crops grown in the District. However, frequent occurrence of natural calamities viz cyclone, flood and drought has broken the backbone of the people. In order to survive under these conditions, people go for cultivation of their staple food crop rice during rabi in the assured irrigated areas. Jute is the main cash crop of the District, grown since long. Groundnut is an important oil seed crop of the District. Coconut is the important horticulture crop in Kendrapara District.

There are many picnic spots in Kendrapara District. One of the famous places is 'Bhitara Kanika' which is famous for crocodile sanctuary. One can find many wild animals, birds, reptiles and beautiful nature there. Most popular Udaya Giri and Ratna Giri are just 10–15 km drive from Kendrapara. Mainly Buddha murti, Buddha pratima are conserved there. Lord Baladev and Laxmi Mandir can be found at picnic spot Sakhi Bata. Sri Baldevjew Temple is one of the important temples of the District. Besides, the temple of Lord Baladev Jew there are many other historical places and monuments like Kanika Palace at Rajkanika, Jagannath Temple at Pentha etc. in the district.

Kendrapara District celebrates many festivals round the year. Important festivals like Ratha yatra, Gajalaxmi puja and Durga puja are celebrated with great enthusiasm.

Administrative Setup:

The Collector and District Magistrate is the administrative head the district. For smooth running of administration, he is assisted by Additional District Magistrate, Sub-Collector, Block Development Officers, Tahasildars, Deputy Collectors, and other Officers. The district Kendrapara is constituted of one Sub-Division with the same name.

A Sub- Collector is in charge of the Sub-Division. For the convenience of revenue administration, the district is divided into 9 tahasils namely Kanika, Aali, Pattamundai, Rajnagar, Kendrapara, Marshaghai, Mahakalapada, Derabis and Garadpur, with one Tahasildar in charge of each tahasil. For development of rural areas consisting of 1592 villages in 249 Gram Panchayats, the district is divided into 9 Community Development Blocks with one Block Development Officer in charge of each Block. The Community Development Block wise number of Panchayats and villages is given below.

For maintenance of law and order, the district is divided into 15 police stations viz Rajkanika, Aul, Pattamundai, Kendrapara town, Energy police station, Patkura, Mahakalapada, Rajnagar, Derabis, Kendrapara Sadar, Nikirai, Marshaghai, Talchua Marine, Tantiapal Marine and Jambo Marine. There are two Statutory Towns in the district i.e, Kendrapara Municipality and Pattamundai Municipality. In order to look after the developmental activities in the urban areas of the district, one Executive Officer for each town has been appointed.

Climate & Rain fall:

Kendrapara district has a moderate climate. The maximum mean temperature of the region can go up to 37° Celsius in summer whereas in winter it can drop to 13° Celsius. During last year on 11.04.2016 maximum temperature in Kendrapara district was 43.7 ° C. The average normal rainfall measured in the district is about 1556 mm.

Geography:

Kendrapara District lies in 20° 20" N To 20° 37" N Latitude and 86° 14" E To 87° 01" E Longitude and situated in central coastal plain zone as per the Agro-Climatic Classification of the

Odisha. Four other districts surround Kendrapara District and a part is bounded by the Bay of Bengal. The District is situated in the north of the Jagatsingpur district, west of the Cuttack District, southwest of the Jajpur District and south of the Bhadrak District. Bay of Bengal lies in the eastern part of the district. The coastline covers 48 km stretching from Dhamra Muhan to Batighar. Kendrapara district headquarters is 85 km from the State headquarters.

Topography:

District falls under Coastal irrigated Alluvial/Coastal Alluvial Saline Agro Ecological Zone Type. Rice (paddy) is the principal crop followed by pulses like green gram, black gram, kulthi and oil seeds like ground nut, mustard, linseed, sunflower and vegetables etc. Summer paddy is usually grown in Pattamundai, Aul, Rajkanika and Rajnagar block in irrigated area.

River System:

There are three major river systems i.e. The Mahanadi, Bramhani and Baitarani system in the district. Cultivable alluvial plains are formed mainly from above river systems and contribute to the agricultural prosperity of the district. In addition to these three major river systems, there are presence of series of natural streams and river distributaries like Luna, Chitrotpala, Karandia, and Gobari. Kharasrota, Dhamara, Kani and Birupa. The Chitrotpala flows from Mahanadi at Bisharpur in Cuttack district and enters to this district at Mahanga (Talakusuma) in Garadpur block. Chitrotpala is a distributary of the river Mahanadi which flows parallel to Luna and again merges with Mahanadi. The river Luna flows from the river Chitrotpala at Sunaria in Cuttack district and enters into Kendrapara district at Girigola of Derabisi block. Then it traverses through Danpur (Derabisi block) Baspur, Kalapada (Marshaghai block) and joins Chitrotpala at Kuanrpala. River Karandia flows from the river Luna in its right side at Balipada of Kendrapara district and proceeds to Sathilo Basupur, Ayatpur and rejoins Luna at village Karandia, creating an island known as "Luna karandia Island". The river Gobari flows from Mahanadi-Paika Island at Bahadulpur in Cuttack district, traverses through Jajpur district at Panchupandav in north-west direction. River Paika flows from Mahanadi in Cuttack district and enters in to Kendrapara district in north-west at Benipur of Derabisi block. Then it proceeds to Indupur (Kendrapar block) and joins river Bramhani at Ghagara. The Bramhani originates as a combined stream of two small streams called Sankhua and Koel originates from Chhotnagpur plateau, which meet at Vedvyas near Panposh in Sundergarh district. River Kharasrota popularly known as Kharasuan enters in to the district Kendrapara from Jajpur district at Boijorudhia in Aul block in northwest, flows through Balijori, Giribandha, Ranipokhari, Balakati, Jamudanda and joins the river Bramhani at Dakshinabrdha in Rajnagar block. River Kani enters into Kendrapara from Jajpur district near Arilo, Kantipur in Aul block that the river penetrates in to the district, makes its passage through Natara, Thakurpatna, Manpur, Aul and finally joins the river Kharasrota at Baulajodi of Aul block. River Hansua a tributary of river Mianpora has originates from Patrapur of Rajnagar block where Bramhani is being splitted into Dhamara and Mianpora. The river Baitarani takes its rise in the up-lands of Keonjhar district located to the north-west of Kendrapara district. The southern branch of this river traverses through Cuttack district and touches Kendrapara district at Kanrapur in Rajkanika block. Other minor rivers of the district which are locally known as Nallas, Joras and Gullias are (1) Gahiramatha Nalla, (2) Baunsagada Nalla (3) Chitrotpala Nalla,(4) Kharanasi Nalla,(5) Hanumanta Nalla,(6) PapuliNalla,(7) Bhitarkanika Nalla (8) Sukhuamuhan Nalla,(9) Budhia Nalla,(10)Kani Nalla,(11) Chhedakani Nalla, (12) Singha Nalla,(13) Kandarapatia Nalla,(14) Jagarjora,(15) Manda Jora,(16) Kutha Jora (17)Batighara Gallia,(18) Ramachandi Gallia,(19) Babar Gallia etc. Most of these minor rivers of the district are charged with tidal ingression during monsoon season and give rise to flood.

Demography:

There are total 1592 villages in the District comprising 1,608,820 population as per projected population. Total male population of the District is 801686 and female population is 807134. Literacy rate of the population is 85.93 percent, with 92.45 percent male population and total 79.51 percent female population in the District.

Households and its distribution:

Sl. No	Total Number of Families/HH	Category		Category					Category	
		Rural	Urban	SC	ST	OBC	SEBC	GEN	BPL	APL
1	3,21,934	3,05,868	16,066	69,382	1642	5840	9291	241619	108173	197691

[Details are at Table No. 1.2 of Volume II of the DDMP]

Population and its composition:

Sl. No	Population			SC		ST		OBC as on Dec.2016	
	T	M	F	M	F	M	F	M	F
1	1608820	801686	807134	173725	172259	5291	5325	3607	2904

- **Population density of the district and decadal growth of population-**

Religion wise distribution of Population:

Sl. No.	Total Population	Category				
		Hindu	Muslim	Christian	Sikh	Others
1	1608820	1551252	53561	1874	200	1933

[Details are at Table No. 1.4 of Volume II of the DDMP]

Age Group

Sl. No.	Total Population	0-5 years	6-14 years	15-59 years	60 years and above
1	1608820	128705	301171	985563	193381

[Details are at Table No. 1.6 of Volume II of the DDMP]

Sex Ratio:

1	Sex Ratio (Females per 1000 males):	1007
2	Sex Ratio (0-6 Years):	926

Details are at Table No. 1.7 of Volume II of the DDMP

Literacy Rate:

	Total	Male	Female
Literacy Rate	1382459	736021	646438

[Details are at Table No. 1.8 of Volume II of the DDMP]

Socio-Economic profile:

Workforce - The workforce of a country includes both the employed and the unemployed.

[Details are at Table No. 1.9 of Volume II of the DDMP]

Workforce participation rate- The labour force participation rate is the percentage of working-age persons in an economy who:

- Are employed
- Are unemployed but looking for a job

Persons	Total Worker	Non-worker	Main worker	Marginal worker	Cultivators	Agriculture labourer	Worker in Household industry	Other workers
1608820	5,21,419	10,87,401	3,59,893	1,61,526	5,14,340	4,95,677	56,952	5,41,690

[Details are at Table No. 1.9 of Volume II of the DDMP]

Land Holding Pattern: The land hold by different type of owner. The land holding pattern is as follows:

[Details are at Table No. 1.10 of Volume II of the DDMP]

LAND CLASSIFICATIONS (in Hectre)

Cultivated Area				Paddy Area			
High	Medium	Low	Total	High	Medium	Low	Total
31637	72304	66004	169981	25286	71118	63621	160025

LAND CATEGORY

Agricultural Land (ha)			Grazing land	Forest Land (ha)	Miscellaneous Trees & Groves (Ha)
High	Medium	Low			
25286	71118	63621	7144	3934	4550

Land Holding Pattern: (No. of HH)

Marginal farmers	Small Farmers	Agricultural labourers	Landless
108241	46920	35318	28638

Agriculture and Irrigation:

Due to the Coastal plain of kendrapara district the agriculture and irrigation plays important area for the workforce or economic activity. The above land holding pattern shows the agriculture area of the district and the irrigation divisions is as follows:

Irrigation Divisions	
Kendrapara Irrigation Division	(Full)
Mahanadi North Division	(Part)
Mahanadi South Division	(Part)
Jajpur Irrigation Division	(Part)
Chitrotpala Irrigation Division	(Part)
No. of Saline Embankment Division	1
No. of P.H. Sub-Division	1
No. of R&B Division	1
No. of Rural Works Division	02 (Kendrapara, Pattamundai)
No. of RWSS Division	1
No. of Lift Irrigation Division	1
No. of Electrical Division	02 (Kendrapara, Marsaghai)
No. of Costal Blocks	02 (Rajnagar, Mahakalpara)

Major occupation of the people	Agriculture & Fishing.
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[Details are at Table No. 1.12 & 1.13 of Volume II of the DDMP]

Employment and livelihood:

Employment:

This refers to the engagement of a person in an economically meaningful activity. A person could be self-employed or be employed for a wage/salary. Words like 'job' and 'employment' are interchangeably used.

Livelihoods:

The District covers an area of 2,644 sq km. Agriculture is the main occupation of the people. A little more than 70 percent of population are dependent on agriculture. Rice, groundnut, green gram, black gram and jute are the main crops grown in the District. However, frequent occurrence of natural calamities viz cyclone, flood and drought has broken the backbone of the people. In order to survive under these conditions, people go for cultivation of their staple food crop rice during rabi in the assured irrigated areas. Jute is the main cash crop of the District, grown since long. Groundnut is an important oil seed crop of the District. Coconut is the important horticulture crop in Kendrapara District. Out of 100 workers in the District 68 are engaged in Agricultural sector. The economy of the District is primarily rural and based on agriculture and allied activities. More than 75 percent of the total population earns a livelihood from the primary sector.

[Details are at Table No. 1.24 of Volume II of the DDMP]

Industries and mining: There are no industry and mining activities in this district.

Education:

There are so many schools and colleges which are engaged in creating well qualified professionals in all the fields. Kendrapara Autonomous College situated at Kendrapara town is the largest college of the district for higher Education. There are several old and new educational institutions present throughout the district. Kendrapara High School is the oldest High School of the district which is established in the year 1863. The Second oldest High school which is situated in the district is R N High School Rajkanika established in the year 1918.

[Details are at Table No. 2.1 of Volume II of the DDMP]

Health:

Health institutions like DHH(1), PHCs, CHCs, ANM Centres, Anganwadi centres are established in the district to provide better health services to the people. [Details are at Table No. 2.2 of Volume II of the DDMP]

Housing:

There are 198107 Pucca houses 16363 semi pucca and 112556 kutcha houses in kendrapara as per 2011 census.

[Details are at Table No. 1.11 of Volume II of the DDMP]

Electrification:

97.9 % of the district is electrified. [Details are at Table No. 1.29 of Volume II of the DDMP]

Drinking water and sanitation:

Due to the nearby coast of Bay of Bengal the district faced some water scarcity situation due to saline water in different places of the district particularly in summer. The district administration takes all possible measures to eradicating the problem at once.

[Details are at Table No. 1.30 of Volume II of the DDMP]

Migration:

About 7 % of the people of this district migrated to urban cities of India and also abroad to sustain their livelihood. Maximum migration is from Rajnagar, Aul, Rajkanika, Pattamundai and Mahakalpada blocks.

Food security:

The Civil Supplies Section is a part of the Collectorate, Kendrapara, which is being managed by F.S. & C.W. Department. The mission of Organization is to provide food security to the consumers through BPL/AAY/APL Schemes.

Measure commodities distributed include staple food grains such as Wheat, Rice, Sugar and Kerosene Oil through a network of Public Distribution Shops called Fair Price Shops (FPS). The PDS involves the entire work of procurement of various food grains, building of and maintenance of stocks, their storage, movement and delivery to the beneficiaries. The focus is on incentivizing farmers through fair value of their produce i.e paddy by way of payment of minimum support price.

Now ration cards distributed as per National Food Security Act 2013 (NFSA) provides for food & nutritional security in human life cycle approach by ensuring access to adequate quantity and quality of food at affordable prices to people to live a life with dignity. There are 266578 house hold covered under NFSA.

[Details are at Table No. 1.37 of Volume II of the DDMP]

Social Security:

Women and Child Development Department has been working for the overall development of children and women through a host of specially designed schemes and programmes for Social security. It also deals with schemes for the Senior Citizens and Persons with Disability. The focus of activities continues to be on the empowerment and entitlements of children, women, and persons with disabilities and senior citizens. The Department has five statutory bodies, viz. (a) State Commission for Women (SCW) (b) State Council for Child Welfare (SCCW), (c) State Social Welfare Board (SSWB), (d) Social Security and Empowerment of Persons with Disabilities (SSEPD) and (e) State Commissioner for Protection of Child Rights (SCPCR).

[Details are at Table No. 22 of Volume I of the DDMP]

Critical infrastructure

Sl.No	Type of Infrastructure	Reference
1	Anganwadi centers	Table No. 1.32 of Volume II of the DDMP
2	Schools and other Educational Institutions	Table No. 2.1 of Volume II of the DDMP
3	Hospitals and Health Centres	Table No. 2.2 & 2.3 of Volume II
4	Veterinary Hospitals	Table No. 2.4 of Volume II
5	Police and Fire Stations	Table No. 2.7 of Volume II
6	Banks and Post offices	Table No. 2.6 of Volume II
7	Road and Railway network	Table No. 1.41 of Volume II

Cyclone and Flood Shelters:

A cyclone shelter is a place where you can take shelter during cyclone, flood and other natural disasters to save the lives. 117 Multipurpose Cyclone Shelter/ Flood Shelter constructed in

kendrapara district for sheltering purposes when any occurrence takes place. It is used school and other purposes through out the year. [Details are at Table No. 4.17&4.18 of Volume II]

Rain gauge and Automatic Weather Stations:

The rain gauge/ automatic weather station are established to measure the amount of liquid precipitation, humidity and rainfall over a set period of time. The manually measured rain gauges are installed at each block head quarters of this district.

Chapter- 3

Hazard, Vulnerability and Risk Assessment

Natural Calamities of one description or the other affect nations all over the world. Due to geographical position of our country, India often faces natural calamities like flood, cyclone, Tsunami, Sunstroke and drought. Apart from natural disasters, manmade disasters like fire, bomb blast, communal riot, building collapse, road accident, boat capsize etc. become common in India.

It is now recognized fact that, natural disasters are the acts of God but losses due to these are acts of man. Lots of human suffering and misery from a large number of natural disasters can be mitigated by taking timely actions, setting up mechanisms and undertaking capital works of long and medium term in nature. The social and economic losses of disasters are very high and often immeasurable. Usually the most sufferers are the poor and the marginalized like the small and landless farmers and the agriculture labourers.

Cyclones:

Cyclones are catastrophic winds that storm the vulnerable regions with intense speed and ferocity. There are two distinct cyclone seasons: pre-monsoon (May-June) and post-monsoon (October-November), which impacts the long 58 km. long coastline of kendrapara.

Super Cyclone-1999

This district was badly hit by the super cyclone which occurred on 29.10.1999. All the 9 blocks were severely affected with 375 human casualties and the value of loss of property was estimated to be Rs. 6,18,43,23,000.00. Around 1,45,000 houses were completely damaged. Besides, there was unreported loss of life, domestic animals and loss of property. As per the Revenue Department report 9 Blocks and 2 Municipalities of Kendrapara District were affected by Super Cyclone in which 205 G.Ps. and 1564 Villages consisting of Lakhs of population were affected.

Cyclone Phailin 2013

In cyclonic storm Phailin followed by heavy rain in October" 2013, one human life was lost with the crop loss in an area of 192.59.43 Ha of agricultural land. The amount of agriculture input subsidy payable to 51798 affected farmers was Rs. 1,37,17,11,900.00. The value of total loss of property due to the said disaster is Rs. 1,03,71,71,190.00.

Cyclone Huudhud 2014

There was no loss of property in cyclonic storm HUD-HUD" 2014; two human lives were lost during their shifting to safer places by the District Administration in anticipation of the cyclonic storm.

Cyclone Fani 2019

In 3rd May 2019 cyclonic storm Fani, three human life was lost and three are severely injured with the crop loss in an area of 1099.55 Ha of agricultural land. All the people from the 9 blocks of this district were affected by the Extremely Severe Cyclonic storm FANI. The value of total loss of property due to the said disaster is Rs. 4058 crores.

Cyclone BULBUL 2019

In 5th November 2019 cyclonic storm BULBUL, there are crop loss of 71792 Ha of agricultural land. All the people from the 9 blocks of this district were affected by the Severe Cyclonic storm Bulbul. The value of total loss of property due to the said disaster is Rs. 210.19 crores.

Cyclone Amphan-2020

In 16th May 2020 cyclonic storm Amphan, there are crop loss of 478 Ha of agricultural land. All the people from the 9 blocks of this district were affected by the Severe Cyclonic storm Amphan. The value of total loss of property due to the said disaster is Rs. 14.64 crores.

Cyclone YASS- 2021

In 23rd May 2021 cyclonic storm YASS, there are crop loss of 952 Ha of agricultural land. All the people from the 9 blocks of this district were affected by the Severe Cyclonic storm Amphan. The value of total loss of property due to the said disaster is Rs. 57.64 crores.

Cyclone JAWAD- 2021

In 2nd December 2021 cyclonic storm JAWAD, there are crop loss of 20,522 Ha of agricultural land. All the people from the 9 blocks of this district were affected by the Severe Cyclonic storm Amphan. The value of total loss of property due to the said disaster is Rs. 92.59 crores.

Flood:

Kendrapada district is situated in the delta of various rivers like the Mahanadi, the Brahmani, and the Baitararini etc. So, the floods are the permanent feature of this district. As Kendrapara District is situated in the delta region of the rivers, floods have become a permanent feature of Kendrapara's economy.

Kendrapara has faced severe floods in 1995, 1997, 1999, 2001, 2003, 2006, 2007, 2008, 2009, 2011 and recently in 2013. In 2011, a great flood affected Kendrapara. Due to heavy rain in the catchment area of Mahanadi. There was great flood in Kendrapara and army was deployed in Marshaghai and Kendrapara for rescue operation. There was also breach in the river Luna. 5 lakhs of people were affected and 7 people were reported missing.

According to the India disaster report 2011, Kendrapara district was badly hit by flood in 2011. All the nine development blocks in the district were affected. 473 villages of 116 Gram Panchayats and two Urban Local Bodies (ULBs) were affected. Total number of populations affected were 507145 (Third highest after 625897 is Puri district) and 526923 in Cuttack district) with 13 human casualties (Highest in the state). 27000 houses were damaged (Second highest after Puri district) including kuchha and pucca houses.

Human casualties during flood- 2001, 2002, 2003, 2005, 2006, 2007, 2008 were 1, 2, 6, 3, 2, 4, 10 respectively.

Lightning:

Lightning is a sudden electrostatic discharge that occurs during a thunder storm. This discharge occurs between electrically charged regions of a cloud (called intra-cloud lightning or IC), between two clouds (CC lightning), or between a cloud and the ground (CG lightning). During last six year, Kendrapara district has lost 58 precious lives due to lightning.

Fire:

Fire is the rapid oxidation of a material in the exothermic chemical process of combustion, releasing heat, light, and various reaction products. During last two year, Kendrapara district has lost 5 precious lives due to fire accident.

Heat wave:

In May of 1998, the heat waves caused sun-stroke which blew over coastal Odisha including Kendrapara. During this period, the temperature of Kendrapara was between 42-48 degree Celsius. 15 people died of sunstroke in Kendrapara district in 1998. During last year on 11.04.2016 maximum temperature in Kendrapara district was 43.7 ° C . During last four years Kendrapara district has lost 29 precious lives due to sunstroke.

Tornado:

In the recent past, the district has faced crop losses due to unseasonal rain, loss due to whirlwind accompanied by hailstorm in which some of the areas of the district were affected. In 2009 March, one of the block Rajkanika faced a Tornado in which 12 villages under 5 GP"s and more than 10000 people were affected which caused a loss of 16 lives and the total damage of rupees Rs.4,32,67,010/- .

To sum up during the last 20 years (1995 – 2015) the district has experienced flood 13 times, 10 times other natural disasters like heat wave, drought, heavy rain, Whirlwind etc. Flood and Cyclone became a perennial phenomenon in this district. The main cause of concern is the geographical location of the district and the rivers system netting in the region.

A. Major Disasters/ Incidents during 2011-2021

A brief profile of major disasters/ incidents occurred in the district during last 10 years (2011 to 2021):

Table No.: 1

Sl. No.	Disaster/ Incident	No. of incidents during 2011-	No. of Deaths	Affected Populatio n	Livestock Loss	Houses Damaged	Damage to Infrastructure				Damage and loss of Crop
							School/ AWC	Ho spitals	Road in Km.	Oth er Cri	

							Buildings			tical Infrastructure	
Disasters as approved under SDRF/ NDRF Guidelines.											
1	Flood	8	19	1445891	331990	47235	290	83	1090.72	246	6925
2	Drought	0	0	0	0	0	0	0	0	0	0
3	Fire	14	14								
4	Hail Storm	2	18			1425					
5	Cyclone	7	6	1522901	55982	3611			19		16480
6	Earth Quake	0	0								
7	Tsunami	0	0								
State Specific Disasters as per Notification No.1936 Dt. 01.06.2015											
8	Lightning	139	139								
9	Heat wave	28	28								
10	Whirlwind	0	0								
11	Tornado	0	0								
12	Heavy Rain	0	0								
13	Boat Accidents (Other than during Flood)	1	1								
14	Drowning (Other than during Flood)	151	151								
15	Snake Bite(Other than during Flood)	109	109								
Other Disasters											
16	Animal Menace	0	0								
17	Building Collapse	0	0								
18	Stampede	0	0								
19	Epidemics	0	0								
20	Road Accidents	9	9								

[Year wise details of each disaster occurred during the last 10 years is at Table No. 3.1 of Volume II of DDMP]

B. Major Disasters/ Incidents in the District during 2021 :Table: 02

Sl. No.	Disaster/ Incident	No. of incidents during 2021	No. of Deaths	Affected Population	Livestock Loss	Houses Damaged	Damage to Infrastructure				Damage and loss of Crop Area (in Hectares)
							AWC/ School	Hospitals	Road in Km.	Other Critical	
1	Cyclone JAWAD & YASS	2	0	1522901	14311	23998					20522
2	Fire	276	2								
3	Snake Bite	54	54								
4	Drowning	52	52								
5	Heat Wave /Sunstroke	0	0								
6	Lightning	6	6								

C. Vulnerability and Risk Assessment related to disasters:

1. Cyclone:

Table No. 03: Cyclone vulnerable areas of the district.

Sl. No.	Name of the Block/ ULB	No. of susceptible Gra	No. of susceptible Villages / Wards	Vulnerable Population in Nos.	Milch and Draught animals	Houses	Vulnerable Infrastructure			
							School / AWC	Hospitals	Roads (in Km)	Other Critical Infra

		m Panc haya ts					Buildi ngs			struct ure
1	Rajkanika	29	168	140807	51490	30,697	260/215	31	778	
2	Rajnagar	29	306	163450	67697	35,005	276/217	32	1299	
3	Aul	34	132	137800	45598	31,206	250/255	32	640	
4	Pattamundai	31	175	219063	57326	42,596	320/278	41	951	
5	Kendrapara	27	185	273937	45310	42,441	348/245	32	778	
6	Derabish	26	179	65909	50662	35,156	260/198	31	700	
7	Garadpur	18	129	177324	46640	26,794	198/172	54	503	
8	Marsaghai	24	158	108163	45865	30,073	205/171	29	533	
9	Mahakalapada	31	160	153908	78589	47,966	336/296	41	1378	
	Total	249	1592	1440361	489177	3,21,934		300	7560	

(Detailed list of vulnerable Villages/Wards is at table No. 3.2 of Volume II of the DDMP.)

Electrical Infrastructure and cyclone Vulnerability:

Table No. 04

Sl. No.	Name of the Block/ ULB	No. of Grid Stations	No. of 33/11 KV Substations	No. of Distributing Transformers			Conductor / Electrical lines-11 KV or less (length in Kms.)	No. of Poles	No. of High-Tension Towers	High Tension lines above 11 KV (length in Kms.)
				11 KV or Less	11 KV < and <60KV	60 KV and above				
1	Kendrapara	1	3	210	210	232	830.421	8304	0	47
2	Derabish		2	185	195	244	845.321	8453	0	36
3	Pattamundai	1	4	172	146	215	860.225	8602	2	29
4	Aul		2	210	194	242	789.215	7892	0	18
5	Rajkanika		2	162	235	259	795.221	7952	0	8.55
6	Rajnagar		1	141	265	211	861.482	8615	0	19
7	Marshaghai	1	1	606	0	0	740.90	12384	0	1.20
8	Garadpur		2	444	0	0	636.80	10613	0	27.00
9	Mahakalpada		3	882	0	0	1129.50	18825	2	24.00
	Total	3	20	3012	1245	1403	7489.09	91640	4	209.75

Table No.05: Drinking water facility in the Cyclone prone areas:

				PWS Schemes	
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Sl. No.	Name of the Block/ ULB	Total No. of Tube Wells	No. of Wells	Total No.	Length in Mtrs.	No. of Over Head tanks	No. of Stand Points	Other Drinking Water Sources If any
1	Aul	2146		31	155560	9	440	
2	Derabish	1799		27	140400	14	405	
3	Garadpur	1597		26	132600	7	390	
4	Kendrapara	2046		31	167400	14	465	
5	Mahakalapada	1960		21	112500	6	308	
6	Marshaghai	1406		31	164300	12	465	
7	Pattamundai	1654		33	169800	17	472	
8	Rajkanika	1630		32	169700	12	456	
9	Rajnagar	1756		26	143500	9	375	
	Total=	15994	Nil	258	1355760	100	3776	Nil

2. Tsunami:

Table No. 06 : Tsunami vulnerable areas of the district:

Sl. N o.	Name of the Block/ ULB	No. of susceptible Gram Panchayats	No. of susceptible Villages/ Wards	Vulnerable Population in Nos.	Milch and Draught animals	Houses	Vulnerable Infrastructure			
							School Buildings/ Anganwadis	Hospitals	Roads (in Km)	Other critical Infrastructure
1	Rajnagar	12	43	17067	5489	3463	39/28	0	76	
2	Mahakalpada	5	18	23678	7291	5177	18/16	0	88	

(Detailed list of vulnerable Villages/Wards is at table No. 3.2 of Volume II of the DDMP.)

3. Flood:

Table No. 07 : Flood vulnerable areas of the district in general.

Sl. N o.	Name of the Block/ ULB	No. of susceptible Gram Panchayats	No. of susceptible villages/ Wards	Population in Nos.	Milch and Draught animals	Houses	Vulnerable Infrastructure			
							School/ AWC Buildings	Hospitals	Roads (in Km)	Other Critical Infrastructure
1	Kendrapara	1	2	2649	1576	588	3	0	4	2
2	Derabish	3	6	7221	3258	1747	6	1		
3	Marshaghai	19	72	77955	32225	18727		4		
4	Mahakalpada	15	78	94122	32456	21172	78	2		
5	Garadpur	18	135	108017	33275	26172	135	3		

6	Pattamundai	14	25	45172	15246	10336	25	2		
7	Aul	32	124	136324	40211	30435	124	5		
8	Rajkanika	25	93	84479	24536	19137	93	4		
9	Rajnagar	8	41	27240	10246	5355	41	2		
10	Pattamundai NAC	11 ward	9	22074	10211	5023	9	1		

[Note: Based on Flood 2011 data of this District.] (Detailed list of vulnerable Villages/Wards is at table No. 3.2 of Volume II of the DDMP.)

Table No. 08: Causing agent wise flood vulnerable areas of the district:

Table No. 09: Agriculture and Flood Vulnerability

Sl. No.	Causing agent- Rivers/ Water bodies/Tidal Wave/ Others	No. of Susceptible Blocks/ ULB	No. of Susceptible GPs	No. of Susceptible Villages / Wards	Vulnerable Population	Milch and Draught animals	Houses	Vulnerable Infrastructure			
								School/ AWC Buildings	Hospitals	Roads (in Km)	Other Critical Infra.
1	Kani	2	9	26	31459		7275				
2	Brahmani	4	33	130	166052		35343				
3	Baitarani	1	11	42	39661		9075				
4	Birupa	1	1	1	2924		750				
5	Chitrotpala	2	22	131	116587		27857				
6	Gobari	1	1	2	883		208				
7	Hansua	1	3	9	5088		1021				
8	Jamboo	1	1	4	8405		1865				
9	Karandaia	2	3	21	20077		4861				
10	Kharasrota	2	25	87	104102		23211				
11	Luna	3	16	84	90102		21116				
12	Mahanadi	1	1	4	10338		2194				
13	Paika	2	8	60	53059		12267				
14	Patasala	1	2	5	4131		964				
15	Tidal Wave	2	14	68	59015		12379				
16	Flash Flood	4	69	378							
17	Others										

Sl. No.	Name of the Block	Cultivable Area (Hectares)		Area susceptible to Flood (Hectares)	
		Paddy	Non Paddy	Paddy	Non Paddy
1	Aul	15175	1585	15175	1585
2	Derabish	13505	1463	13505	1463
3	Garadpur	11022	190	11022	190
4	Kendrapara	16534	1707	16534	1707
5	Mahakalpada	27795	1645	27795	1645
6	Marsaghai	11000	1117	11000	1117
7	Pattamundai	21323	1370	21323	1370
8	Rajkanika	24261	239	24261	239
9	Rajnagar	19410	640	19410	640

Table No. 10 : Electrical Infrastructure in the Flood Prone Area

Sl. No.	Name of the Block/ ULB	No. of 33/11 KV Substations	No. of Distributing Transformers			Conductor/ Electrical lines-11 KV or less	No. of Poles	No. of High Tension Towers	High Tension lines above 11 KV
			11 KV or Less	11 KV < and <60KV	60 KV and above				
1	Kendrapara	1	3	210	210	232	830.421	8304	0
2	Derabish		2	185	195	244	845.321	8453	0
3	Pattamundai	1	4	172	146	215	860.225	8602	2
4	Aul		2	210	194	242	789.215	7892	0
5	Rajkanika		2	162	235	259	795.221	7952	0
6	Rajnagar		1	141	265	211	861.482	8615	0
7	Marshaghai	1	1	606	0	0	740.90	12384	0
8	Garadpur		2	444	0	0	636.80	10613	0
9	Mahakalpada		3	882	0	0	1129.50	18825	2
	Total	3	20	3012	1245	1403	7489.09	91640	4

Table No.11 : **Drinking water and Flood Vulnerability:**

Sl. No.	Name of the Block/ ULB	Total No. of Tube Wells	No. of Tube Wells with raised platform	No. Sanitary Wells	PWS Schemes				Other Drinking Water
					Total No.	Length in Mtrs.	No. of Over	No. of Stand	
1	Aul	2088		29	153700	8	435		
2	Derabish	1758		27	140400	13	405		
3	Garadpur	1566		26	132600	6	390		
4	Kendrapara	2004		31	167400	12	465		
5	Mahakalapada	1911		20	112000	6	301		
6	Marshaghai	1345		31	164300	11	465		
7	Pattamundai	1586		31	168950	15	462		
8	Rajkanika	1593		31	165850	11	451		
9	Rajnagar	1688		24	141600	6	365		
	Kendrapara (Municipality)	211	-	-	-	-	-	-	-
	Pattamundai (Municipality)	188	-	-	-	-	-	-	-
	Total=	2487	Nil	250	1346800	88	3739	Nil	

4. Events/ Festivals/ Functions organized in the district where mass gathering occurs:

Table No. 12

Sl. No.	Name of the Event/ Festival/ Function	Place (Block & Gram Panchayat)	Duration of the event (in Month (as per English Calendar)	Strength of population	Remarks (other vulnerabilities)
---------	---------------------------------------	--------------------------------	---	------------------------	---------------------------------

1	Mahima Alekha Dhonomahostav	Pentha, Rajnagar	1 day	March	20000	-do-
2	Durgapuja	Chandibaunsamula, Rajnagar	5 day	October	8000	-do-
3	Olakana Melan	Arakhanda, Derabish	1 day	March	10000	-do-
4	Kartikeswar Puja	Panchupandaba, Derabish	1 day	November	20000	-do-
5	Durgapuja	Sabalanga, Derabish	1 day	October	10000	-do-
6	Gajalaxmi Puja	Derabish	1 day	October	10000	-do-
7	Dola Melan	Harianka, Derabish	1 day	March	50000	-do-
8	Alekha Mahima	Khannagar, Derabish	1day	March	50000	-do-
9	Biswashanti Mahayagnya	Pattamundai	3day	February	20000	-do-
10	Durgapuja	Pattamundai	5 day	October	30000	-do-
11	Mahashivaratri	Pattamundai	1 day	March	15000	-do-
12	Kalipuja	Olavar, Lahuni, Rajkanika	5 days	November	10000	-do-
13	Mahashivaratri	Katana, Gokarneswar, Rajkanika	1 day	March	8000	-do-
14	Durgapuja	Aul	3 days	October	10000	-do-
15	Durgapuja	Kendrapara	3 days	October	10000	-do-
16	Dola Melan	Kendrapara	3 days	March	10000	-do-
17	Durgapuja	Mahakalpada	5 days	October	10000	-do-
18	Kalipuja	Mahakalpada	3 days	November	10000	-do-

5. Boat operation points:

Table No. 13:

Sl. No.	Name of the Block	Name of the ghat/ boat operation point	Name of the water body	No. of Panchayats/ villages connected	Daily to and fro movement of people in Nos. (Approx.)	Type of boats operating in Nos.	
						Mechanised	Non-Mechanised
1	Garadpur	Nuapada	Chitrotpala River	9/24	200		2
2	Garadpur	Haridaspur (sanighat)	Chitrotpala River	5/11	120		2
3	Garadpur	Jagannathpur	Chitrotpala River	2/4	21		1
4	Garadpur	Samsara	Chitrotpala River	4/12	70		1
5	Garadpur	Pandia	Chitrotpala River	4/10	190		2

6	Garadpur	Gojimuha Ghat	Chitrotpala River	3/8	200		2
7	Garadpur	Palasudha	Paika River	1/7	160		2
8	Garadpur	Lankapada	Paika River	2/6	160		2
9	Garadpur	Bamara	Paika River	2/5	80		1
10	Garadpur	Sagunaghai	Karandia River	5/12	400		2
11	Garadpur	Gadadhar	Chitrotpala River	2/6	130		2
12	Garadpur	Sathilo	Luna River	3/10	350		2
13	Kendrapara	Ghagara	Brahmani River	5/9	150		2
14	Derabish	Sagunaghai	Luna River	4/9	180		2
15	Derabish	Indalo Balisahi	Karandia River	3/5	50	1	
16	Rajkanika	Gahampal	Petanala (Bhamanda)	3/6	30		1
17	Rajkanika	Jhadamal	Brahmani River	3/7	430	2	
18	Rajkanika	Balitora	Kharasrota River	6/13	360	2	
19	Rajkanika	Kanpur	Petanali	3/8	120	2	
20	Rajkanika	Manpur	Baitarani River	4/8	600	2	
21	Rajkanika	Gangadharp rasad dia	Kharasrota River	3/8	100	1	
22	Rajkanika	Jaynagar	Brahmani River	6/11	400	2	
23	Rajkanika	Jayakund	Kharasrota River	6/15	180	1	
24	Pattamundai	Penthapal	Brahmani River	4/10	150	1	
25	Pattamundai	Krushnadas pur	Kani River	4/9	150	1	
26	Aul	Padanipal	Kani River	3/8	80	1	
27	Aul	Giribandha	Kharasrota River	6/12	300	2	
28	Aul	Mahu	Brahmani River	4/9	350	2	
29	Aul	Kalamada (sasana)	Kani River	3/5	80	1	
30	Aul	Padanipal	Kani River	2/5	70	1	
31	Aul	Padanipal	Kharasrota River	2/4	40	1	
32	Rajnagar	Khola	Khola Nala	4/7	150	2	
33	Rajnagar	Dhamara	Brahmani River	2/10	70	1	

34	Rajnagar	Belapal	Hansua River	2/4	40	1	
35	Rajnagar	Nagada	Hansua River	4/9	300	2	
36	Mahakalpa ada	Bahakud	Mahanadi River	4/10	300	2	
37	Mahakalpa ada	Jamboo	Gobari River	4/11	400	2	
38	Mahakalpa ada	Kharinasi	Gobari River	2/6	400	2	
39	Mahakalpa ada	Kajalapatia	Mahanadi River	2/7	300	2	
40	Mahakalpa ada	South Kajalapatia	Mahanadi River	2/7	300	2	
41	Mahakalpa ada	South Barakolikha la	Mahanadi River	2/5	200	2	
42	Mahakalpa ada	North Barakolikha la	Mahanadi River	2/5	300	2	
43	Mahakalpa ada	Teragaon	Mahanadi River	3/7	300		
44	Mahakalpa ada	Bijayanagar	Gobari River	3/5	300		2
45	Mahakalpa ada	Bijayanagar	Gobari River	3/5	300	2	
46	Mahakalpa ada	Kanspal	Gobari River	3/7	300		2
47	Mahakalpa ada	Karanja	Mahanadi River	3/6	300		2
48	Mahakalpa ada	Gobardhan pur	Mahanadi River	3/6	300		2
49	Mahakalpa ada	Ekalpur	Gobari River	3/5	300		2
50	Mahakalpa ada	Kanasaraba da dandua	Gobari River	3/8	300		2
51	Mahakalpa ada	Mahakalpa da	Gobari River	3/6	300		2
52	Mahakalpa ada	Benakandh a	Gobari River	2/5	300		2
53	Mahakalpa ada	Amirabad	Gobari River	2/6	200		2

6. Land Slide Vulnerability:

There is no landslide Vulnerability in this district.

7. Lightning:

Table No. 15-

Sl. No.	Name of the Block/ ULB	Identifiable incidents of lightning hit in last 5 years		No. of Lightning events	No. fatality/ Deaths	Injured Persons
		No. GPs	No. of Villages/ Wards			
1	Aul	3	3	3	5	0
2	Derabish	3	3	3	2	0
3	Garadpur	2	2	2	0	0
4	Kendrapara	8	10	10	6	0
5	Mahakalapada	7	14	14	8	0
6	Marshaghai	4	5	6	6	0
7	Pattamundai	7	7	8	8	0
8	Rajkanika	4	4	4	6	0
9	Rajnagar	12	12	12	8	0
10	Total	50	60	62	49	0

[List of villages is at Table No. 3.2 of Volume II of the DDMP]

8. Major Industrial Establishments/ Chemical & Other hazardous material storage points:

There is no major Industrial Establishments/ Chemical & Other hazardous material storage point in this district.

9. Drought:

[Table to be filled based on data available at the district level. Information for all the blocks of the district to be given]

Table No.- 17

Sl. No.	Name of the Block	Average Annual Rain Fall	Annual Ground Water Level	Cultivated Area (In Hectares)			
				Paddy		Non- Paddy	
				Rain fed Area	Irrigated area	Rain fed Area	Irrigated area
1	Aul	1532	764	9310	7506	4084	3571
2	Derabish	1773	4096	13259	13134	8440	3474
3	Garadpur	1069	3700	11491	5492	5176	2358
4	Mahakalpada	1690	0	39079	6836	15371	7195
5	Marshaghai	1544	0	10981	8818	5635	1978
6	Kendrapara	1637	2367	8024	18555	7422	3199
7	Pattamundai	1627	5799	5473	14709	2894	4588
8	Rajkanika	1778	0	24505	6101	10093	7350
9	Rajnagar	1470	0	33372	4961	10542	3683
	Total	1556	16726	155494	86112	69657	37396

10. Drinking Water Crisis:

There is no any type of water crisis in this district.

11. Railway Line Exposed different Hazards:

There is no such event in the district.

12. Road Accidents:

[For national and state highways only. The total network of state and national highways in the district to be discussed in detail followed by the table]

Table No- 21:

Sl. No.	Stretch of Road (From - to)	Length in Kms.	No. of Traffic Congestion Areas	No. of Accident Prone Areas	No. of villages/ habitations adjacent to accident prone areas
1	Deradihi - Tikarpanga (NH-5A)	45	11	11	27
2	Gualigaon - Ganeshpur (SH)	63	14	14	52

13. Population Requiring Special Care:

Table No: 22-

Sl. No.	Block/ ULB	No. of HHs headed by Women	No. of HHs headed by PWD	No. of Persons With Disability		No. of Widow	No. of Children		No. of Orphans		No. of Aged Persons (60 and above)		No. of Pregnant and lactating mothers
				M	F		0-5 Years	6-14 Years	M	F	M	F	
1	Aul	6,015	1145	1255	704	2862	15,567	20588	0	0	8935	3829	2548
2	Derabish	2,291	1038	1111	630	2724	15223	16403	0	0	8373	3589	2044
3	Garadpur	5,043	959	1011	595	2616	10990	12065	0	0	7931	3399	1820
4	Kendrapara	6927	916	1000	732	3467	21081	24794	1	114	10313	4419	3135
5	Mahakalpada	2708	1045	1206	764	3846	24766	36419	20	65	11853	5080	3810
6	Marsaghai	2,046	988	1078	627	2912	12062	15084	0	0	8431	3613	1769
7	Pattamundai	7890	1174	1364	736	3766	22490	29150	0	0	12211	5233	3662
8	Rajkanika	4,488	630	689	464	2542	16,226	21743	0	0	7932	3399	2327
9	Rajnagar	3,315	640	847	491	3347	22,754	30106	0	0	10179	4363	2803
	Total	40,723	8535	9561	5743	28083	161159	206352	3	179	86158	36924	23918

[The table is the block wise abstract of population requiring special care. Village wise details are at Table No. 3.16 of Volume II of the DDMP]

14. Earthquake Vulnerability:

As per Earthquake Hazard Zoning Atlas-2016 issued by the National Disaster Management Authority (NDMA) and Building Materials and Technology Promotion Council (BMTPC), Govt. Of India.

- The Kendrapara District is coming under Zone-III (damage risk zone)/
- The total District is under Zone- III (Moderate damage risk zone)/
- 15% of the District is coming under Zone- II (Low Moderate damage risk zone)/
- Aul, Pattmundai, Kendrapara, Derabish, Mahakalapada, Garadpur & Marshaghai Blocks or parts of Rajnagar & Rajkanika Blocks of the district is coming under Zone- III (Moderate damage risk zone) and the other are under Zone-II (low damage risk zone)/

N.B. Earthquake Vulnerability Map is in Volume II

14.1 Identified Old and depleted Buildings in the District (if any)

Sl. No.	Block/ ULB	No. of Vulnerable Buildings	Population at Risk (inhabitants and the neighbouring)	Remarks
1	Rajkanika	Kanika Palace	-----	Maintenance required

The list of the buildings to be given in Volume II]

15. Forest Fire:

Forest Fire Incidents:

Sl. No.	Name of the Division	Range	No. of Fire Incidents Reported during last----- ---- 5years	Area Affected in Ha.	Loss of life/ property if any
1	Kendrapara	Kujanga wild life range(2017-18)	1	0.18	469 Casurina Plants have been partly damaged
		Kjanga wild life range(2017-18)	2	0.15	22 Hental Trees damaged
				0.52	Only Ground flora burnt. No mangrove vegetation is affected

Forest fire vulnerability:

Sl. N o.	Name of the Division	Range	Area (in Sq. Km)	Total Notified Forest Area (in Sq. Km)	Hig h Ris k Zon e (Are a in Sq Km)	No. of Villages/ habitatio ns inside/ adjacent to the High Risk Zone	Mediu m Risk Zone (Area in Sq. Km)	No. of Villages/ habitatio ns inside/ adjacent to the Medium Risk Zone	Low Risk Zon es (Area in Sq. Km)	No. of Villages/ habitatio ns inside/ adjacent to the Low Risk Zone
1	Mangrove forest	Rajnagar Wild life range	73.62273	73.62273	-	-	-	-	-	-
2	forest divisio	Kanika Wild life Range	62.436	62.436	-	-	-	-	-	-

2	n(wild life) Rajnagar	Gahiramatha Wildlife Range	20.7018	20.7018	-	-	-	-	--	-
4		Mahakalapada Wildlife Range	61.1119	61.1119	-	-	-	-	-	-

N.B. The name of the vulnerable villages along with population details under different risk zones is in Volume II.

16. Fire and Life Safety of High Rise Buildings (buildings having a height of more than 15 meter)-

Table- No. 1

Sl. No.	Name of the ULB/ Block	No. of High Rise Buildings	No. of High Rise Buildings where Fire & Life Safety Audit has been carried out in last 2 years.	Remarks
1	Nil	Nil	Nil	Nil

Table-No. 2

Sl. No.	Name of the High Rise Building	Location/ Area	Name, Address, Contact Details of the Owner	Whether Fire & Life Safety Audit Under Taken (Yes/ No.)	If Yes then the Year and the Name of the Agency	Vulnerable Population
1	Nil	Nil	Nil	Nil	Nil	Nil

(As per National Building Code -2016 Para E-7 of Annexure E)

17. Embankments:

Irrigation Division Wise Embankments in the District:

Sl. No.	Division	Name of the Embankment	Type (Capital Embankment/ Other Agricultural/ Test Relief/ Saline)	Length (in Km.)
1	Mahanadi North Division	Chitrotpala Left Embankment from RD	Other Agricultural	48.80
2		Mahanadi Left Embankment from RD		24.50
3		Nuna- Karandia right Embankment from RD		37.70
4		Sukapaika left Embankment		2.50
5		Satilo, Salar, karandia left Nuna right Embankment		8.70
6		Sana-Salar- Nankar on Karandia left, RD		1.25
7		Dihabalarampur on Karandia Left		3.00
8		Dihabaspur to Nankar on Karandia Left		1.00
9		Ayitipur to Balisingh on Karandia Left		1.00
10		Godhana- Bartunga Gherry on Nuna Right		1.00

11		Karandiapatana Gherry on Nuna Right	Test Relief	0.50
12		Paniola Gherry on Karandia right	Embankment	0.75
13		Dihajalapoka Gherry on Karandia right		0.75
14		Karilopatana Gherry on Karandia right		2.00
15		Hurasahi Gherry on Karandia right		1.00
16		Goudagaon Gherry on Karandia Right		1.00
16		Nuna Right TRE from Sathilo to Balarampur		7.00

Division wise list of Vulnerable Points:

Sl. No .	Name of the Division	Name of the Embankment / River	Location of the Vulnerable Point	Affecte d Length (in Mtr.)	Name of the Block	Name of the Villages to be affected
1	Saline	Radhia Kansara saline Embankment on Gobari	Arada	90m	Mahakalapad a	Arada
2	t Division, Aul	Gopalpur Akhadasahi OAE on Nuna left	Teragaon Ghat	90m	Mahakalapad a	Goudabadpur, Gopalpur, Mangalpur
3			Gokhakhathi	170m	Mahakalapad a	Sathiakhathi, Gokhakhathi
4		Gopalpur Ishwarpur on Brahmani left	Jharamal	800m	Rajkanika	Jharamal, Nuagaon
5		Panki Embankment on Baitarani Right	Panki & Gopalpur Mahara	500m	Rajkanika	Panki
6		Kani Kharsua Right Embankment	Kalamada & Araji	300m	Aul	Kalamada & Araji
7		Gobindpur, Hadua Madhuban TRE	Madhuban Samal sahi, Sanagiri	60m	Aul	Madhuban
8		Baragaon Salaine Gherry	Lokanathprasa d	150m	Rajnagar	Lokanathprasa d
9		Satabhaya Salaine Gherry	Satabhaya, Panchubarahi temple	250m	Rajnagar	Satabhaya,
10		Vekta Salaine Gherry	Vekta & Sikarpal	550m	Rajnagar	Vekta & Sikarpal

Dam- Burst Scenario: (For large Dams)

Kendrapara has no Dam/barrage, to irrigate the land only river/canal irrigation system is utilized.

18. Cultural Heritage Sites and Precincts:

Sl. No.	Cultural Heritage site/precinct	Address/Location	Category (Centrally Protected Monument/ State Protected/ UNESCO World Heritage Site/ Unprotected Monument)	Name & Contact details of the Controlling/ Supervising Authority at the district level	Hazards & Vulnerability of the Place	Remarks (if Any) (Average Foot Fall and Days/ Period during which the place receives highest Foot Fall)
1						
2						
3						

19. Museums:

There is no such museums available in the district.

20. Human Animal Conflict:**i. Loss of Human Lives and Property due to animal attack-**

Sl. No.	Vulnerable Place (Village/ Panchayat etc.)	Causing Agent/Animal (Elephant, Bear, Crocodile etc)	Number of Human Lives lost during last 5 years	Damage to House and Property during last 5 years	Crops Damaged
1	Sahupada, Aul(2013-14)	Crocodile	1	-	15 Victims & 5.73 Acres of Crop damaged
2	Nalapahi, Aul(2015-16)		1	-	217 Victims & 57.46 Acres of Crop damaged
3	Balrampur, Rajnagar(2016-17)		1	-	32 Victims & 10.03 Acres of Crop damaged
4	Chandanpur, Rajnagar(2016-17)		1	-	
5	Arasha, Rajkanika(2017-18)		1	-	57 Victims & 17.42 Acres of Crop damaged

ii. Loss of Animal Lives due to man-made causes

Sl. No.	Vulnerable Place/ Location	Causing Agent (Railway line/ Electric transmission lines etc.)	No. of Incidents	Number of Animal Lives lost
1	----	----	----	----

Chapter – 4

Institutional Arrangement

4.1 National Disaster Management Authority (NDMA)

The National Disaster Management Authority (NDMA) is the apex body for Disaster Management in the country headed by the Hon'ble Prime Minister of India to lay down policies, plans and guidelines to manage disaster and coordinating their enforcement and implementation for ensuring timely and effective response to disaster. The Chairperson of the NDMA is the Hon'ble Prime Minister of India (*ex-officio*) and other members not exceeding nine may be nominated by him. The Chairperson may designate one of the members to be the Vice-Chairperson.

4.2 National Executive Committee (NEC)

The central government has constituted a National Executive Committee (NEC) under sub-section (1) of Section (8) of DM Act-2005 to assist the National Disaster Management Authority in the discharge of its function and also ensure compliance of the directions issued by the central government.

The Union Home Secretary is the Chairpersons (*ex-officio*) of NEC. The Secretaries to the Government of India in the ministries/departments having administrative control of the agriculture, defense, drinking water supply, environment and forests, finance(expenditure), health, power, rural development, science and technology, space, telecommunication, urban development, water resources and chief of the integrated defence staff of the chief of staffs are other members of NEC.

4.3 State Disaster Management Authority (SDMA)

The State Disaster Management Authorities (SDMA) are constituted by every state government under the sub-section (1) & (2) of section 14 of Disaster Management Act 2005. The Hon'ble Chief Ministers of the state are the Chairpersons (*ex-officio*) of SDMA and other members not exceeding eight may be nominated by the Chairpersons. The Chairman of the State Executive Committee (SEC), Chief Secretary of the State is a member and Chief Executive Officer (*ex-officio*) of SDMA.

4.6 Special Relief Organization:

The Special Relief Organisation was established under the Board of Revenue in 1965-66 for carrying out relief and rescue operation during and after various disasters. Since its inception, the scope of Relief Organisation has been diversified. Now it deals with disaster management i.e. response, relief and rehabilitation. It coordinates with districts/departments for quick relief and rescue operation, reconstruction and rehabilitation work. It also promotes disaster preparedness at all levels in the State with the assistance of Odisha State Disaster Management Authority (OSDMA). Quick response in the natural calamities is the hall-mark of Special Relief Organisation.

4.8 Odisha State Disaster Management Authority (OSDMA):

Odisha State Disaster Mitigation Authority (OSDMA) was established by the Government of Odisha as an autonomous organization vide Finance Department Resolution No. IFC- 74/99-51779/F dated the 28th December 1999 (in the intermediate aftermath of the Super-cyclone in 1999). It was registered under the Societies Registration Act, 1860 on 29.12.1999 as a non-profit making & charitable institution for the interest of the people of Odisha, with its headquarters at Bhubaneswar and jurisdiction over the whole State.

The Authority has the mandate not only to take up the mitigation activities but also the relief, restoration, reconstruction and other measures. These activities cover the entire gamut of disaster management including preparedness activities and also include:

- Coordination with the line departments involved in reconstruction,
- Coordination with bilateral and multi-lateral aid agencies,
- Coordination with UN Agencies, International, National and State-level NGOs,
- Networking with similar and relevant organizations for disaster management.
- Preparation of Disaster Management Plan at various levels
- Formulation of guidelines, SoP pertaining to various hazards and disasters
- Capacity building of various stakeholders with respect to Disaster Management

4.6 State Level Committee on Natural Calamity (SLCNC)

A State Level Committee on Natural Calamity (SLCNC) has been constituted under the Chairmanship of the Hon'ble Chief Minister to oversee disaster preparedness and response activities.

The Function of the SLCNC is :-

- a) To advise the State Government regarding precautionary measures to be taken in respect of flood, drought and other natural calamities.
- b) To assess the situations arising out of the calamities.
- c) To recommend to Government the nature and quantum of relief; and
- d) To recommend to Government the Policy to be adopted in giving such relief in areas affected by such calamities.

4.7 District Disaster Management Authority (DDMA)

Under the sub-section (1) of section 14 of DM act 2005. District Disaster Management Authority has been constituted by the State Government.

The District Disaster Management Authority (DDMA) consists of the Chairperson and such number of the other members, not exceeding seven, as may be prescribed by the State Government, and unless the rules otherwise provide, it shall consist of the following namely:-

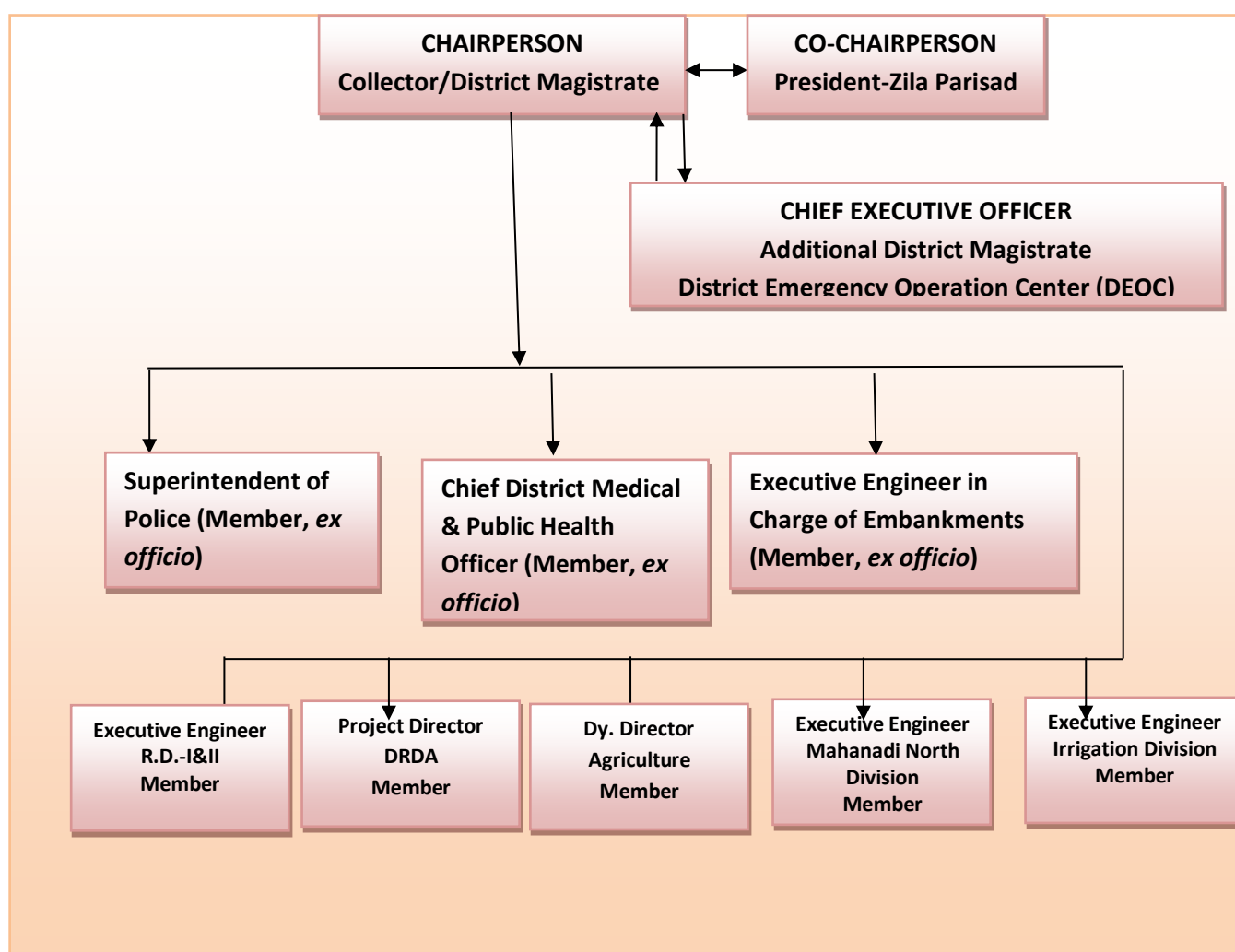
- a) The Collector or District Magistrate or Deputy Commissioner of the District is the Chairperson (*ex-officio*) of DDMA.
- b) The elected representative of local authority is the Co-chairperson (*ex-officio*) of DDMA.
Provided that in the Tribal Areas, as referred to in the Sixth Schedule to the Constitutions, the Chief Executive Member of the district council of autonomous district, shall be the co-Chairperson, *ex officio*
- c) The Chief Executive of the District Authority, *ex officio*;
- d) The Superintendent of Police, *ex officio*;
- e) The Chief Medical Officer of the district, *ex officio*;
- f) Not exceeding two other district level officers, to be appointed by the State Government

The State Government appoints an officer not below the rank of Additional Collector or Additional District Magistrate or Additional Deputy Commissioner, as the case may be of the District to be Chief Executive Officer of DDMA.

Sl No.	Name of the Officer	Designation	Position in DDMA	Contact No.
1	Shri Amrit Ruturaj, IAS	Collector & District Magistrate	Chair Person	9439883093
2	Smt. Gitanjali Sethi	Chairman- Zillaparishad	Co-Chairperson	7978295115
3	Shri Sandeep Sampat Madkar, IPS	Superintendent of Police	Member, Ex-officio	9438001323
4	Sri Pitambar Samal, OAS	Additional District Magistrate (In charge of Emergency)	Chief Executive Officer	9438148605
5	Dr. Anita Patnaik	Chief District Medical & Public Health Officer	Member, Ex-officio	9439988886

6	Er. B.B Samal	The Executive Engineer Embankments	Member, Ex-officio	96923 52996
7	Er. Santanu Kumar Nayak.	Executive Engineer Rural Development Department No. I, Kendrapara	Member	9437255343
8	Er. Santanu Kumar Nayak.	Executive Engineer Rural Development Department No. II, Kendrapara	Member	9437255344
9	Sri Rajendra Kumar Panda, OAS	Project Director DRDA	Member	9438406006
10	Sri Shiba Prasad Malik	Chief District Agriculture Officer	Member	8917672742
11	Er. Artatrana Sahoo	Executive Engineer, Mahanadi North Division, Jagatpur, Cuttack	Member	9438363902
12	Er. Prabodh Ku. Rout	Executive Engineer Irrigation Division, Kendrapara	Member	9439317818

figure__: Organogram of District Disaster Management Authority



Specific task assigned to members of DDMA by the Chairperson

- Member 1: Maintain law and order situation
- Member 2: Facilitate better health facility
- Member 3: Strengthening the Embankment to prevent flood
- Member 4: Maintaining resilient construction of infrastructure

- Member 5: Integrating DM to developmental plan
 Member 6: Strengthening resilient food production activities
 Member 7: Strengthening for better irrigation facilities
 Member 8: Strengthening & facilitati of better irrigation facilities

4.7 District Level Committee on Natural Calamity (DLCNC)

The Codal provision of Odisha Relief Code envisages the constitutions of District Level Committee on Natural Calamity (DLCNC) which is the apex committee at the district to monitor preparedness and suggests improvement in the response mechanism and finalizes the district disaster management plans. The members of DLCNC are as follows:

Table__ : Structure of District Level Committee on Natural Calamity

Sl No.	Name of the Member	Designation	Designation in Committee	Contact No.
1	Shri Amrit Ruturaj, IAS	Collector& District Magistrate	Chairman	9439883093
2	Shri Anubhav Mohanty	Hon'ble M.P. Kendrapara	Member	9937000038, 9437300373, 9437000038
3	Sri Pratap Keshari Deb	Hon'ble M.L.A.,. Aul Assembly Constituency	Member	9437054252
4	Sri Dhruba Ch. Sahoo	Hon'ble M.L.A.,. Rajnagar Assembly Constituency	Member	9437172952
5	Sri Shashi Bhusan Behera	Hon'ble M.L.A.,. Kendrapara Assembly Constituency	Member	9013181688
6	Sri Atanu Sabyasachi Nayak	Hon'ble M.L.A.,. Mahakalapada Assembly Constituency	Member	9437048229
7	Mrs. Sabitri Agarwal	Hon'ble M.L.A., Patkura Assembly Constituency	Member	9437036726
8	Sri Niranjan Behera , OAS	Sub- Collector	Member	9437519483
9	Dr. Anita Patnaik	Chief District Medical Officer	Member	9439988886
10	Dr. Ashish Ku. Satapathy	CDVO, Kendrapara	Member	9861044550
11	Er. Bijaya Krishna Mishra	Supertending Engineer Irrigation Division, Eastern Cirle II, Chandikhol	Member	9438018031
12	Sri B. B. Samal	The Executive Engineer, Saline Embankment Aul Division	Member	96923 52996
13	Er. Chitta Ranjan Jena	Executive Engineer Mahanadi North Division , Jagatpur, Cuttack	Member	9437029589
14	Dr. Hemalata Bahalia	District Emergency Officer	Member Secretary	9937176197
15	Sri Niranjan Sahoo	President NGO Forum(DRR)	Member	9938960028

4.8 National Disaster Response Force (NDRF)

The Disaster Management Act 2005 has made the statutory provisions for the constitution of the National Disaster Response Force (NDRF) for the purpose of specialized response to natural and man-made disasters. During the threatening proactive deployment of NDRF is being carried out by NDMA in consultation with the State Governments. **Table__ : Location of National Disaster Response Forces**

Sl No.	Battalion, Location	State	Man power drawn from	Contact Person	Contact No.
1	01 Bn, NDRF, Guwahati	Assam	BSF	Sh. Hitender Pal Singh Kandari	09435117246

2	02 Bn, NDRF, Kolkata	West Bengal	BSF	Sh. Nitish Upadhyay	09434742836
3	03 Bn, NDRF, Munduli	Odisha	CISF	Sh. Jacob Kispotta	09470587743 09437964571
4	04 Bn, NDRF, Arakkonam	Tamil Nadu	CISF	Ms. Rekha Nambiyar	09442105169
5	05 Bn, NDRF, Pune	Maharashtra	CRPF	Sh. Anupam Srivastava	09423506765
6	6th Bn NDRF, Vadodara	Gujrat	CRPF	Sh. A. K. Tiwari	09723632166
7	07 Bn, NDRF, Bhatinda	Punjab	ITBP	Sh. Ravi Kumar Pandita	09417802032
8	08 Bn, NDRF, Ghaziabad	Uttar Pradesh	ITBP	Sh. P.K.Tiwari	09412221035
9	09,Bn,NDRF, Patna	Bihar	BSF	Shri Vijay Sinha	07762884444
10	10 Bn, NDRF, Vijayawada	Andhra Pradesh	CRPF	Mr. Zahid Khan	08333068559
11	11Bn,NDRF, Varanasi	Uttar Pradesh	SSB	Sh. A.K.Singh	09455511107
12	12 Bn, NDRF, Itanagar	Arunachal Pradesh	SSB	Sh. Rajesh Thakur	09485235464

4.9 Odisha Disaster Rapid Action Force (ODRAF)

The Government of Odisha formed Odisha Disaster Rapid Action Force (ODRAF) vide notification no.939/CD dated 07.06.2001. ODRAF is a multi-disciplinary, multi-skilled, high-tech force for all types of disasters. ODRAF aims at reducing casualties, clearance of communication channels, quick deployment of personnel and equipments and minimize expenditure and time lag and support institutional arrangement. In 3 phases, ten units of ODRAF have been set up. The ODRAF units are strategically located throughout Orissa. Locations of these units are identified on the basis of vulnerability profile to cut down the response time for their deployment. The ODRAF Units do not have any geographical /territorial restrictions in terms of area of operation. 10 new units of ODRAF have been proposed to set up at different locations like Sambalur, Boudh, Kalahandi, Nawarangpur, Gajapati, Berhampur, Puri, Khorda, Kendrapada and Jajpur

Table__ : Location of Odisha Disaster Rapid Action Force with contact details

Sl No.	Place	Personnel drawn from	Name of the Commandant	Contact No.	Name of Subedar	Contact No.
1	Cuttack	OSAP 6 th Bn, Cuttack	Mr. Lingaraj Parida	9861039267, 0671-2442148	Mahatang Hansda	9439457443
2	Jharsuguda	OSAP 2 nd Bn, Jharsuguda	Mr Mohammed Zahid	9437176264	Sri. Kul Bahadur Thapa	9658630354
3	Koraput	OSAP 3 rd Bn, Koraput	Sri. Subash Chandra Nayak. OAPS-(I)	9437250194	Sri. Ramesha Chandra Hati	9938406905
4	Chatrapur	OSAP 8 th Bn, Chatrapur	Shri B.N.Mishra	94370-87055	SI(A) C.R.Bisoi	82800-33508
5	Balasore	Armed Police Reserve (APR), Balasore district	Shri Nithi Sekhar,IPS	94381-53309	Sgt.P.K.Ransingh	94393-79619
6	Bhubaneswar	OSAP 7 th Bn, Bhubaneswar	Sri Biren Ku. Sasmal, OPS1	94370-81266	ACP D.K.Dehuri	94371-85548
7	Baripada	OSAP 5 th Bn,Baripada	Awinash kumar ,IPS	9438153308	Niranjan Samal	9437442537
8	Rourkela	OSAP 4 th Bn, Rourkela	Sri Khageswar Goud	9437358292	Sri Ashok Behera	9437419436

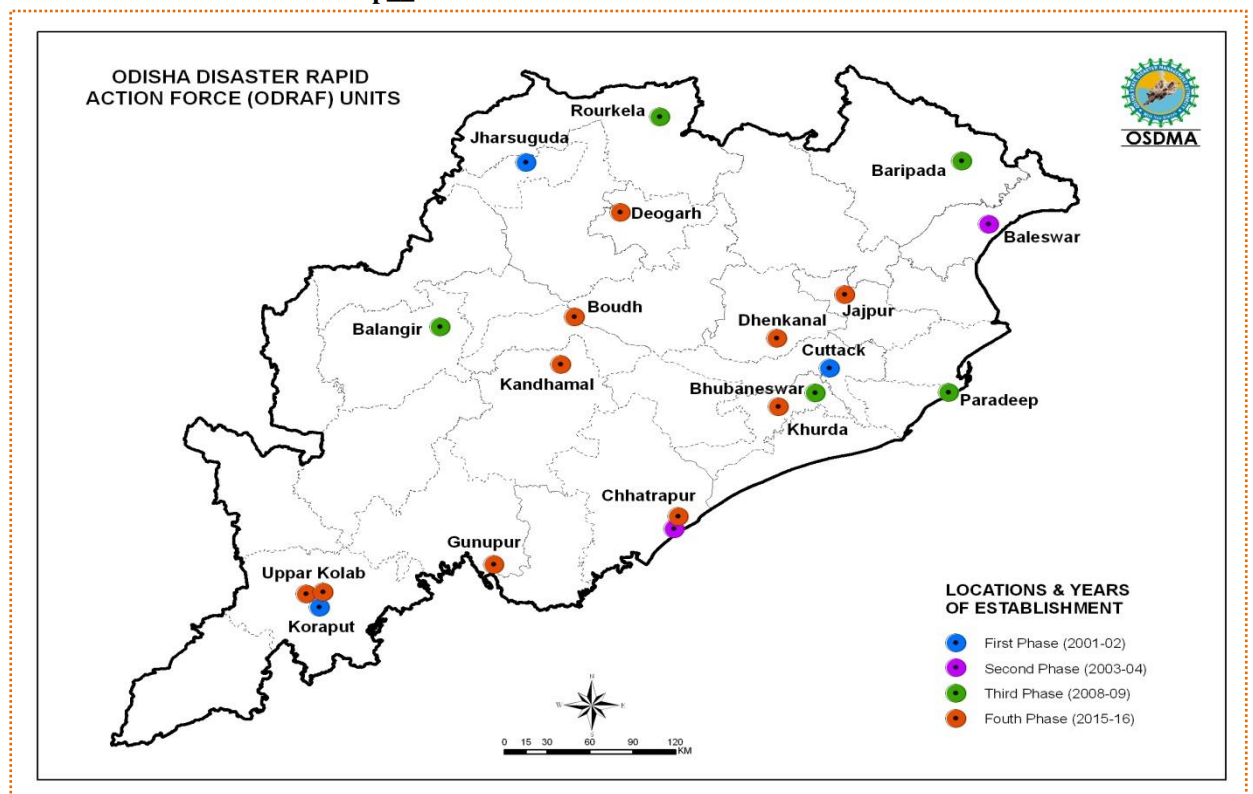
9	Balangir	Armed Police Reserve (APR), Balangir district	Ashish Kumar Singh, IPS	8895046814	M Laxmiranjan	94392-68154
10	Jagatsinghpur at Paradeep	Armed Police Reserve (APR), Jagatsinghpur district	Shri J.N.Pankaj, IPS	94371-02020	P.K.Routray	94384-36188

Table __: Location of Odisha Disaster Rapid Action Force with contact details

	ODRAF Bn.	Raised in the Year	Location (District)	No. of Persons in each BN.	Contact Details (Commandant)
1	OSAP 6th Battalion, Cuttack	2001-2002	Cuttack	49	Phone:0671-2442148 (O), 2442442 (R) comdt6thbn.odpol@nic.in
2	OSAP 2nd Battalion, Jharsuguda	2001-2002	Jharsuguda	48	Phone: 06645-270096 (O), 270038 (R) comdt2ndbn.odpol@nic.in
3	OSAP 3rd Bn. Koraput	2001-2002	Koraput	38	Phone: 06852-251344 (O), 151335(R) comdt3rdbn.odpol@nic.in
4	APR Balasore District	2003-2004	Balasore	41	Phone: 06782-262004 (O), 262005 (R) spbls.odpol@nic.in
5	OSAP 8th Battalion, Chhatrapur	2003-2004	Ganjam	40	Phone: 06811-260375 (O) Fax: 06811 -254011 comdt8thbn.odpol@nic.in
6	APR Jagatsinghpur District	2008-2009	Jagatsinghpur	48	Phone: 06724-220115 (O), 220015 (R), Fax: 06724-220370, spjps.odpol@nic.in
7	OSAP 7th Battalion, Bhubaneswar	2008-2009	Khurdha	44	Phone: 0674-2301055 (O), 2303426 (R), Fax: 0674 - 2301055 comdt7thbn.odpol@nic.in
8	OSAP 5th Battalion, Baripada	2008-2009	Mayurbhanj	40	Phone: 06792-278232 (O), 254402 (R) comdt5thbn.odpol@nic.in
9	APR Bolangir District	2008-2009	Balangir	43	Phone: 06652-232020 (O) - 133063 (R) spbgr.odpol@nic.in
10	OSAP 4th Battalion, Rourkela	2008-2009	Sundergarh	46	Pho : 0661 -2600980 (O), - 2600434 (R) comdt4thbn.odpol@nic.in
11	IR Battalion, Boudh	2015-2016	Boudh	47	Phone: 06841-222238 7684872156 (M) 9437232275 (M) comdt5thirbn.odpol@nic.in
12	4th IR Battalion, Deogarh	2015-2016	Deogarh	52	Phone: 0664-3242130 (O), comdt4thirbn.odpol@nic.in
13	OSAP 1st Battalion, Dhenkanal	2015-2016	Dhenkanal	46	Phone: 06762- 226229 (O) 06762- 226291 (CR) comdt1stbn.odpol@nic.in
14	OSAP 8th Battalion, Chhatrapur	2015-2016	Ganjam	48	Phone: 06811-260375 (O) Fax: 06811- 254011 comdt8thbn.odpol@nic.in

15	3rd IR Battalion, Kalinganagar	2015- 2016	Jajpur	49	Phone: 0672-6244602 (O)0672- 6244610 (CR) comdt3rdirbn.odpol@nic.in
16	8th Special IR Battalion, Kandhamal	2015- 2016	Kandhamal	43	Phone: 06842-2533017 (O),8763616282 (M) comdt8thsplirbn.odpol@nic.i n
17	6th IR Battalion, Khurda	2015- 2016	Khurdha	50	8895856633 (M) comdt6thirbn.odpol@nic.in
18	1st IR Battalion, Upper Kolab, Koraput	2015- 2016	Koraput	43	Phone: 06852-252167 (O) 06852-211320 (CR) comdt1stirbn.odpol@nic.in
19	7th Special IR Battalion, Upper Kolab, Koraput	2015- 2016	Koraput	44	Phone: 06852-251067(O): 06852-229007 (CR) comdt7thsplirbn.odpol@nic.i n
20	2nd IR Battalion, Rayagada, Gunupur	2015- 2016	Rayagada	48	Phone: 0658-725110 (O),Fax: 0685- 725110 (CR),comdt2ndirbn.odpol@n ic.in

Map__: Location of ODRAF Units



4.11 Other Disaster Response Teams in the district :Table__ : List of other Disaster Response Teams in the District

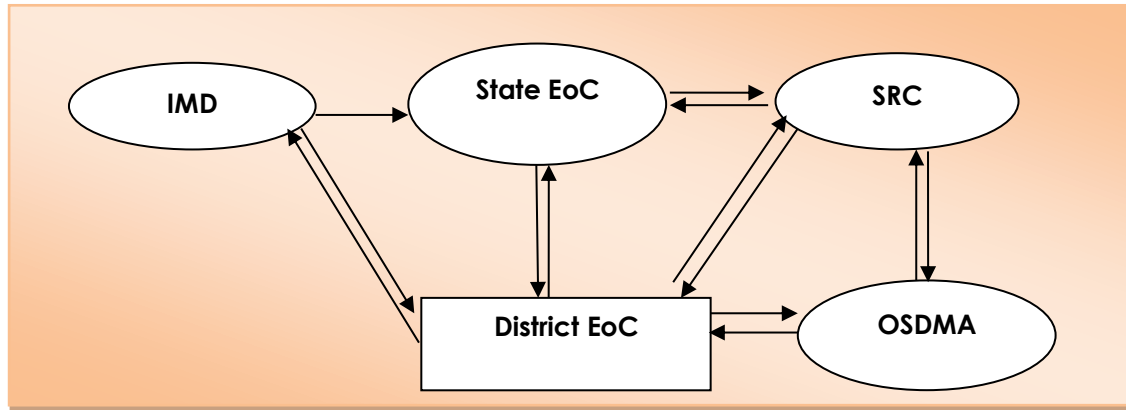
Sl. No.	Name of the Institutions	Name of the Chief Coordinator of the Organization	Designation	Contact Number	Alternate Contact Number	Number of Volunteers
1	Civil Defense	Sri Dillip Kumar Rout	Asst. Fire Officer	9927340676	06727-232301/230300	342
2	Home Guards	Shri Sandeep Sampat Madkar IPS	Superintendent of Police/Commandant Home Guards	9438001323	06727-274700	358
3	National Service Scheme (NSS)	Sri Ramaath Mohanty	District Coordinator	8763356758		5400
4	National Cadet Corps (NCC)	Captain Manoranjan Mohanty	Commandant	9437742265		100
5	Nehru Yuva Kendra (NYK)	Mr. Abhijit Bose	District Coordinator	9777343081		20
6	Red Cross	Sri Amrit Raturaj, IAS	Collector and Chairman of Redcross	9439883093	06727-232602	100
7	NGOs	Sri Niranjana Sahoo	NGO Partner Kendrapara District	9938960028		90
8	VOs	Sri Niranjana Sahoo	NGO Partner Kendrapara District	9938960028		200

4.12 Emergency Communication System

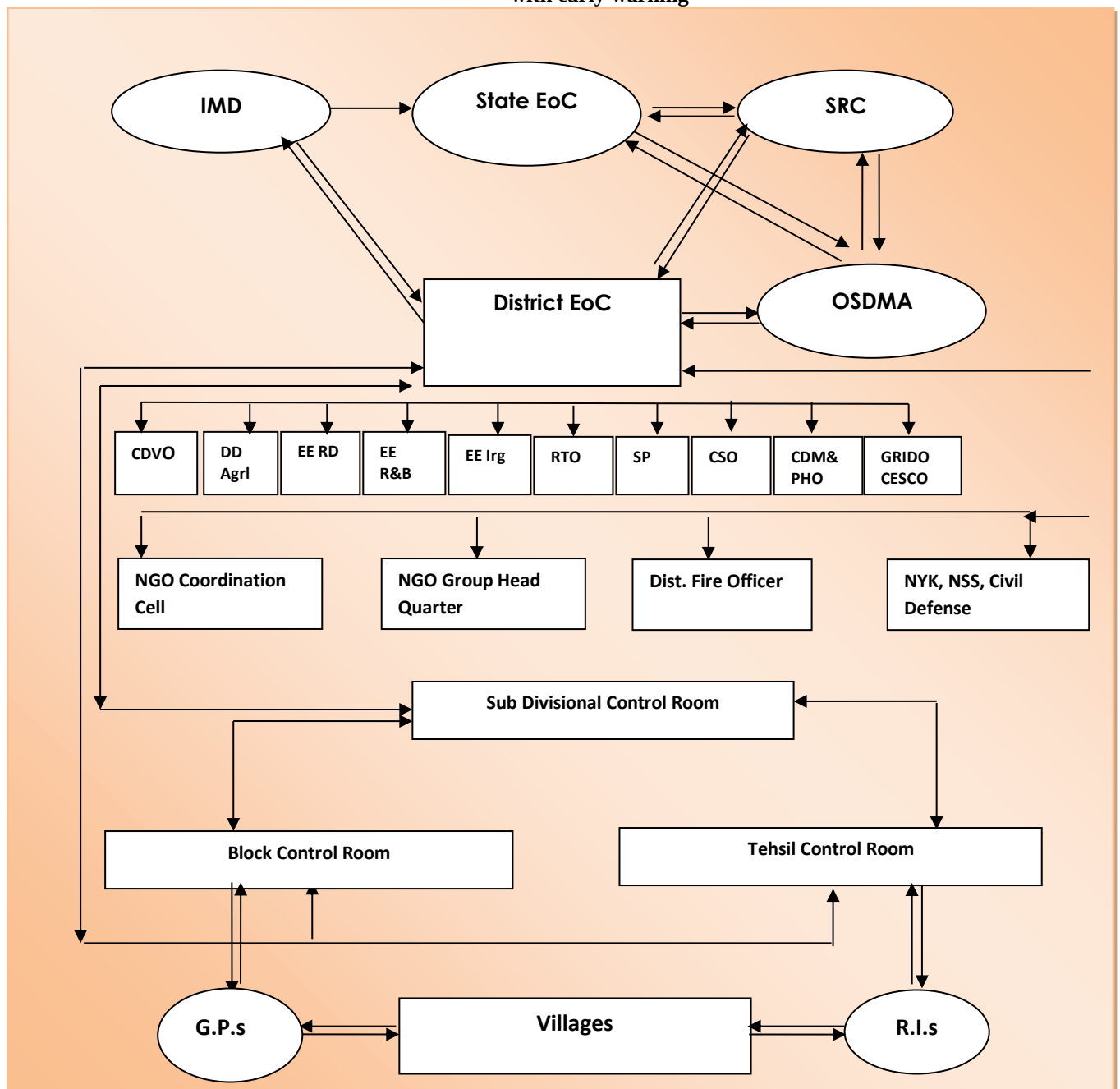
4.12.1 State Emergency Operation Center (SEOC)

The State Emergency Operation Centre has been made operational at Rajiv Bhawan, Bhubaneswar with state of art communication net-work. The State EOC functions round the clock throughout the year. The Organisation is headed by the Special Relief Commissioner (SRC) who exercises all administrative and financial powers. He is assisted by a group of experienced officers and staff. During any natural disaster, the office functions round the clock in an emergency mode.

Figure__: Information flow chart from SEOC to Districts



Figure__: Information flow chart from District Emergency Operation Center (DEoC) to Villages with early warning

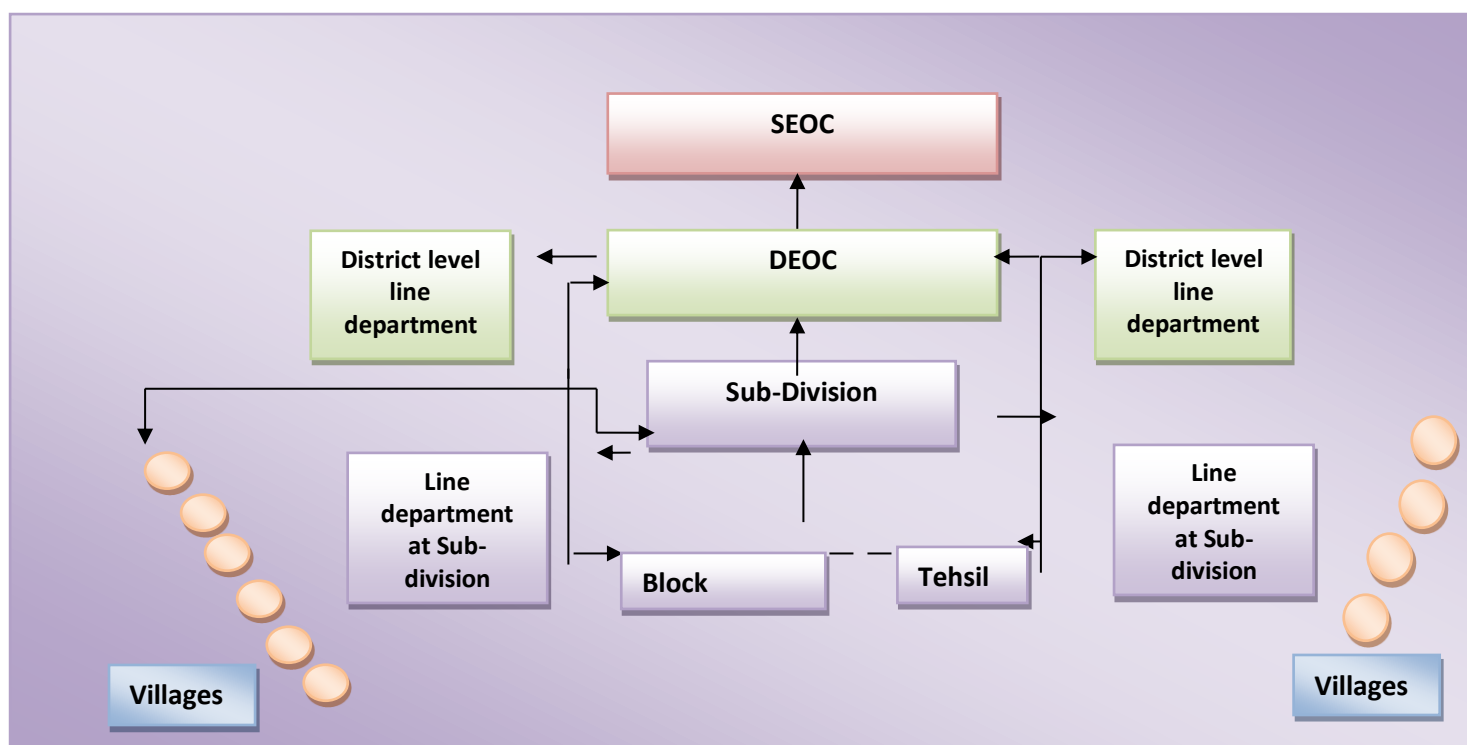


Coordination structure at the District level and down the line**Table__ Important Line Departments at the District.**

Sl No.	Department	Head of the Department at District	Name of the Nodal Officer	Contact No.
1	Health and Family Welfare	CDM&PHO, Kendrapara	Dr. Anita Patnaik	9439988886
2	Police	SP, Kendrapara	Shri Sandeep Sampat Madkar, IPS	9438001323
3	Panchayatraj	Project Director, DRDA	Sri RajendraKumar Panda, OAS	9438406006
4	ST and SC Development	D.W.O, Kendrapara	Smt. Mamatarani Parida	7894770077
9	Forest and Environment	D.F.O(W.L), Rajnagar	Smt. Dipti Acharya	9437037370
10	Panchayatraj	D.P.O, Kendrapara	Sri Santosh Kumar Sahoo, OAS	7978263878
11	Animal and Husbandry	C.D.V.O, Kendrapara	Dr. Trilochan Das	9437083894
12	W and CD	D.S.W.O, Kendrapara	Sri Shankar Jena	8249656404
13	Food and Civil Supply and Consumer Welfare	C.S.O, Kendrapara	Sri Prasanta Kumar Gantayat	9437262007
14	Transport	R.T.O, Kendrapara	Sri Dharendra Ku Nayak	8895043711
15	School and Mass Education	Dist. Education Officer, Kendrapara	Sri Sanjeeb Kr. Singh	9437296156
16	ET ET	Dist. Employment Officer, Kendrapara	Miss K Roja Dora	8895883103
17	R.D	E.E. RWD-I and II, Kendrapara	Er.Amiya Kumar Mohapatra Er Santanu Kumar Nayak	9437255343 9437255344
18	RWSS	E.E RWS&S, Kendrapara	Er. Basanta Kumar Nayak	8280408048
19	Works	E.E. R&B, I & II Kendrapara	Er. Khirod Behera Er Saroj Kumar Nayak	8895172894 8917362560
20	Water Resources	E.E. Irrigation, Kendrapara	Er. Prabodh Ku. Rout	9439317818
21	Minor Irrigation	E.E. Lift Irrigation, Kendrapara	Er. Ajaya Kumar Pradhan	9437570406
22	Energy	E.E. TPCODL- I, Kendrapara	Er. Pradipta Kumar Das,	9437011300
23	Energy	E.E. TPCODL- II, Marshaghai	Er. Pratap Kumar Swain	9437028636
24	PHD.	Asst.E.E PHD, Kendrapara	Er. Janmejaya Nayak	9439776505
25	Water Resource	E.E. Mohanadi North Division, Jagatpur	Er. Artatrana Sahoo	9438363902

26	Water Resource	E.E. Drainage Division, Cuttak	Er. Tushar Mohanty	9437174930
27	Agriculture	Chief District Agriculture Officer, Kendrapara	Shiba Prasad Mallik	8917672742
28	Agriculture	Asst Director Horticulture Kendrapara	Sri Kanda Jena	9437334966
29	Fishery & ARD	Dist. Fishey Officer, Kendrapara	Smt. Mamata Mohaoatra	8280059651
30	Industry	G.M, DIC, Kendrapara	Sri Ganesh Chandra Behera	9437194553
31	Finance	ACCT , Kendrapara	Sri L. B. Biswal	8895351731
32	Labour	Dist. Labour Officer, Kendrapara	Sri Ramachandra Nayak	9438268632
33	Co-operation	A.R.C.S, Kendrapara	Sri Santosh Kumar Das	9040632966
34	Water Resource	E.E. Aul Embankment Div., Aul	Er. Sarojkanta Mishra	9692352996
35	Sports and Youth Services	Dist. Sport Officer, Kendrapara	Sri L.N. Panigrahi	9337044395
36	Finance	Dist. Small Saving Officer, Kendrapara	Sri Ambrish Samal	7978229803
37	I and PR	D.I.andP.R.O, Kendrapara	Sri Hemanta Kumar Nayak	9437056558
38	Culture	Dist. Culture Officer, Kendrapara	Smt Sonali Behera	6370144739
39	Finance	District Treasury Officer	Sri Prafulla Kumar Behera	9438535232
40	Revenue	Deputy Director, Consolidation (ADM)	Sri Durgaprasad Maharana, OAS	9437258554
41	Planning and Coordination	Dy Director, Planning and Statistics	Smt Arati Nayak	9437394595

Figure__ : Information flow chart from Villages to District Emergency Operation Center (DEoC) without early warning



Table__ Important Line Departments at the Block

Sl No.	Department	Head of the Department at Block	Name of the Nodal Officer	Contact No.
1.	Health and Family Welfare	MO, CHC, Aul	Dr.Praharaj	9437742775
2.		MO, CHC, Derabish	Dr. Chitta	7377676822
3.		MO, CHC, Indupur	Dr. Srikant Swain	8280213625
4.		MO, CHC, Mahakalapara	Dr.Manoj Ku Panda	9439996179
5.		MO, CHC, Marshaghai	Dr. Barada Kanta	7064547293
6.		MO, CHC, Patkura	Dr. Niranjan	9437170337
7.		MO, CHC, Pattamundai	Dr.Nirakar Parida	9438339268
8.		MO, CHC, Rajnagar	Dr.Rashmi Ranjan Mohanty	9439996456
9.		MO Kendrapara	Dr Srikant Swain	8280213625
10.		MO, CHC, Rajkanika	Dr. Praharaj	9437742775
11.	Police	IIC, Kendrapara	Sri Pabitra Maharana	9437227707
12.		IIC, Derabish	Sri Jyotiprakash Swain	9439053720
13.		IIC, Patkura	Sri Saroj Ku Sahoo	9438961426
14.		IIC, Mahakalapara	Sri Manoranjan Choudhury	9438352411
15.		IIC, Marshaghai	Sri Pradipta Ku Kanungo	9437110948
16.		IIC, Pattamundai	Sri Tapan Kumar Rout	9439508408
17.		IIC, Rajnagar	Sri Tapan Kumar Nayak	9437988323
18.		IIC, Aul	Sri Dilip Ku Sahoo	8895905269
19.		IIC, Rajkanika	Sri Bilwa Mangala Sathy	9178725332
20.	Panchayatraj	BDO- Kendrapara	Smt. Bandana Khatua	6371197727
21.		BDO, Derabish	Gopabandhu Bhosagar	9438141398
22.		BDO- Marshaghai	Sri Umasankar Behera	7838327915
23.		BDO, Mahakalapara	Sri Debasis Rout	8480613918
24.		BDO- Garadpur	Sri Ranjit Mallik	8467061242
25.		BDO- Pattamundai	Sri Bharat Chandra Parida	7008378112
26.		BDO- Aul	Sri Dwibendu Das	8249827394
27.		BDO- Rajnagar	Sri Rabindra Pradhan	9861760002
28.		BDO- Rajkanika	Sri Rabi Narayan Acharya	80938 42510
29.	ST and SC Development	WEO Aul	Smt Abha Pradhan	7873397943
30.		WEO Derabish	Smt Rashmi Devi	9777563204
31.		WEO I/C Garadpur	Smt Pritam Priyadarsini Samal	8763756172
32.		WEO Kendrapara	Smt Chandrakanti Behera	8249804670
33.		WEO Mahakalapara	Smt Nirlipta Das	7978943881
34.		WEO Marshaghai	Smt. Pritam Prayadarsini Samal	8763756172
35.		WEO Pattamundai	Smt Sasmita Swain	6370289382
36.		WEO I/C Rajkanika	Smt Abha Pradhan	7873397943
37.		WEO I/C Rajnagar	Smt Sasmita Swain	6370289382
38.	Animal and Husbandry	SDVO – Kendrapara	Dr Sumanta Mohapatra	9438273841
39.		BVO – Derabish	D.Jitansusekhar Mohanty	9437243887
40.		BVO – Marshaghai	Dr Mrutunjaya Mohanty	9437268516
41.		BVO – Garadpur	Dr Biswambar Das	9938160881
42.		BVO – Mahakalapara	Dr Raghunath Singh	9178029522
43.		BVO – Rajkanika	Dr. Pravas Ku. Behera	9437191188
44.		BVO -Aul	Dr. Abhimanyu Rout	9437240375
45.		BVO -Rajnagar	Dr. Patitapaban Bal	9437244044
46.		BVO -Pattamundai	Dr Sanjaya Ku. Behera	8280061590

47.	W and CD	CDPO-Aul	Smt. Kalpana Dhal	9778488701
48.		CDPO- Derabish	Smt. Snehalata Sahoo	9438389778
49.		CDPO- Garadpur	Smt. Minati Behera	7894806305
50.		CDPO- Kendrapara	Smt. Kabita Nayak	7978166001
51.		CDPO- Mahakalapara	Smt. Kabita Mallick	6370808524
52.		CDPO- Marshaghai	Smt. Priti Parhi	8895853381
53.		CDPO- Pattamundai	Smt. Mukhari Begum	9937581419
54.		CDPO- Rajkanika	Smt. Satyabhama Mahanta	9438153510
55.		CDPO- Rajnagar	Smt. Bazm era Begum	9556186833
56.	Food and Civil Supply and Consumer Welfare	Marketing Inspector Kendrapara Municipality	Suchismita Mohanty	8763863631
57.		MI Pattamundai	Madhusmita Sethi	9777213321
58.		MI Rajnagar	Debi Prasad Das	8917292620
59.		MI Aul & Rajkanika	Rabindranath Behera	9438078546
60.		MI Derabish	Rasmita Sahoo	9437452004
61.		MI Mahakalapara	Pravanjan Sahoo	9438078639
62.		MI Kendrapara	Akasmita Routray	7008637615
63.		MI Marshaghai	Rasmiprava Sahoo	7008430300
64.		MI Garadpur	Swarup Kumar Das	9937612827
65.	School and Mass Education	BEO, Aul	Sri Dhurba Ch mohanty	9777883859
66.		BEO, Derabish	Sri Srikant Behera	9937677762
67.		BEO- Garadpur	Sri Ajaya Ku. Sethi	9437764538
68.		BEO- Kendrapara	Sri Kailash Ch Dalai	9437434352
69.		BEO- Mahakalapara	Sri Tanmay Ku Behera	9438457218
70.		BEO- Marshaghai	Sri Satrugan Behera	9938219081
71.		BEO, Pattamundai	Sri Gobinda Ch Parida	8249364178
72.		BEO- Rajkanika	Sri Sarojkanta Bihari	6370565403
73.		BEO- Rajnagar	Sri Manoranjan Sathy	9438242240
74.	R.D	Superintending Engineer, Kendrapara	Er. Santanu Kumar Nayak	9437255344
75.		Sub-Divisional Officer, Pattamundai	Sri Binod Chandra Dash	9438289883
76.		Sub-Divisional Officer, Rajkanika	Sri Satyabrata Panda	9438289887
77.		Sub-Divisional Officer, Aul	Pragaya Paramita	9438289878
78.		Sub-Divisional Officer, Rajnagar	Sri Gopabandhu Pradhan	9438289891
79.		Sectional Officer, Pattamundai	Sri Niranjana Sahoo	9438289886
80.		Sectional Officer, Gunthi	Sri Pravas Ranjan Rout	9438289885
81.		Sectional Officer, Dandisahi	Sri Khageswar Behera	9438289884
82.		Sectional Officer, Aul	Afzaluddin Sk	9438289879
83.		Sectional Officer, Aul	Sri Laxmikanta Rout	9438289880
84.		Sectional Officer, Panpenta	Sri Suvendu Kumar Jena	9438289881
85.		Sectional Officer, Rajnagar	Sri Upendra Behera	9438289894
86.		Sectional Officer, Rajnagar	Sri Jumar Kumar Mallik	9438289892
87.		Sectional Officer, Rajkanika	Sri Ayaskanta Mohapatra	9438289890
88.		Sectional Officer, Rajkanika	Jyotimayee Dalai	7008959186
89.		JEE Marshaghai	Ambar Rout	9438571035

90.	Works	Executive Engineer,RWS&S Division,Kendrapara	Basant Kumar Nayak	8280408048
91.		Assisatant Executive Engineer,RWS&S Sub - Division Division,Kendrapara	Basant Kumar Sethy	8847889084
92.		Assisatant Executive Engineer (Estimator) ,RWS&S Division Division,Kendrapara	Akshaya Kumar Sasmal	8908534295
93.		Assisatant Engineer (Estimator) ,RWS&S Division Division,Kendrapara	Bibhusmita Jena	9438076575
94.		Assisatant Engineer - I ,RWS&S Section,Kendrapara	Tapan Kumar Dutta	6371818406
95.		Junior Engineer - II ,RWS&S Section,Kendrapara	Nabakishore Das	9937406595
96.		Junior Engineer - I ,RWS&S Section, Derabish	Bibhudatta Das	9937016789
97.		Junior Engineer - II ,RWS&S Section, Derabish	Debasis Dhala	7978966043
98.		Junior Engineer - I ,RWS&S Section, Garadpur	Nirmala Chandra Jena	9439592686
99.		Junior Engineer - II ,RWS&S Section, Garadpur	Sigma Priyadarsini Sethy	8917228208
100.		Assisatant Engineer - I ,RWS&S Section, Marshaghai	Ranjan Kumar Lenka	6371557847
101.		Junior Engineer - II ,RWS&S Section, Marshaghai	Rajendra Kumar Singh	7077111704
102.		Junior Engineer - II ,RWS&S Section, Mahakalpada	Subrata Kumar Sahoo	9437028082
103.		Junior Engineer - II ,RWS&S Section, Pattamundai	Biswajit Mishra	9437276649
104.		Assisatant Engineer - I ,RWS&S Section, Aul	Ashok Kumar Sahoo	9437982454
105.		Junior Engineer - II ,RWS&S Section, Aul	Biprajita Majhi	8280408752
106.		Junior Engineer - II ,RWS&S Section, Rajkanika	Sanjay Kumar Das	8280408759
107.		Junior Engineer - I ,RWS&S Section, Rajnagar	Sanjib Kumar Mallik	7205078701
108.		Junior Engineer - II ,RWS&S Section, Rajnagar	Prabodh Kumar Nayak	8249315984
109.	Water Resources	Superintending Engineer, Aul Embankment Division, Aul	Sri Saroj Kanta Mishra	06729-241530 9692352996

110.		Assistant Executive Engineer (Estimator)	Sri Rakesh Kumar Nayak	9040229272
111.		Junior Engineer (Estimator I/c)	Sri Chitta Ranjan Panda	8763158685
112.		Assistant Executive Engineer (I/c), Aul Embkt. Sub-Division, Aul	Sri Anjan Kumar Behera	9437207979
113.		Asst. Engineer	Sri Druba Charan Behera	8596916164
114.		Junior Engineer	Sri Chittaranjan Panda	8763158685
115.		Asst. Engineer	Sri Jaychandra Jena	9938308897
116.		Assistant Executive Engineer, Kanika Embkt. Sub-Division, Rajkanika	Sri Kumar Das	9438212021
117.		Asst. Engineer	Sri Prasanna Kumar Nayak	7008612929
118.		Junior. Engineer,	Sri Dhiren Kumar Sahoo	9040493952
119.		Asst. Engineer	Sri Tapan Kumar Dandapat	7978779597
120.		Asst. Executive Engineer, Mahakalapada Embkt. sub-division	Sri Niranjan Swain	9438536620
121.		Asst. Engineer	Sri Pranathatha Munda	9853968808
122.		Junior Engineer	Sri Susanta kumar Panda	9777220588
123.		Assistant Executive Engineer,Rajnagar Embkt. Sub-Division, Rajnagar	Sri Anjan Kumar Behera	9437207979
124.		Asst. Engineer	Sri Bhanja Kishore Rout	9437671099
125.		Asst. Engineer	Sri Chitta Ranjan Behera	9439257121
126.		Junior Engineer	Sri Rabindra Kumar Samal	7978453491
127.	Minor Irrigation	Executive Engineer	Er.Prabodh Kumar Rout	9439317818
128.		Asst.Executive Engineer (Estimator)	Er. Pranakrushna Behera	7735070095
129.		Junior Engineer (Estimator)	Er. Gorasasi Sahoo	8763544498
130.		Asst. Executive Engineer, Kendrapara Irrigation Sub-Division.	Er. Dharanidhar Behera	9437183575
131.		Assistant Engineer Kendrapara Irrigation Section	Er.Sarat Chandra Mallik	7873427722
132.		Assistant Engineer, Basupur Irrigation Section	Er. Bijay Kr Mohanty	8280124662
133.		Junior Engineer (Marsaghai/Jamboo Irrigation Section	Er. Pramod Kr Tarai	9178904227
134.		Asst.Executive Engineer, Pattamundai Irrigation Sub-Division	Er. Pravat Kr Sahoo	9437547075
135.		Assistant Engineer , Alava-II Irrigation Section	Er. Manoranjan Sahoo	9437316687
136.		Junior Engineer, Alava-I / (I/C)Gogua Irrigation Section	Er. Sunil Kr Naik	7978598629

137.		Assistant Engineer,(I/C) Choudakulat Irrigation Section	Er. Sanjay Kr Satapathy	9938207435
138.		Asst.Executive Engineer, Derabish Irrigation Sub- Division	Er.Pramod Kumar Ray	9437276902
139.		Asst. Engineer, (I/C) Chandol Irrigation Section	Er. Debendra Prasad Bal	9437206165
140.		Assistant Engineer, Indupur Irrigation Section	Er. Sanjay Kr Satapathy	9938207435
141.		Junior Engineer,(I/C) Chandannagar Irrigation Section	Er.Gorasasi Sahoo	8763544498
142.		Assistant Engineer, Pubansh Irrigation Section	Er.Nabin Kishore Panigrahi	9437293714
143.		Asst.Executive Engineer, Patkura Irrigation Sub- Division	Er. Ashis Kumar Swain	9438536620
144.		Junior Engineer, Ostar / (I/C) Kula Irrigation Section	Er.Sarada Prasad Sahoo	9437119401
145.		Assistant Engineer, Patkura Irrigation Section	Er.Dushasan Barik	9437431672
146.		Junior Engineer, Bantala Irrigation Section	Er.Debendra Prasad Bal	9437206165
147.	Energy	JEE, Kendrapara-I	Sri Satyaprasad Sahoo	9437555047
148.		JEE, Kendrapara-II	Sri Sitansu Sekhar Mohapatra	9437555048
149.		JEE, Kendrapara-III	Sri Soumya Bhuyan	9437555059
150.		JEE, Danapur	Sri Kamala behera	9437555184
151.		JEE, Chhata	Sri Manmohan Singh	9437555062
152.		JEE, Indupur	Sri Prasanta Kumar Behera	9437555061
153.		JEE, Patamundai-I	Sri Rahidas Patra	9437555063
154.		JEE, Patamundai-II	Sri Satyabrata Pradhan	9437555067
155.		JEE, Patamundai-III	Sri Stutam Das	9437555071
156.		JEE, Patrapur	Atesh mudddin khan	9437555072
157.		JEE, Dandisahi	Sri Bibhuti Bhusan Mohanty	9437555090
158.		JEE, Rajkanika	Sri Durga Sankar Behera	9437555103
159.		JEE, Aul	Sri Premananda Behera	9437555109
160.		JEE, Olavar	Sri Dipankar Debata	9437555107
161.		JEE, Bhuinpur	Sri Bhabani Prasad Mohanty	9437558099
162.		JEE, Rajnagar-I	Sri Satyabrata Mallik	9437555124
163.		JEE, Rajnagar-II	Sri Narayan Paramanik	9437555126
164.		JEE, Talachua	Sri Banoj Kumar Sahoo	7978553503
165.	Agriculture	Asst. Agriculture Officer, Kendrapara	Sri Manas Ranjan Roul	9438281340
166.		Asst. Agriculture Officer, Rajkanika	Smt Jotirmayee Behera	8984477790
167.		Asst. Agriculture Officer, Aul	Sri Manoj Kumar Mohanty	9438029935
168.		Asst. Agriculture Officer, Derabish	Smt. Banalata Behera	7008160176
169.		Asst. Agriculture Officer, Marshaghai	Sri Soumendra Mohanty	9537283596

170.		Asst. Agriculture Officer, Pattamundai	Sri Bhadranarayan Das	8598008053
171.		Asst. Agriculture Officer, Rajnagar	Sri Palpriya Priyadarshini	6372782630
172.		Asst. Agriculture Officer, Mahakalapara	Smt. Pragyan Paramita	7978951462
173.		Asst. Agriculture Officer, Garadpur	Sri Amarendra Singh	9777041806
174.	Horticulture	Asst. Horticulture Officer, Marshagahi	Smt Subahshree Kara	8018187360
175.		AHO, Derabish	Smt. Jyotirmayee Sahoo	7504386208
176.		AHO, Kendrapara	Smt. Jyotirmayee Sahoo	
177.		AHO, Rajkanika	Smt. Subahshree Kara	8018187360
178.		AHO, Rajnagar	Smt. Twinkle Jena	9438580312
179.		AHO, Garadpur	Sri Sriram Ratan Pradhan	7008970138
180.		AHO, Mahakalapara	Sri Sriram Ratan Pradhan	7008970138
181.		AHO, Pattamundai	Sri Soumyaranjan Sethy	9778256476
182.		AHO, Aul	Sri Soumyaranjan Sethy	9778256476
183.	Fishery & ARD	Asst. Fishery Officer, Marshaghai	Miss Ch. Pallavi	9437277685
184.		AFO Mahakalapara	Sri Rasmiranjan Das	9437315921
185.		AFO Aul	Smt. Sulagna Routray	8917288313
186.		AFO Pattamundai	Smt. Harapriya Behera	9040358685
187.		JFTA Garadpur	Sri Sankarsan Panda	9937787049
188.		JFTA Rajnagar	Sri Bikas Kumar Nayak	9937084295
189.		JFTA Kendrapara	Sri Ramesh Nayak	9938640820
190.		JFTA Derabish	Sri Jajati Keshari Beura	9178835775
191.		JFTA Rajkanika	Sri Samir Kumar Das	9937063775
192.	Industry	IPO, Pattamundai	Kulamani Behera	9437327288
193.		IPO, Aul	Kulamani Behera	9437327288
194.		IPO, Garadpur	Hrushikesh Behera	9437509863
195.		IPO, Marshaghai-	Hrushikesh Behera	9437509863
196.		IPO, Kendrapara	Tribikram Bhoi	9583201869
197.		IPO, Derabish-	Tribikram Bhoi	9583201869
198.		IPO, Rajnagar	Nibedita Samal	8342994260 8249398952
199.		IPO, Rajkanika	Debasish Prasad Jena	7978041241 9937318034
200.		IPO, Mahakalapada-	Bishnu Charan Sahoo	9090402854
201.	Co-operation	ICS, Rajnagar	Sri Bikash Tarei	7008398423
202.		ICS, Aul	Sri Bikash Tarei	7008398423
203.		ICS, Marshaghai	Sri Sachidananda Jena	9437784018
204.		ICS, Kendrapara	Sri Sachidananda Jena	9437784018
205.		ICS, Rajkanika	Sri Sachidananda Jena	9437784018
206.		ICS, Pattamundai	Sri Rajat Kumar Pani	9861454415
207.		ICS, Derabish	Sri Manmohan Roul	8327763235
208.		ICS, Mahakalapara	Sri Jagannath Biswal	7978827127
209.		ICS, Garadpur	Sri Jagannath Biswal	7978827127
210.	Finance	Accounts Officer Rajkanika	Sri Devendranath Singh	9438169383
211.		AO I/C Garadpur	Sri Panchanan Sethy	7325865455
212.		AO Rajnagar	Sri Rajendra Das	9437345055
213.		AO Aul	Sri Pratap Ku. Pattanaik	8917566308
214.		AO Pattamundai	Smt Sasmita Khatua	8895864090
215.		AO I/C Kendrapara	Sri Anirudha Behera	9438811457

216.		AO Marshaghai	Sri Bishnu Ch. Mohanty	9437414620
217.		AO I/C Mahakalapara	Sri Sushanta Ku. Bal	9438132120
218.		AO Dearabish	Smt Sarojini Swain	9938594220
219.	Finance	SubTreasury Officer, Marshaghai	Smt Pallabi Saha	9078909910
220.		STO, Pattamundai	Sri Prakash Kumar Sethi	7982902573
221.		STO, Rajnagar	Sri Bholanath Sethy	9861677228
222.		STO, Rajkanika	Sri Prakash Kumar Sethi	7982902573
223.	Revenue	Tahasildar- Kendrapara	Smt. Hemalata Bahalia	9437208153
224.		Tahasildar- Derabish	Sri Namita Barik	9439916129
225.		Tahasildar- Marshaghai	Sri Umasankar Behera	7838327915
226.		Tahasildar- Mahakalapada	Sri Saubhagya Panda	8895569998
227.		Tahasildar- Garadpur	Sri Santosh Kumar Sahoo	9853212980
228.		Tahasildar- Pattamundai	Sri Dillip Kumar Sethi	9437221703
229.		Tahasildar-Aul	Sri Tapan Ku. Senapati	9439762290
230.		Tahasildar, Rajnagar	Sri Bholanath Sethy	9861677228
231.		Tahasildar-Kanika	Sri Premananda Behera	9582736600, 9556172717

Name and contact no refer to Important contact no in DDMPvolume II

4.12.4 Any other Alternative Emergency Operation Center in the district

In addition to DEOC Emergency Operation Centres function at block level and line department offices.

4.17 District Crisis Group

As prescribed in the chemical accidents (emergency planning, preparedness, and response) rules, 1996, the District Crisis Group has to be constituted.

The District Crisis Group is the apex body in the district to deal with major chemical accidents and to provide expert guidance for handling chemical accidents. Without prejudice to the functions specified under sub-rule (1), the District Crisis Group shall,-

1. Assist in the preparation of the district off-site emergency plan;
2. Assist the district administration in the management of chemical;
3. Continuously monitor every chemical accident;
4. Review all the on-site emergency plans prepared by the occupier of Major Accident Hazards installation for the preparation of the district off-site emergency plan;
5. Ensure continuous information flow from the district to the Central and State Crisis Group regarding accident situation and mitigation efforts;
6. Forward a report of the chemical accident within fifteen days to the State Crisis Group;
7. Conduct at least one full-scale mock-drill of a chemical accident at a site each year and forward a report of the strength and the weakness of the plan to the State Crisis Group.

4.17.1 Composition of the District Crisis Group

Sl No.	Member	Designation	Contact No.
1	Chairman	Collector & Dist. Magistrate	9439883093
2	Asst. Directories F& B, Paradip	Member Secretary	9437167924
3	Supertendent of Police	Member	9438001323
4	District Emergecnny Officer	Member	9937176197
5	Dist. Fire Officer	Member	9827340676, 6371281774
6	Inspector Civil Defence	Member	6371281774
7	DI & PRO	Member	9437056558
8	CDM&PHO	Member	9439988886
9	E.O. Kendrapara(M)	Member	9437727311
10	Exe. Engineer PHD	Member	9439776505

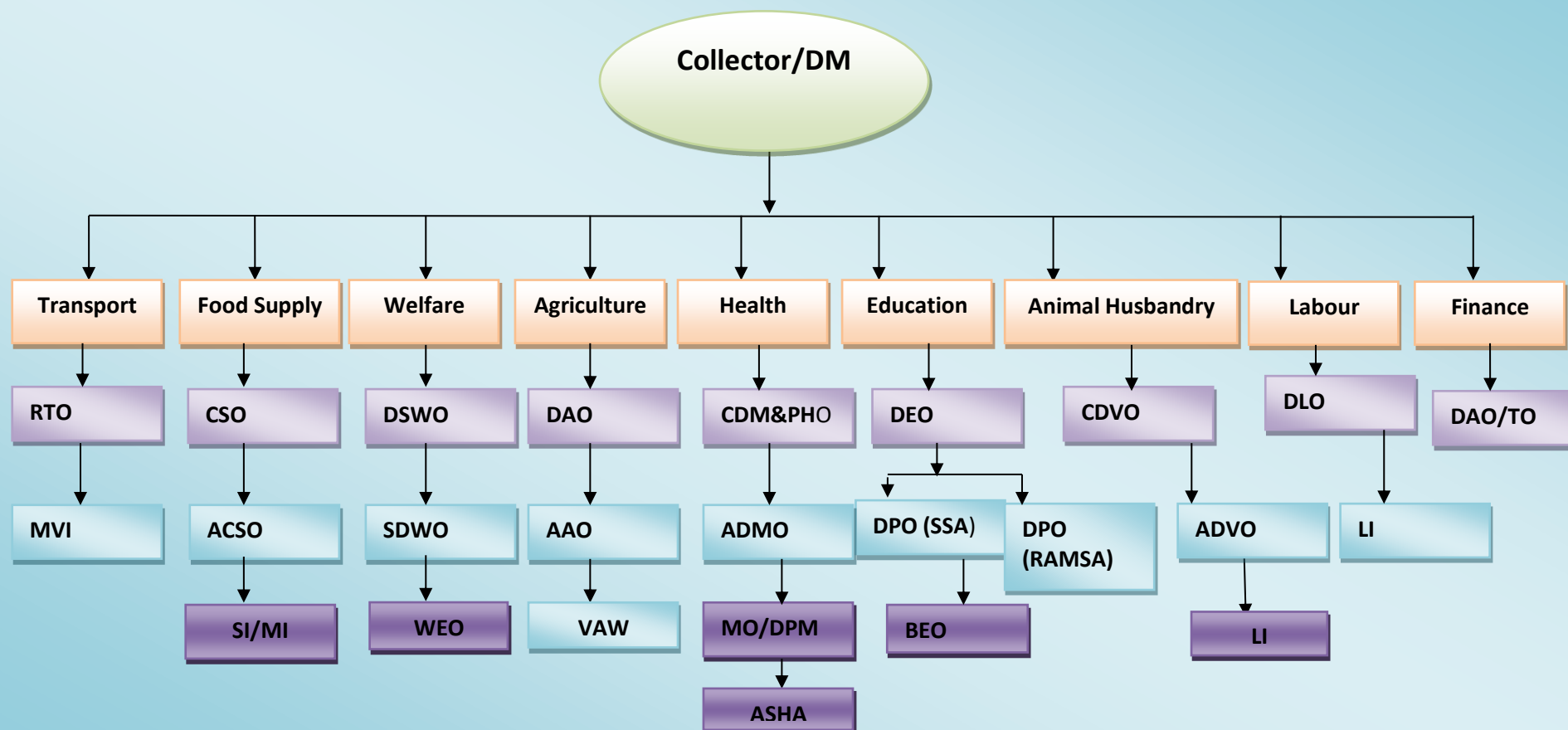
11	Regional Officer OSPCB	Member	9437162129
12	Chief District Agriculture Officer	Member	8917672742
13	RTO, Kendrapara	Member	9437163409
14	Member, CITU	Member	9437249807
15	R.K Industries	Member	9437022039

4.18 Local Crisis Group

The Local Crisis Group shall be the body in the industrial pocket to deal with chemical accidents and coordinate efforts in planning, preparedness and mitigation of a chemical accident. Without prejudice to the functions specified under sub-rule (1), the Local Crisis Group shall,

1. Prepare local emergency plan for the industrial pocket;
2. Train personnel involved in chemical accident management;
3. Ensure dovetailing of the local emergency plan with the district off-site emergency plan;
4. Educate the population likely to be affected in a chemical accident about the remedies and existing preparedness in the area;
5. Conduct at least one full scale mock-drill of a chemical accident at a site every six months forward a report to the District Crisis Group;
6. Respond to all public inquiries on the subject.

4.13 Coordination structure at the District level and down the line



4.14 GO-NGO Coordination before and after disaster in the district

Role of NGOs in Disaster Preparedness is to facilitate for formation of and participation in District level task forces. Advocate for formal and institutionalized engagement, and develop protocols on mainstreaming disaster management concerns. Initiate appropriate mechanisms for mainstreaming DM concerns with corporate, financial and insurance bodies, professional associations, academic bodies, media and such other networks/associations. Establish community level coordination mechanisms. Assist in developing and participating in GO- NGO Inter-Agency Coordination Mechanisms. Encourage Contingency Planning at community levels. Assist in development, piloting, validation and updating of the district level contingency and preparedness plan.

The co-coordinating task of GO-NGO to focus on:

- Creating awareness
- Early warning dissemination
- Resource mobilization
- Capacity building at different levels
- Promotion of alternative technology for housing/agriculture sectors etc.
- Linkage between service providers and end users in disaster affected regions
- Sensitizing community/other stakeholders
- Resolution of Conflict
- Facilitation of the process of Contingency Plan
- Vulnerability and Risk Assessment
- Development of Resource Inventory
- Facilitation of Mock Drills
- Provision of services to the vulnerable areas
- Setting up of Grain/Seed Banks/ or avenues for alternative income generation activities
- Establishing network among services providers
- Promoting alternative technology and traditional wisdom in reduction of vulnerability
- Creating linkages between research and development programmes
- Promoting community based institutions to sustain the activities
- Helping in Advocacy/Policy Formulation
- Supplementing modern coping mechanism strategies with traditional knowledge.

GO-NGO Coordination process flow in operation.

Information Management- Capturing and storing information and making it accessible

Knowledge Creation- Promoting research, adapting and innovating to generate new knowledge

Knowledge Application- Utilizing existing knowledge

Knowledge Sharing – Learning from one's own experiences, successes and failures, and also from global experiences

NGOs, besides acting as facilitators for capacity building, also need to enhance their own capacity for institutionalizing Disaster Risk Reduction (DRR). Until NGOs enhance their technical and managerial capacity of mainstreaming DRR into development projects, their projects will never be integrated with DRR concerns. The managerial staff of NGOs needs to realize why DRR must be integrated, and the NGOs technical staff needs to understand how to integrate DRR into their developmental projects. For example, a capacity building session may make the managerial staff of NGOs realize that facilitating shelter to targeted beneficiaries will be meaningless, if the shelters are not disaster resistant and are likely to be damaged in a disaster. Similarly, the technical staff of NGOs must be trained on integration of disaster resistant technical know-how in shelter construction.

Contact list of NGOs working in Disaster Risk Reduction Activities in Kendrapara

SL No	Contact Person	NGO Name	Village	Block	Contact No.
1	Niranjan Sahoo	JB Sathi Samaj	S,Kanipara	Derabish	9938960028
2	Sanjaya Pani	LANSS	Barua	Kendrapara	06727274989
3	Ananta Kar	Anwesana	Tetalanga	Pattamundei	9937929896
4	Ramesh Biswal	KUA	Kothasahi	Rajkanika	9937581884
5	Supravat Sarangi	Ananta Seva	Rankala	Marsaghai	9438761586
6	Padma Ch. Samantray	Ananta Seva	Rankala	Marsaghai	0671280868
7	Narattama Parida	OMDC	Madana	Garadpur	9438408943
8	Amulya Rout	JeebanDeep	Madanpur	Rajnagar	9938129219
9	Susanta ku Das	RKYP	Belari	Aul	9437276358
10	Udaya ku Behera	VARRATA	Baulakani	Mahakalapara	9437450283
11	Dilip ku Sahoo	NSO	Garapur	Kendrapara	
12.	Nilamadhaba Nanda	SAMBEDAN	T Patana	Derabish	9861016181
13	Smrutiranjana Mohanty	SRUJANI	Baruna	Garadpur	9937361653
14	Santosh ku Jena	GDF	Kosida	Garadpur	9937522814
15	Pravas ch Sahoo	GUSS	Kalabuda	Garadpur	
16	SKLiakat Hussien	RIESWA	Mankarpur	Kendrapara	9437504776
17	Pabitraku Parida	JKSS	J Nankar	Mahakalapara	9437163051
18	Banaja Parida	MBParisad	Mangalpur	Mahakalapara	
19	Bighneswar Rout	RMDS	Kiarbanka	Mahakalapara	9238624627
20	Ajaya Das	JANACHETANA	Ramanagara	Mahakalapara	9337088408
21	Sudhansu Satpathy	ISWAR	Garadpur	Garadpur	9861457672
22	Manorama Rout	PallisriMSamiti	S,Kanipara	Derabish	7504290005
23	Sarat ku Rout	CAAD	Baghabuda	Rajkanika	9437764822
24	Prasanta Gochhayat	GARRVO	RamNagar	Mahakalapara	9437271529
25	Mamata Grahacharya	BMSF	Marshaghai	Kendrapara	9937620092
26	Suravi Jena	WARD	Sikhara	Mahakalapara	9937680595
27	Chandrasekhara Das	CCD	Salaro	Derabish	9937813029
28	Prafulla ku Sahoo	Garveswar YP	Nahanga	Derabish	
29	Mohan Ku Jena	JanasevaParisad	Kendrapara	Kendrapara	
30	Raj Kr Jena	AJKSamiti	Daliji	Derabish	9437123325
31	Praffula Ku Sahoo	PARR	Marashaghai	Marashaghai	9937897912
32	Baishnab Nayak	MT Sevashram	Kuturanga	Kendrapara	06727278667
33	Lalitanjali Das	JMS	Gualsingh	Kendrapara	9437316136
34	Govinda Das	Grama Utthan	Pimpudi	Rajkanika	9437076225
35	Ajit Ku Mohanty	EPCCOY	Alava	Pattamundai	
36	Hemanta Barik	Ama Gaon	Nagada	Rajnagara	06712398784
37	Manjulata Das	Navajyoti MS	B Basanta	Pattamundai	
38	Araskhita Nath	RMDS	Keyarbank	Mahakalapara	9937594318

39	Kalpataru Samala	WORD	Sikhar	Mahakalapara	9937680595
40	Dev Pd Samantray	SRADHA	Khadianga	Kendrapara	
41	Basanta Ku Moharana	ISWO	Kendrapara	Kendrapara	9937972420
42	Sisira Ku Nayak	Palli Pragati	Marashaghi	Marashaghi	9861293500
43	Sasmita Das	M B Prasad	ADOI	Mahakalapara	
44	R N Mandal	VPDO	Petchhela	Mahakalapara	9237064523
45	Hitendra Biswala	CSD	Hatina	Rajnagar	9437671987
46	Kunja bihari Behera	AHINSA	Garapur	Kendrapara	9937470261
47	Hemanta Ku Jena	Puspak Club	Kendrapara	Kendrapara	9437743425
48	B prasad Pati	Netures Club	Mahipala	Kendrapara	8895645821
49	Prasanta Sahoo	Kalinga Vikas	Kalabuda	Garadpur	
50	Anusuya Swain	BBM Samity	Belaranuagaon	Mahakalapara	9437101092
51	Braja Kishore Malik	NISHRD	Adhanga, Indola	Derabish	
52	Susil Ku Parida	ABLE	Pasta	Marshaghai	
53	Amarendra Pattanayak	KASS	Batira	Marshaghai	
54	Niranjan Nayak	KCSO	Badahat	Kendrapara	
55	Annapurna Barala	APNGO	Endar, Kansar	Mahakalapara	9938252642
56	Rashmi Ranjan Swain	YYC	Barhampur	Garadpur	9861402913
57	Alok Ku Behera	PRIYA	Madana	Garadpur	9937797247
58	Manaswini Jena	Paliirenu M. S	Korua	Garadpur	977794 2684
59	Kshirod Ch Ray	Sri Maa Arobinda	Duhuria	Derabish	9937445113
60	Prasanta Ku Mishra	GEETA	Madana	Garadpur	9937842378
61	Kishor Ku swain	SHARE	Pattamundai	Pattamundai	9437440054
62	Ratnakar Nayak	Kashinath sangrahalaya	Mundalo	Derabish	9583853501
63	Jitendra ku Mohanty	PRAY ASH	Gualsingh	Kendrapara	7008137739
64	Lally Mohanty	BLISH	Ichhapur	Kendrapara	9658515044
65	Baishnab Nayak	Mother Teresa S.S	Kutaranga		06727278667
66	Ajaya Ku Das	Jana Chetana	Tikanpur	Garadpur	9437671989
	NiLamadhab Parida	ARUP	Dobandha	Kendrapara	9937946533
67	Narattama Parida	Anurag	Madana	Garadpur	9937793343

4.15 Role of Corporate Sector in the district relating to Disaster Management

CSR functions as a built-in, self-regulating mechanism, whereby business monitors and ensures its support to law, ethical standards, and international norms. Corporate or business houses have to share the responsibility for the impact of its activities on the environment, consumers, employees, communities, stakeholders, and all other members of the public sphere. In odisha, the contribution of the corporate sector has been notable especially in the aftermath of the devastating super-cyclone in Orissa in 1999.

The corporate sector possesses huge resources – human, material, technical and financial – and has significant presence in every region in the country. It also works and interacts with the community very closely and has an important stake in the well-being and prosperity of the community as its own progress and viability is largely dependent upon a resilient and safe community. The accountability of the corporate sector in terms of its Corporate Social Responsibility (CSR) has also increased as the value and reputation of a company is being increasingly adjudged by its social behavior and by its contribution to the economic well-being and development of the communities in which it operates.

4.16 Public Private Partnership: Public & Private Emergency service facilities available in the district.

Public-Private Partnerships (PPP) have become a popular way for governments to engage private actors in the delivery of government infrastructure and services with the aim of increasing quality and providing better value for money. This study will explore whether Public-Private Partnerships (PPP) can be used as a strategic approach to overcome or at least to minimize the negative impacts of disasters in developing countries.

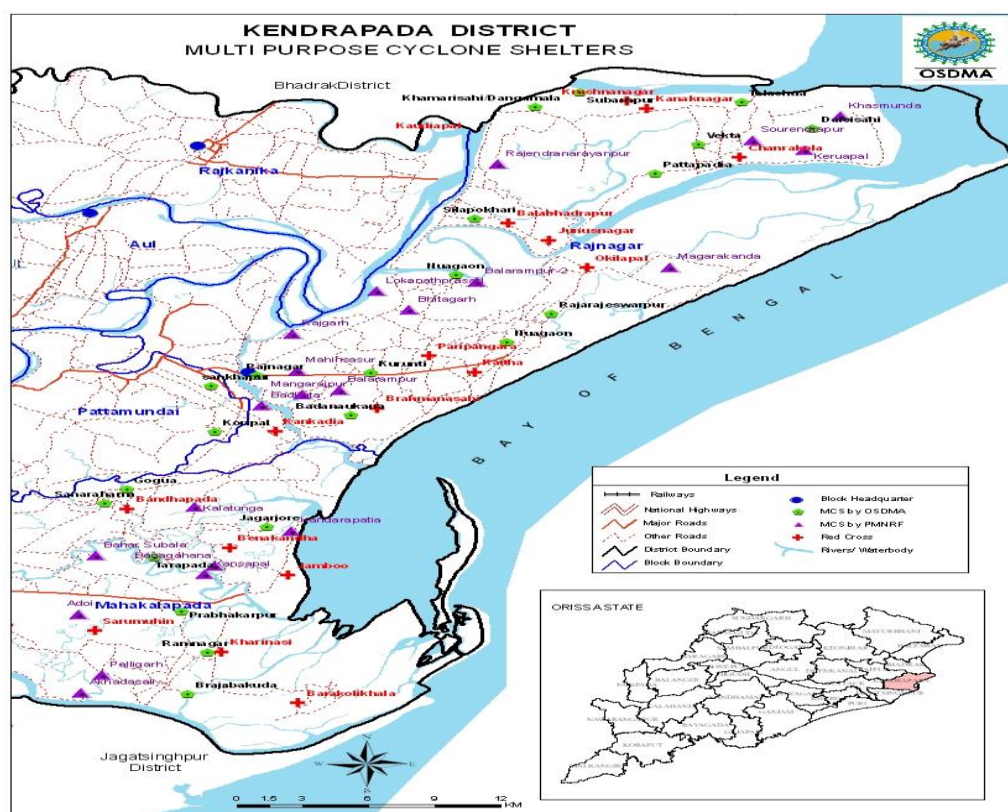
Table__Contact Details of Private emergency services

Sl. No.	Name of the Contact Person	Contact No.
	Nil	

4.17 Multi Purpose Cyclone Shelters (MCS) in the district

List of Cyclone Shelter Constructed by Red Cross.

Red Cross			
Name of the Block	Name of the G.P	Name of the Village	No. of Cyclone Shelter
Mahakalpara	Jumbo	Jumbo	1
	Kharinasi	Kharinasi	1
	Batighar	Barakolikhala	1
	Suniti	Benakanda	1
	Barakanda	Sarumuhi Kochila	1
	Mangalpur	Bandhapada	1
		Kumbharapada	1
	Jadupur	Jadupur	1
	Teragan	Sobala	1
Total	8	9	9
Rajnagar	Koilipur	Kankadia	1
	Gupti	Okilapal	1
	Iswarpur	Iswarpur	5
		Junusnagar	
		Paripangar	
		Dera	
		Balabhadrapur	
	Dangamal	Kanaknagar	2
		Krushnanagar	
	Rangani	Chanarakola	1
Total	5	10	10
G. Total	13	19	19



a) (Details of Cyclone Shelter Management and Maintenance Committee (CSMMC) may be incorporated)

Table -: Details of CSMMC

Sl No	Block	GP	Village	MCS/MFS	Name of President	Contact No	Name of Secretary	Contact No
1	Aul	Kolidiha	Ekmania	MFS	Smt Ahalya Biswal	9937435007	Sri Ashok Ku. Rout	9937993668
2	Aul	Padanipal	Padanipal	MFS	Sri Bikram Ku Malik,	7326091299	Sri Bhaskar Mallick	9938036573
3	Garadpur	Bedari	Bedari	MFS	Sri Kunjalata Mishra,	7735575104	Sri Naresh Chandra Khuntia	9861431738
4	Garadpur	Bhagabanpur	Dhanamandal	MFS	Sri Rajendra Ku Malik	8171928731	Sri Niranjam Pradhan	9438144230
5	Garadpur	Garadpur	Naandipur	MFS	Smt Anita Mahali	8339047422	Sri Sukanta Mohanty	9937361891
6	Garadpur	Sanaadhanga	Korua	MFS	Sri Abhaya Ku Malla	9777683054	Sri Manas Ranjan Nayak	9438302426
7	Mahakalpada	Badihi	Bagagahan (Bankim Prasad)	MCS	Smt Ahalya Das	9348260894	Sri Pulin Jana	9937440549/ 9178442056
8	Mahakalpada	Badihi	Kansar Badadandua	MFS	Smt Ahalya Das	9348260894	Sudhanshu Sekhar Jena	9938614862
9	Mahakalpada	Badihi	Tarapada	MCS	Smt Ahalya Das	9348260894	Sri Santosh Rout	9938395329
10	Mahakalpada	Badihi	Radia	MCS	Smt Ahalya Das	79348260894	Sri Baikuntha Prasad Swain	9938124822

11	Mahakal pada	Baradanga	Baharsub ala	MCS	Sri Arabinda Jena	9178214 151	Sri Anaya Pradhan	9938086332
12	Mahakal pada	Barakandha	Palligarh	MCS	Sri Trailokya Behera	9658240 476	Sri Susil Kumar Das	9937762500
13	Mahakal pada	Barakandha	Adoi	MCS	Sri Trailokya Behera	9658240 476	Sri Sisir Kumar Rout	Secy CSMMC
14	Mahakal pada	Barakandha	Akhadasal i	MCS	Sri Trailokya Behera	9658240 476	Sri Brajakishore Barik	9178128102
15	Mahakal pada	Barakandha	Tentulikh anda	MCS	Sri Trailokya Behera	9658240 476	DHANU SENAPATI	9090383561
16	Mahakal pada	Barakandha	Petachhel a	MCS	Sri Trailokya Behera	9658240 476	Sri Achintya Kumar Maity	9938473447
17	Mahakal pada	Barakandha	Sarumuhi n	MCS	Sri Trailokya Behera	9658240 476		
18	Mahakal pada	Batighar	Barakolik hala	MCS	Smt Sibani Bijuli	7016264 787		
19	Mahakal pada	Batighar	Kajalpatia	MCS	Smt Sibani Bijuli	7016264 787	Kalipada Mandal	9937440549/
20	Mahakal pada	Batighar	Badatubi	MCS	Smt Sibani Bijuli	7016264 787	Sri Ajit Kumar Majhi	8093843558
21	Mahakal pada	Baulakani	Prabhakar pur	MCS	Sri Salabega Mahali	8327703 402	Sri Kartik Sethi	9040472570
22	Mahakal pada	Baulakani	Jamboo	MCS	Sri Salabega Mahali	8327703 402	BUDHADEB MAJHI	7381345615/ 7381345615
23	Mahakal pada	Baulakani (Baradanga)	Kansapal	MCS	Sri Salabega Mahali	8327703 402	Gopinath Basanta	8984681107
24	Mahakal pada	Bijayanagar	Kanpur	MCS	Smt Rupaswani Sahoo	8339843 890	Bidyadhar Parida	9938004420
25	Mahakal pada	Gogua	Kalatunga	MCS	Sri Pramod Kumar Das	9937228 392	Sri Raghunath Gayan	9937107752
26	Mahakal pada	Gogua	Gogua	MCS	Sri Pramod Kumar Das	9937228 392	Sri Surath Prasad Mohanty	9937666006
27	Mahakal pada	Gogua	Sanaraha ma	MCS	Sri Pramod Kumar Das	9937228 392	Sri Rabindra Nath Swain	9938412893
28	Mahakal pada	Nanjura	Ratapank	MCS	Smt Safala Malik	6267690 299	Sri Hrusikesh Bhuyan	Secy
29	Mahakal pada	Gogua	Baliganda	MCS	Sri Pramod Kumar Das	9937228 392	DILLIP KUMAR NAYAK	9938810448
30	Mahakal pada	Najura	Tantiapal (Sasan)	MCS	Smt Safala Malik	6267690 299	LALU PATUA	9658745556
31	Mahakal pada	Jadupur	Jadupur	MCS	Smt Sanjukta Jena	7205730 037		
32	Mahakal pada	Jamboo	Jamboo	MCS	Sri Biswojit Basu	9602008 290	Budhadev Majahi	7064169772
33	Mahakal pada	Jayachandra Pur	Badagoan (Kaida Chhaka)	MCS	Smt Priyanka Samal	9439482 895	Bimal Samal	9937716708
34	Mahakal pada	Mahakalapara	Janara	MCS	Sri Ratikanta Panda	9438479 248	Keshab Ch. Panda	9938734806
35	Mahakal pada	Kharinasi	Kharinasi	MCS	Smt Banita Rout	9937439 090		

36	Mahakal pada	Khursia	Khursiapa t	MCS	Sri Purnachandra Routray	9348904 228	Nagendra Pradhan	9861109439
37	Mahakal pada	Mangalpur	Bandhapa da	MCS	Smt Manjulata Samantray	6371877 242		
38	Mahakal pada	Mangalpur	Kumbharp ada	MCS	Smt Manjulata Samantray	6371877 242		
39	Mahakal pada	Mangalpur (Gokhakhati newly included)	Gokhakha ti	MCS	Smt Manjulata Samantray	6371877 242	RADHANATH CHOUDHURI	9938845795
40	Mahakal pada	Patalipanka	Koratapan ga	MFS	Sri Rasmi Das,	7008387 807	Sri Gagan Bihari Beura	9853389426
41	Mahakal pada	Ramnagar	Ramanag ar	MCS	Sri Milan Kumar Debanath,	9937177 526	Ranjan Kumar Mandal	9040383184
42	Mahakal pada	Ramnagar	Brajabaku da	MCS	Sri Milan Kumar Debanath,	9937177 526	Sanjya Sukla	8658327534
43	Mahakal pada	Ramnagar	Pitapatia	MCS	Sri Milan Kumar Debanath,	9937177 526	APURBA MANDAL	9777287869
44	Mahakal pada	Suniti	Jagarjore	MCS	Smt Bhagabati Mandal	9668721 763	Sri Manoj Ku.Patra	99381-28094
45	Mahakal pada	Suniti	Benakand ha	MCS	Smt Bhagabati Mandal	9668721 763		
46	Mahakal pada	Teragaon	Teragan (Patana)	MFS	Sri Bidyadhar Swain	9853275 622	Sri Baishanaba Ch. Swain	9556235677
47	Mahakal pada	Teragaon	Subala	MCS	Sri Bidyadhar Swain	9853275 622		
48	Mahakal pada	Tikarpanga	Chhanda	MCS	Sri Jyotiranjan Khatua	9937443 815	Sri Gadadhar Barik	9938140787
49	Mahakal pada	Tikarpanga	Tikarpang a	MFS	Sri Jyotiranjan Khatua	9937443 815	Sri Sarat Chandra Jena	9937859258
50	Mahakal pada	Tikhiri	Tikhiri	MFS	Smt Chameli Ojha	8847833 359	Sri Duryodhan Behera	9583678767
51	Marsha ghai	Aitipur	Aitipur	MFS	Smt Supriya Samantray	9437140 475	Ramesh Ch.Samal	96683703301
52	Marsha ghai	Aitipur	Dihabalar ampur	MFS	Smt Supriya Samantray	9437140 475	Srikanta Samal	9437351362
53	Marsha ghai	Antei	Balighai	MFS	Sri Sanjay Kumar Sethy,	6304879 338	Sri Jayaprakash Swain	9777240059
54	Marsha ghai	Beruhan	Beruhan	MFS	Sri Babaji Charan Swain	9945668 471	Kapil Swain	9178138248
55	Marsha ghai	Jalapoka	Jalapoka	MFS	Smt Sukanti Mohanty	9439437 474	Sri Amarendra Rout	9439001332
56	Marsha ghai	Mangarajpur	Ratanpur	MFS	Smt Sujata Malik	7684934 042	Pradip Swain	9938940245/ 9438607285
57	Marsha ghai	Parakula	Parakula	MFS	Sri Diptiranjan Mohapatra	9861142 444	Sri Prafulla Chandra Das	8895205141/ 8455866743
58	Marsha ghai	Raghabpur	Podana	MFS	Sri Ramesh Chandra Lenka	9861414 646	GUNANIDHI NAYAK	9938250559

59	Pattamu ndai	Balabhadrapur	Balipatan a	MFS	Sri Priyabrata Ojha	9437635 965	Sri Gopinath Roul	9777631521
60	Pattamu ndai	Bilikana	Badheipa da	MCS	Smt Laxmipriya Sarangi	8249462 677	Sri Ranjan Kumar Biswal	9938660663
61	Pattamu ndai	Bilikana	Balikana	MCS	Smt Laxmipriya Sarangi,	8249462 677	SRI DHARANIDH AR PARIDA	9437609268
62	Pattamu ndai	Bilikana	Satkudia	MCS	Smt Laxmipriya Sarangi	8249462 677	Sri Satya Ranjan Chhatei	9668016866
63	Pattamu ndai	Khanata	Sankhapu r	MCS	Sri Anil Chandra Lenka	9938053 774	Sri Subrat Kumar Barik	7894334094
64	Pattamu ndai	Oupada	Koriapala	MCS	Smt Mamata Samal	7205529 393	Sri Bharat Rout	9938176676
65	Pattamu ndai	Oupada	Kajala Bandha	MCS	Smt Mamata Samal	7205529 393	PITAMBER SAMAL	8658482153
66	Pattamu ndai	Penthapala	Dandisahi	MFS	Smt Annapurna Sethi,	9937973 922	Sri Ajit Kumar Pradhan	9937972570
67	Pattamu ndai	Singhagaon	Singhagaon	MFS	Sri Ganesh Chandra Das	9668848 238	Sri Purna Chandra Naik	9937197010
68	Pattamu ndai	Srirampur	Palapatna	MFS	Smt Sasmita Sethy	9760570 382	Sri Subash Rout	9437127278
69	Rajkanik a	Barada-Domanda	Manpur (Kanakpur //Gunthal)	MFS	Sri Prasanna Kumar Malik	9439556 450	Birabhadra Mallik	9777060761
70	Rajkanik a	Jayanagar	Bajarpur	MFS	Sri Pradip Kumar Das	9937146 613	Rabinarayna Behera	7749061368
71	Rajkanik a	Katanabania	Katanabania	MFS	Smt Subhasmita Nayak	9937532 206	Samir Ku. Panda	8984343370 / 8328808293
72	Rajkanik a	Pradhanpada	Sanahalupada	MFS	Sri Sanatan Das	7894074 294	Bijay Kumar Nayak	8763529394/ 9178641531
73	Rajnaga r	Brahmanasahi	Bada Naukana	MCS	Smt Binapani Pradhan	8144067 930		
74	Rajnaga r	Hatina	Prasanna pur	MCS	Sri Samira Sethy,	9178039 165	Sri Sankarsan Barik	7788041606
75	Rajnaga r	Hatina	Pentha	MCS	Sri Samira Sethy,	9178039 165	Sri Chandraman i Behera	
76	Rajnaga r	Dangamala	Subarnap ur	MCS	Smt Draupadi Sethy	8144203 870	Sri Jitendra Ray	9437264560 / 9937944889
77	Rajnaga r	Dangamala	Dangamal a	MCS	Smt Draupadi Sethy	8144203 870	Sri Laxmidhar Barik	7077395234
78	Rajnaga r	Dangamala	Krushnan agar	MCS	Smt Draupadi Sethy	8144203 870		
79	Rajnaga r	Dangamala	Kanaknag ar	MCS	Smt Draupadi Sethy	8144203 870		
80	Rajnaga r	Dera	Paripanga ra	MCS	Sri Nirajan Rout	9937886 198		
81	Rajnaga r	Gupti	Rajarajes warpur	MCS	Smt Santilata Biswal	9777702 972	Sri Kalipada Mandal	9853254787/ 8658010899

82	Rajnagar	Gupti	Okilapal	MCS	Smt Santilata Biswal	9777702 972		
83	Rajnagar	Gupti	Bagapatia	MCS	Smt Santilata Biswal	9777702 972	Sri Karunakar Swain	8093158058
84	Rajnagar	Iswarpur	Silapokhari	MCS	Smt Surekha Pradhan	8018063 733	Sri Baikuntha Kumar Barik	9668683446
85	Rajnagar	Iswarpur	Balabhadrapur	MCS	Smt Surekha Pradhan	8018063 733		
86	Rajnagar	Iswarpur	Junusnagar	MCS	Smt Surekha Pradhan	8018063 733		
87	Rajnagar	Kandira	Bhitargarh	MCS	Smt. Hemalata Mahunta	9938430 502	Sri Nirakar Sarangi	9938303362
88	Rajnagar	Kandira	Nuagaon	MCS	Smt. Hemalata Mahunta	9938430 502	Sri Kalandi Bag	9937531481 / 9938493924
89	Rajnagar	Kandira	Laxminarayapur	MCS	Smt. Hemalata Mahunta	9938430 502	Sri Gagan Bal	8658655525
90	Rajnagar	Kandira	Padmanavpur	MCS	Smt. Hemalata Mahunta	9938430 502	Sri Pradip Kumar Mandal	9938970344
91	Rajnagar	Koilipur	Badkot	MCS	Sri Dillip Rout,	6371156 294	Sri Ashok Ku. Mallik	80457876375
92	Rajnagar	Koilipur	Koilipur	MCS	Sri Dillip Rout,	6371156 294	Sri Anshuman Swain	9437284559
93	Rajnagar	Koilipur	Kankadia	MCS	Sri Dillip Rout,	6371156 294		
94	Rajnagar	Kurunti	Balarampur	MCS	Smt Sasmita Mohanty	9556584 645	Sri Bhramarbar Parida	9938053589
95	Rajnagar	Kurunti	Kaitha	MCS	Smt Sasmita Mohanty	9556584 645		
96	Rajnagar	Mahinsasura	Rajnagar College, Rajnagar	MCS	Sri Ashok Kumar Mohanty	9938099 771	Sri Bepin Parida	At- Guludia
97	Rajnagar	Mahulia	Rajgarh	MCS	Smt Manjula Dash,	9989507 738	Sri Baikuntha Bihari Biswal	9776673228
98	Rajnagar	Mahulia	Pokharia	MCS	Smt Manjula Dash,	9989507 738	Sri Dhaneswar Nayak	9938053531
99	Rajnagar	Rajnagar	Rajnagar	MCS	Smt Sushree Sangita Mishra	9437205 552 9938166 618	Sri Prabhat Chandra Mishra	8763311244
100	Rajnagar	Rangani	Vekta	MCS	Smt Lopamudra Jena	6371531 369	Sekh Akbar Malla	8455926464
101	Rajnagar	Rangani	Pattaparia	MCS	Smt Lopamudra Jena	6371531 369	Sri Basanta Das	9556654122
102	Rajnagar	Rangani	Chanrakola	MCS	Smt Lopamudra Jena	6371531 369		
103	Rajnagar	Talachua	Manjuapalli	MCS	Smt Swornalata Mandal	9937153 656	Sri Chiltaranjan Mana	9178441924
104	Rajnagar	Brahmansahi	Bada Naukana	MCS	Smt Binapani Pradhan	8144067 930	Ganeswar Mallik	7684878724

105	Rajnagar	Chandi Baunsamula	Lokanath prasad	MCS	Sri Chittaranjan Panda	8908230424 8480076215	Sahadev Bhuian	9178112632
106	Rajnagar	Dangamala	Khamarsahi (Dangamala)	MCS	Smt Draupadi Sethy	8144203870	Sri Krushna Panigrahi	9938128050
107	Rajnagar	Dangamala	Rajendran arayanpur	MCS	Smt Draupadi Sethy	8144203870	Sri Sudip Dalapati	9556092476
108	Rajnagar	Dera	Nuagaon	MCS	Sri Niranjana Rout	9937886198	Sri Alekha Behera	9853233472/ 9938513056
109	Rajnagar	Kandira	Balarampur	MCS	Smt. Hemalata Mahunta	9938430502	Sri Sarat Mallick	7327869531
110	Rajnagar	Kurunti	Kurunti	MCS	Smt Sasmita Mohanty	9556584645	Rashmi Kanta Mangaraj	7787835307
111	Rajnagar	Rajnagar	Mangarajpur	MCS	Smt Sushree Sangita Mishra	9437205552 9938166618	Sri Surendranath Satapathy	9861292114
112	Rajnagar	Mahinsasur	Mahinsasur	MCS	Sri Ashok Kumar Mohanty	9938099771	Dolagobinda Jena	97777 72288
113	Rajnagar	Rangani	Surendrapur	MCS	Smt Lopamudra Jena	6371531369	Mantu Maithy	7894068129
114	Rajnagar	Rangani	Keruapal	MCS	Smt Lopamudra Jena	6371531369	Sukadev Pradhan	9938404002
115	Rajnagar	Rangani	Daleisahi	MCS	Smt Lopamudra Jena	6371531369	Sukadev Singh	9937033841
116	Rajnagar	Talachua	Khasmun da	MCS	Smt Swornalata Mandal	9937153656	Jagabandhu Das	7894107443
117	Rajnagar	Talachua	Talachua	MCS	Smt Swornalata Mandal	9937153656	Nityalal Bag	9937714154

b) *Building and infrastructure status of the MCS/MFS (Annexure attached)*

c) *Equipment status of the MCS/MFS (Annexure attached)*

d) **4.19 Other identified Safe temporary shelters in the district (Annexure attached)**

4.20. Other Safe Sites for temporary shelter for Flood/ Tsunami etc.

Sl. No.	Block Name	GP Name	No. of Mounds	No. of High Bridges
1	Derabish	Indalo	1	
2	Derabish	Ratadiha khandasahi	1	
3	Marshaghai	Aitipur	1	
4		Akhua	2	
5		Raghabpur	2	
6		Bachharai	2	
7		Dumuka	1	
8	Mahakalpada	Karanja	1	
9		Badakula	1	

10		Teragaon	1	
11		Tikarpanga	4	
12		Patalipanka	3	
13		Jadupur	1	
14	Garadpur	Garadpur	1	Chitroptala-1
15		Nadiabarei	1	
16		Talakusuma	1	
17	Rajkanika	Parinuapada	1	Kharasrota -1
18		Koranda	1	Baitarani-1
19		Padanpada	1	
20	Rajnagar	Ostia	2	Hansua-1
21		Bandhapada	1	Hansina
22	Aul	Padinipal	1	Brahmani-1

Chapter – 5

Prevention & Mitigation Measures

5.1 Ways & Means to prevent or reduce the impact of various disasters:

Human being can't prevent the disaster but can reduce its impact with preparation or adapting Disaster Risk Reduction methodology. Now a days the approach of mitigation is from relief centric to risk reduction. Looking towards the increasing menace of various hazards, the following mitigation measures are to be taken :

1. Structural mitigation

2. Non Structural mitigation

Structural mitigation measures generally refer to capital investment on physical constructions or other development works, which include engineering measures and construction of hazard resistant and protective structures and other protective infrastructure.

Non-structural mitigation measures refer to awareness and education, policies, technolegal systems and practices, training, capacity development, public commitment, and methods and operating practices, including participatory mechanisms, and the provision of information, which can reduce risk with related impacts.

The District Administration has already taken steps in providing instructions to the line departments and Block Administrations to take adequate and emergent action at least in the following details. They also have been instructed to ensure the completion of the related activities by the mentioned time frame, before disaster season. Also every department has been advised to take development action plans that can help in disaster mitigation.

When the disasters are inevitable, the only way is to mitigate its impact. This falls under the Short Term Measures like immediate relief, reducing the response time to avert any losses, provide the vulnerable and affected people with the basic needs, supply of minimum essential items to those who have lost their properties and movables, grant of long/short term loans at a concession rate.

5.2 Structural Measures:

Sl. No.	Name of the Department/ Office	Activity/ Project	Starting Date	Date of completion	Cost	Funding source
1	RD department	Construction & maintenance of multipurpose cyclone and flood shelters	January	June		Govt
2	Irrigation Department	Maintenance of Embankments	February	June		Govt
3	PWD, RD	Construction/Maintenance of Road	January	June		Govt
4	NGO selected by the BDOs and DI & PRO	Walling, posters, rallies, street plays, volunteers training, task force training	Last week of April	First week of June		Govt
5	BDO & EE ULB	Removal of hoardings before specified cyclone period	January	March		Govt
6	RWSS/ PHD	Repair of the Damaged standpoints Check the Leakage of overhead tanks, tube well and pipes	January	April		Govt

5.3 Non-structural Measures:

Sl. No.	Name of the Department / Office	Activity/ Project	Starting date	Date of completion	Cost	Funding source
1	CDM&PHO	Training on health care and first aid	April	October		Govt
2	CDVO	Training on health care and first aid for animal and vaccination	April	October		Govt
3	NGO	Awareness on IEC materials for Prevention and mitigation	April	October		Govt

4	Agriculture	Encourage for flood resistant crop in flood area	February	March		Govt.
5	Agriculture	Promoting people for Agriculture Insurance	January	March		Govt
6	Horticulture	Nursery raising insurance	January	March		Govt

5.4 Scope for integrating different schemes for Disaster Risk Reduction (DRR) Activities.

Sl. No.	Scheme	Possible activities for DRR
1	National Agriculture Insurance Scheme (NAIS)/ Rastriya Krishi Bima Yojna (RKBY)	To protect the farmers against the losses suffered by them due to crop failures on account of natural calamities, such as droughts, floods, hailstorm, storms, animal depredation, etc.
2	Janashree Vima Yojna	Provide life insurance protection to the rural and urban poor persons below poverty line and marginally above the poverty line.
3	<i>Biju Krushak Kalyan Yojana (BK KY)</i>	<i>Providing health insurance cover to farmers in the Rural Odisha and their families,</i>
4	<i>Rashtriya Swasthya Bima Yojana (RSBY)</i>	Provide financial protection against catastrophic health costs by reducing out. To improve access to quality health care for below poverty line households of pocket expenditure for hospitalization and other vulnerable groups in the unorganized sector.
5	<i>Ahar Yojana</i>	Provide cheap lunch to labourers who travel to big cities in search of work.
6	<i>Madhu Babu Pension Yojana (MBPY)</i>	Provide pension to the Old person , destitute & disabled persons in the state.
7	<i>National Family Benefit Scheme (NFBS)</i>	In the event of death of the primary bread earner of families living below the poverty line, the bereaved families are assisted with a financial assistance of Rs. 20,000/-
8	<i>Chief Minister Relief Fund (CMRF)</i>	Provide immediate relief to poor patients & persons in distress.
9	<i>Odisha State Treatment Fund (OSTF)</i>	Provide financial assistance for treatment of the poor patients suffering from life threatening disorder & diseases.
10	<i>Integrated Child Protection Scheme (ICPS)</i>	Aimed at building a protective environment for children in difficult circumstances, as well as other vulnerable children, through Government-Civil Society Partnership.
11	Pradhan Mantri Gramin Awaas Yojana (PMGAY)	Provides financial assistance to rural poor for constructing their houses themselves.
12	Integrated Child Development Services (ICDS)	Tackle malnutrition and health problems in children below 6 years of age and their mothers.

13	Janani Suraksha Yojana (JSY)	One-time cash incentive to pregnant women for institutional/home births through skilled assistance.
14	Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)	Legal guarantee for one hundred days of employment in every financial year to adult members of any rural household willing to do public work. It should be integrated to the programme of construction of embankment in the vulnerable area.
15	Swarnajayanti Gram Swarojgar Yojana (SGSY)	Brings the assistance to poor families above the poverty line by organizing them into Self Help Groups (SHGs) through the process of social mobilization, their training and capacity building and provision of income generating assets through a mix of bank credit and government subsidy.
16	Pradhan Mantri Awas Yojana (PMAY)	To enable better living and drive economic growth stressing on the need for people centric urban planning and development.
17	UJALA Scheme	UJALA - Unnat Jyoti by Affordable LEDs for All. Scheme aims at reducing electricity bills of consumers, contribute to the energy security of India and also help in environment protection.

[Activities/ Projects for 5.2 and 5.3]

- Construction of multipurpose cyclone and flood shelters.
- Removal of hoardings before specified cyclone period
- Trimming of trees and shrubs and removal of damaged and decayed parts of trees close to localities and critical infrastructure
- Public safety norms and constructions in places of worship and mass gathering
- Soil erosion control and riverbank stabilization
- Road and Highway Stabilization
- Bridge abutment stabilization
- Protection of Roads, Culverts and Bridges against flood- grass plantation
- Repair and Maintenance of Embankments against flooding and erosion. Retrofitting of vulnerable spots to prevent embankment breaches
- Cross Drainage Works:- Construction of causeways and culverts sufficient for carrying water more than historical records to prevent flash floods in downstream villages
- Drinking Water:
 - Habitations to be covered under pipe water supply scheme
 - Water supply in scarcity areas in during summer season
 - Raising of hand pumps in flood prone areas
 - Repair/ Replacement of non-functional hand pumps
- Sanitation:
 - Community Mobilization
 - Construction of Toilets
 - Municipal Waste Management
 - Sewerage System in ULBs
- Plantation: River bank plantation, AR, ANR, Hill Slope Plantation, Fodder Plantation, Agro forestry etc.

- Soil conservation works.
- Water harvesting
- Prevention of Road Accidents:
 - Putting up of signage in accident prone zones
 - Light reflectors
 - Diversion boards for roads and bridges
 - Repair of potholes & construction of Speed breakers
- Immunization
- Preventive measures against vector borne diseases
- Risk Transfer: Crop insurance/ livestock insurance
- Measures against animal depredation- Trenching/ Fencing
- Awareness generation programmes on disaster prevention and mitigation
- Mainstreaming Disaster Risk Reduction (DRR) in development activities]

Chapter – 6

Climate Change Adaptation & Mitigation

6.1 Climate Change Adaptation & Mitigation

- Weather and climate are the results of complex interactions between anthropogenic and natural factors. Evidence of global climate change include higher average temperatures, changes in precipitation, ocean warming, ocean acidification, sea level rise, decreasing sea ice, and changes in physical and biological systems. Observed climate change can be linked with the increase of green house gas concentrations in the atmosphere since the industrial revolution. Global surface temperature change for the end of the 21st century is likely to reach 4°C if no drastic mitigation actions are taken. Various sources of climate data exist that can support planning for climate change.

- Table : 6.1

• Greenhouse Gas	• Global Warming Potential (GWP) (over 100 years)	• % of Total Anthropogenic GHG Emissions (2010)
• Carbon dioxide (CO ₂)	• 1	• 76%
• Methane (CH ₄)	• 25	• 16%
• Nitrous oxide (N ₂ O)	• 298	• 6%
• Hydrofluorocarbons (HFCs)	• 124-14,800	• < 2%
• Perfluorocarbons (PFCs)	• 7,390-12,200	• < 2%
• Sulphur hexafluoride (SF ₆)	• 22,800	• < 2%
• Nitrogen trifluoride (NF ₃)	• 17,200	• < 2%

6.2 Important Greenhouse Gases: Carbon Dioxide (CO₂)

- Most important greenhouse gas (contributes ~64% to total radiative forcing by long-lived GHGs). Half of CO₂ emitted by human activities is being absorbed in the biosphere and in the oceans. Rest remains in the atmosphere for hundreds to thousands of years
- The most important anthropogenic GHG is carbon dioxide (CO₂). It accounts for around 64% of total radiative forcing due to LLGHGs. Carbon dioxide does not have a specific

lifetime because it is continuously cycled between the atmosphere, oceans and land biosphere and its net removal from the atmosphere involves a range of processes with different time scales. CO₂ is primarily emitted as a result of burning of fossil fuels, deforestation and forest degradation and iron and steel production. Oceans and forests are the main sequesters of carbon i.e. sinks that can absorb CO₂ from the atmosphere. Carbon dioxide is the gas to which all other gases are compared when speaking of Global Warming Potential. Emissions of other greenhouse gases can be converted into CO₂ equivalent emissions.

6.3 Important Greenhouse Gases: Methane (CH₄)

- Second most significant greenhouse gas (contributes ~18% to total radiative forcing by long-lived GHGs). Approximately 40% of methane is emitted into the atmosphere by natural sources. About 60% comes from human activities & Stays in the atmosphere for approximately 12 years.

• **Table : 6.3**

SI No	Name of the Block	Major Sources	Annual émission (In PPM)	Ranking as per CH ₄ Emission (PPM)	Action taken for cutting down émission

6.4 Important Greenhouse Gases: Nitrous Oxide(N₂O)

The third most significant greenhouse gas (contributes ~6% to total radiative forcing by long-lived GHGs). Stays in the atmosphere for approximately 114 years. Nitrous oxide is emitted into the atmosphere from both natural (about 60%) and anthropogenic sources (approximately 40%).

Table : 6.4

SI No	Name of the Block	Fertiliser /Industrial processes	Annual Usage (In tonnes)	Ranking as per N ₂ O Emission (PPM)	Other major pollutants emitted (PPM)	Action taken for cutting down émission

6.5 Important Greenhouse Gases: Fluorinated Gases

Global warming effect up to 23,000 times greater than carbon dioxide. Stay in the atmosphere up to 50,000 years. Three main groups: hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Mainly developed as substitutes for ozone-depleting substances

Table : 6.5

SI No	Name of the Industry/Firm/Plant	location	Annual émission (In PPM)	Ranking as per flourinated gas Emission (PPM)	Action taken for cutting down émission

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6.6 Important Green House Gases: chlorofluorocarbons (CFCs)

Chlorofluorocarbons (CFCs) an important Green House Gas contribute about 12% to radiative forcing by long-lived GHGs has not been included in the Kyoto Protocol because they are already regulated under the Montreal Protocol on Substances that Deplete the Ozone Layer which entered into force in 1989. The Montreal Protocol includes, for example, chlorofluorocarbons (CFCs) which contribute about 12% to total radiative forcing by LLGHGs. CFCs can stay in the atmosphere for more than 1,000 years. CFCs have a global warming potential (GWP) that ranges between 4,750 and 14,400 (over 100 years time span). CFCs are used in the manufacture of aerosol sprays, blowing agents for foams and packing materials, as solvents, and as refrigerants.

Table : 6.6

Sl No	Name of the Industry/Firm/Plant	location	Annual émission (In PPM)	Ranking as per flourinated gas Emission (PPM)	Action taken for cutting down émission

6.7 Green House Gas Sequestration

In order to prevent dangerous anthropogenic interference with the climate system, actions need to be taken to stabilize greenhouse gas concentrations in the atmosphere. Such actions are referred to as “climate change mitigation”. More specifically, climate Change mitigation involves:

- reducing GHG emissions, e.g. by making older equipment more energy efficient;
- preventing new GHG emissions to be released in the atmosphere, e.g. by avoiding the construction of new emission-intensive factories;
- preserving and enhancing sinks and reservoirs of GHGs, e.g. by protecting natural carbon sinks like forests and oceans, or creating new sinks (“carbon sequestration”).

Source: UNFCCC (2009). Fact Sheet: The Need for Mitigation

Major Greenhouse Gases Contributors (Anthropogenic) to Climate Change (Table : 6.7)

Greenhouse Gas	Human Source (Examples)	% of Total Global GHG Emissions (2010)
Carbon dioxide (CO ₂)	Fossil fuel combustion, land use changes, cement production, etc	76%

Methane (CH ₄)	Fossil fuel mining/distribution, livestock, rice agriculture, landfills, etc	16%
Nitrous oxide (N ₂ O)	Agriculture (fertilisers) and associated land use change, etc	6%
Hydrofluorocarbons (e.g. HFCs)	Liquid coolants, etc	< 2%
Perfluorocarbons (e.g. PFCs)	Refrigerant, electronics industry and aluminium industry, etc	< 2%
Sulphur hexafluoride (SF ₆)	Insulator in electronics and magnesium industry, etc	< 2%
Nitrogen trifluoride (NF ₃)	Electronics and photovoltaic industries, etc	< 2%

Source: Reproduced from IPCC 2007, UNEP 2012, and FERN

Details of forest as a major Carbon sink (District) (Table : 6.8)

Reserved Forest / Protected Forest (in Sq. KM)	Revenue / Village Forest (in Sq. KM)	Private owned Forests (in Sq. KM)	Others (If any) (in Sq. KM)	Total (in Sq. KM)
R.F. 15.903	83.00865	-	-	393.4491
P.R.F. 143.0049				
P.F. 151.5326				

6.8 Sectors with High Mitigation Potential (Table : 6.9)

Sl No	Sectors	Mitigation Options
1	Energy	• Use of renewable heat and power (hydropower, solar, wind, geothermal and bio-energy) • Improved supply and distribution efficiency • Carbon capture storage (CCS) • Combined heat and power
2	Transport	• More fuel efficient vehicles • Use of alternative energy sources (biofuels, cleaner diesel, etc.) • Better land-use and transport planning • Shift from individual transport to public transport systems • More efficient driving practices • Non-motorized transport (cycling, walking)

3	Industry	• Process-specific technologies that improve efficiency and reduce emissions • Material recycling and substitution • Heat and power recovery/cogeneration • Control of greenhouse gas emissions
4	Agriculture	• Manure and livestock management to reduce CH₄ emissions • Improved fertilizer application techniques to reduce N₂O emissions • Improved crop and grazing land management to increase soil carbon storage • Agro-forestry practices
5	Forestry	• Reduced deforestation • Afforestation/reforestation • Tree species improvement to increase biomass productivity and carbon sequestration
6	Waste	• Landfill methane recovery • Waste incineration with energy recovery • Composting of organic waste • Controlled wastewater treatment • Recycling and waste minimization

6.9 Sector specific climate change mitigation projects : (Table : 6.10)

Sl No	Sector	Project Title	Period		Mitigation Targets
			From	To	
-	-	-	-	-	-

Chapter 7

Forest Fire

Forest fires usually occur during hot summer months when leaf shedding of deciduous forests occurs from February to June. The occurrence of forest fire is recorded on beat jurisdiction basis. It is observed that forest fire is repeated in many places during a particular year due to continuous leaf fall in the forests. The intensity of forest fire depends on the quantum of dry leaves on the forest floor, wind flow in the fire affected area, etc.

During the summer period, the atmospheric temperature increases making the forest floor more vulnerable because of dry leaves. Leaf shedding is a continuous process which makes field management difficult even though preliminary fire lines are maintained and adequate steps are taken for avoiding any fire occurrence. Despite efforts by the field staff, it is observed that forest fire is rampant in case of a dry spell of summer and gets aggravated if rainfall is poor in a particular year.

2.1 Legal provision under prevalent Laws:

a) As per Sec.27(3) under Orissa Forest Act 1972

Any person sets fire to a Reserved Forest or who in a Reserved Forest - (a)" kindles, keeps or carries any fire or fells, girdles, lops or burns any tree or paint or strips off the bark or leaves from or otherwise damages the same or causes damages to any forest produce" shall be punishable with imprisonment for a term which shall not be less than three years but may extend to seven years and with fine which may extend to ten thousand rupees.

b) The Orissa Forest (Fire Protection) Rules, 1979 envisages under rule 3(1) that

- 1) No person shall set fire to any part of a reserved forest or a protected forest, and no person shall set fire in the vicinity of a reserved or protected forest so as to cause damage to any forest produce therein.
- 2) Except as such places, as may be notified locally by the Divisional Forest
- 3) Officer from time to time, no person shall kindle any fire or leave any fire burning upon any public or private road or path which adjoins or passes through a Reserved or protected forest.
- 4) No burning wood or fire brands for torches shall be carried within or along the boundaries of any reserved or protected forest between the period from the 1st November to 30th June of any year. Smoking shall also be prohibited during the aforesaid period within any reserved or protected forests save as authorized camping grounds.
- 5) No fire shall be lighted within or along the boundary of a reserved forest or a protected forest except in camping grounds notified as such by the Divisional Forest Officer. Persons using such grounds shall light fire in such a way as not to endanger the forest or any burning or shed, and shall extinguish all fire before they leave the place.

2.2 Past History:

Forest fire is a regular phenomenon in summer season throughout the state where the temperature increases during leaf shedding periods of deciduous natural forests and plantations. The ground staff are engaged for preventive measures by creation of fire lines and awareness programme among the people prior to summer season. They engage themselves along with the local people for extinguishing fire and reporting the extent of damage including legal action against the culprit, if noticed. The measures undertaken for forest fire control is being augmented by receiving data from Forest Survey of India directly from MODIS satellite to the field units by registration of Mobile Numbers facilitating for a quick planning process to control forest fire. It is observed that there are forest fires recorded and reported by Forest Survey of India outside notified forest blocks which are also vulnerable leading to loss of tree growth. **Table-1** shows the Division wise reported Forest Fire as per interpretation of MODIS satellite data received from Forest Survey of India and action taken on ground by different Field Divisions during 2017.

2.3 Vulnerability Mapping:

2.4.1 Intensity Map:

All the Forests of the State are highly vulnerable to Forest Fire, however, the forests of interior Western and Southern parts of Odisha are more vulnerable to forest fires as compared to those in the Eastern Coastal parts. This is because of a long dry spell with scanty rainfall in those areas. The frequency and intensity of forest fires has increased since

1990. As per records received on forest fire in different Divisions over the last five years, a vulnerability map has been prepared with respect to frequency and area affected in different beats and depicted for each Circle as High, Medium and Low Risk Zone (Map I to VIII).

2.4.2 Risk Analysis:

Forest fires take place on the ground affecting the forest floor with fire spreading over the ground. Mostly regeneration is affected leading to future crop loss. In some cases the adjoining villages, if connected with the forest cover, are affected by forest fires due to spreading of the fire. Since the villagers are directly involved in prevention and protection activities of forest fire, the risk of fire hazard is greatly reduced even though there is a high risk factor. The Climatic condition influencing the atmospheric temperature, phenological behaviour of deciduous plants, crop composition etc changes the fire incidents during the fire season. A circle wise map on fire occurrence of different circles from February to June is placed as histogram (I to VIII) for a better understanding.

Name of the Division: Mangrove Forest Division Wildlife Rajnagar Govt. of Odisha under Section 18 of Wildlife (Protection) Act 1972 declared the forest land and waste land known as Kanika Forest in Aul, Rajnagar, Pattamundai and Mahakalapada Police station within the Kendrapada District which were declared as Protected

The site is located outside Bhitarkanika National Park and within Bhitarkanika Wildlife

Gahirmatha (Marine) Wildlife Sanctuary over an area of 1435 Sq. Km which is adjoining to Bhitarkanika Wildlife Sanctuary and Bhitarkanika National Park in the east has already been declared vide Notification No.8F (WL) 4/97/ 18805/ F&E Dated 27th September, 1997 by Govt. of Odisha as a significance measure for networking the protected areas. Eco Sensitive Zone for the National Park and 02 Wildlife Sanctuaries merged together to form a mega Protected Areas with a width of maximum 02 Kms has been declared vide Notification No. S.O.1601(E) Dtd.16.06.2015 of Govt. of India, MoEF & CC. One more Wildlife Sanctuary i.e. Devi (Marine) Wildlife Sanctuary is being contemplated for notification on the recommendation of State Board of Wildlife in which a small portion of Mangrove Forests Division (WL), Rajnagar has been proposed for inclusion in Jagatsinghpur District. The ecological boundary of the proposed Devi (Marine) Wildlife Sanctuary is far away from the proposed site of Pramod Eco Resort.

Divisional Forest Officer-Cufn-Wildlife Warden
Mangrove Forest Division (Wildlife)

Rajnagar

The present article reports the diversity of flora in Bhitarkanika mangrove forests located in Rajnagar (Mangrove) Forest Division, Kendrapara, Odisha. There are 94 plant species, out of which 30 species are true mangroves, 28 species are mangrove associates, 30 species are back mangroves and six species are beach flora. Recently, strychnine tree, *Strychnos nuxvomica* has documented in Kanika Range of Bhitarkanika National Park.

Name of the Range:

Mangroves are salt tolerant plant community found in tropical and subtropical intertidal region of the world. Mangroves in India account for about three per cent of the world's mangrove vegetation covering an area of 4,628 sq km, which is 0.14 per cent of the country's total geographical area (Anon, 2013). They exhibit a variety of adaptation in morphology, anatomy and physiology to survive in a hostile environment which is marked with water logged soils and high salinity regime frequented by storm and tidal surge (Roychoudhury et al., 2015). Prominent among these adaptations are presence of pneumatophores, buttress, stilt roots, vivipary, etc.



The mangroves of the Odisha coastal area occupy an area of 222 sq km are distributed in the three zones, namely Mangroves of Mahanadi Delta, Mangroves of the Brahmani and Baitarani Delta, i.e. Bhitarkanika Mangrove, Mangroves of the Balasore coast and located in the five districts of the state, such as Baleshwar (2 sq km), Bhadrak (21 sq km), Jagatsinghpur (7 sq km), Kendrapara (183 sq km) and Puri (0 sq km) (Anon, 2013). Odisha is a home to about 700 plant species including 120 orchid species and 63 species of mangrove trees, such as *Rhizophora*, *Bruguiera*, *Ceriops*, *Avicennia*, *Sonneratia*, *Heritiera*, *Kandelia*, *Excoecaria*, *Phoenix*, *Tamarix*, *Brownlowia*, *Clerodendrum*, *Scirpus*, *Tylophora* and *Intsia*, etc. which make the state second largest mangrove ecosystem in India. Natural calamities and biotic pressures, including insects are the main enemies of mangrove ecosystems. It is noteworthy to mention the recent experience of cyclonic disaster, “HUD HUD”, occurred in Odisha and Andhra Pradesh.

Total Notified Forest Area(area in square kilometer) in the District:

Mangrove Forest Division (Wildlife), Rajnagar has jurisdiction over part of two revenue districts, Kandrapara and Jagatsinghpur (Fig. 4). The forest vegetation is mostly mangrove, which is unique in Odisha (Fig. 5) and one of the largest in India after Sundarbans. The mangrove forest of this Division is about 183 sq. km distributed from Dhamra estuary in the north, down to Devi river mouth in the south. Major part of mangroves is located in Brahmani, Baitarani delta (Bhitarkanika Wildlife Sanctuary) and Mahanadi delta. Mangroves of Mahanadi delta is highly degraded due to heavy anthropogenic pressure like unauthorized aquaculture, agriculture and betel farming. There are five ranges, viz. Kanika, Rajnagar, Mahakalpada, Kujang and Gahirmatha (Wildlife) range. This Division assumes great importance from the wildlife point of view because it consists of three protected areas, such as Bhitarkanika Wildlife Sanctuary, Bhitarkanika National Park and Gahirmatha (Marine) Wildlife Sanctuary.

Bhitarkanika is named as per two Odia words „Bhitar“ meaning interior and „Kanika“ meaning extraordinarily beautiful (Chadha and Kar, 1999). The Bhitarkanika mangroves were Zamindari forests until 1952. Then the Govt. of Odisha abolished the Zamindari system and put the Zamindari forests in the control of the State Forest Department. In 1975, an area of 672 sq. km. was declared as Bhitarkanika Wildlife Sanctuary. It is in this period wildlife management started and initiated Crocodile Conservation Project and mass nesting of sea turtles on the Gahirmatha coast. The Gahirmatha (Marine) Wildlife Sanctuary, which bounds the Bhitarkanika Wildlife Sanctuary to the east, was created in 1997 and encompasses Gahirmatha beach in adjacent portion of the Bay of Bengal. An area of 145 sq. km, the core area of Bhitarkanika Wildlife Sanctuary was declared as Bhitarkanika National Park in 1998. Bhitarkanika was designated as Ramsar Site, a wetland of international importance in 2002. Bhitarkanika comprises of Bhitarkanika National Park and Bhitarkanika Wildlife Sanctuary. It lies in the

north eastern coast of Odisha in between 200 30" to 200 50" N latitude and 860 30" to 870 06" E longitude in Kendrapara district. It is mainly confined to the deltaic regions of river Brahmani and Baitarani. Bhitharkanika Conservation Area (BCA) has been proposed to be declared as World Heritage site by UNESCO. Ramsar definition Ramsar, a city in Iran hosted the first World Convention on Wetlands on 2nd February, 1971. The Ramsar Convention defines wetlands as "Wetlands are area of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed six meters. Mangroves Mangrove is a compound word formed by Portuguese "Mangue" and English "Grove". In Portuguese "Mangue" is used for individual species of mangrove habitat and thus the word mangrove can be said to be group of mangrove species (trees, shrubs, herbs, etc.). In other words mangroves are known as "tidal forests" or deltaic swamp forests" or "littoral swamp forests". Mangroves are also described as "coastal woodland", "Mangals" or "Mangrove forests". The mangrove ecosystem is a highly dynamic ecosystem, which provides exploring flora and fauna. Floral diversity Bhitarkanika has richest diversity of mangroves in India (Nayak, 2004) (Fig. 6). There is total number of 94 plant species. Based on the classification of mangroves given by Ghosh et al. (2003), there is 30 species of true mangroves (Table 1), 28 species of mangrove associates (Table 2), 30 species of back mangroves (Table 3) and six species of beach flora (Table 4) (Anon, 2015). The major mangrove species include three species of *Avicennia*, four species of *Bruguiera*, three species of *Heritiera*, three species of *Rhizophora*, three species of *Xylocarpus* and many more along with the rare mangroves like *Aglaia cucullata* and *Cerbera odollam* (Figs. 7-15). Recently, Roychoudhury et al. (2017) have documented strychnine tree, *Strychnos nux-vomica* in Kanika Range of Bhitarkanika National Park.

The involvement of other departments is very much required which depends on the gravity and extent of fire reported. Also for the preventive measures on creating awareness among the people, it is required to coordinate with the Panchayat Raj, Revenue, Police, Fire Department and Health Department etc so that they will also be on alert during forest fire hazard. The details on the coordination with other departments and calendar plan for the activities are spelt out in Standard Operating Procedure being adopted by the State (Annexure-I).

A three tier mechanism is in operation for the control of forest fire. The first information received at State Control Room is transmitted to field units and division control room regularly on a daily basis. Then, the action taken by the dedicated firesquads and other support staff on the extent of damage is collected from divisions regularly for effective monitoring. The three levels mechanism is explained as below:

Sl No.	Level	Head of the IRT	Roles / Responsibilities
1	State	Protection & Sustainable Management Wing of Principal CCF, Odisha	- Coordinate with State Government and other line Departments. - Ensure Reporting of the affected area and assess damage thereof. - Plan and arrange necessary inputs for response measures. - Manage the fund and maintain financial records
2	District/ Division	RCCFs & DFOs	- To coordinate with Directorate, District Authorities and line departments at District level. - To prepare and activate division plan - To manage the overall response activities in the field - To mobilise resources for response measures - To collect and record information for post incident analysis.

3	Block/ Range	DFOs	- To supervise collection of information and report to the higher authority. - To prepare and activate plan at Range level - To implement the plan - To ensure availability of resources for response measures - Capacity Building
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At present, 269 Forest Fire Squads consisting of 10 members in each squad are working in 216 Ranges wherein 53 Ranges are equipped with two squads depending on the Fire Intensity experience last year. All these squads are provided with vehicle and fire fighting equipments for immediate response to the fire points reported on a daily basis.

4.1 Role of NGOs and Voluntary Organizations:

The Forests of Odisha are supported with different Vana Surakshya Samiti and Eco-Development Committees who play a vital role in prevention and protection of forest fire. However, at the District level, few voluntary organizations / NGOs come forward to assist the field officials for prevention and protection of forest fire.

4.2 Reporting formats for damage assessment and others:

The daily reporting on the damage caused by forest fire is received from different divisions as per the fire alert disseminated and forwarded to DFOs on receipt of same from Forest Survey of India. The authenticity is verified at field with the report received on the extent of damage as below:

Sl. No	Date & Time	Lat.	Long	State	District	Circle	Division	Range	Block	Beat	Area Affected on forest fire
Provided by the State Control Room to Division Control Room & Field Units											Reported by DFO & Field Units

4.3 Risk Reduction through developmental programmes

Different programmes are taken up under various schemes for expanding and enhancing the forest fire risk reduction as below:

1. A large no. of water bodies are created all over the forest blocks in the state which will be useful for making availability of water.
2. Adequate afforestation measures are taken up to supplement the recovery plan in cases where regeneration has been affected and the forest area has become barren.
3. Regular salvage of timber and firewood is carried out which is useful for reducing forest fire.
4. Subsidiary Silvicultural Operations are taken up to remove the dead, drying trees, creepers which restrict the spreading of forest fire.
5. Vehicular access is augmented for immediate action in case where measures are required to extinguish forest fire.
6. The VHF network and mobile communication is strengthened for law and order, protection purpose which also help in forest fire control during hot summer months.

Forest Development Agencies are actively involved in mobilizing the VSS and EDC through different schemes under Green India Mission programme.

Chapter 8

Inclusive Disaster Risk Reduction

7.1 Background: A need to include Persons with Disabilities

Different populations may face similar risks of exposure to the negative effects of environmental and man-made disasters, but their actual vulnerability is dependent on their socio-economic conditions, civic and social empowerment, and access to mitigation and relief resources. Individuals with disabilities are disproportionately affected in disaster, emergency, and conflict situations due to inaccessible evacuation, response (including shelters, camps, and food distribution), and recovery efforts.

Besides psychological impact of disasters, this population does not have adequate access to food, water, shelter and health services. There has been inadequate access to their specific needs including assistive devices, rehabilitation and interpreters. Disabled populations face discrimination and exclusion and therefore are confronted with considerable challenges in accessing the same opportunities as the rest of the population in disaster situations.

Furthermore, the needs of persons with disabilities continue to be excluded over the more long-term recovery and reconstruction efforts, thus missing another opportunity to ensure that cities are accessible and inclusively resilient to future disasters. Thus it is important that the Indian Disaster management system includes the needs of persons with disability faced in disaster risk management.

7.2 Legal framework to support the inclusion of persons with disabilities

The United Nations Convention on the Rights of Persons with Disabilities was adopted in December 2006. The Convention marks a “paradigm shift” in attitudes and approaches to persons with disabilities. Article 11 on Situations of risk and humanitarian emergencies, pays particular attention to the obligation of States parties to undertake “all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk, including situations of armed conflict, humanitarian emergencies and the occurrence of natural disasters.” Furthermore, Article 4.1, states that “States Parties undertake to ensure and promote the full realization of all human rights and fundamental freedoms for all persons with disabilities without discrimination of any kind on the basis of disability” and Article 32, recognizes the importance of international cooperation to address the limited capacities of some States to respond to situations of risk and humanitarian crises.

The Government of India approach to disaster management is that development cannot be sustainable unless disaster mitigation is built in to the development process. Built on this approach, the National Disaster Framework covering institutional mechanisms at the national, state & district exist where the disability related structures are also available which could be used to implement inclusive policies

7.3 Responding to the needs of persons with disabilities

Several studies show us that including the needs and voices of persons with disabilities at all stages of the disaster management process, and especially during planning and preparedness, can significantly reduce their vulnerability and increase the effectiveness of Government response and recovery efforts. However, despite an increasing worldwide focus on disaster risk reduction as opposed to mere disaster response, most city and related Government agencies fail to adequately plan for – or include – persons with disabilities in their disaster management activities. This causes severe inequities in access to immediate response, as well as long-term recovery resources for people who have disabilities prior to the disaster and those who acquire a disability as a result of the disaster.

7.4 Data Collection

Data is essential to understanding the risks that people face during disasters and climate change situations. It is important to give effect to policies and establish norms. The Census in 2011 identifies 2.68 Crore persons with disabilities constituting 2.21% of the country's population.

7.5 Policy, Institutional Mechanisms and Inclusive Standards

Policies and their implementation need to be inclusive. Odisha State Disaster Management Plans has already laid the foundation of an inclusive strategy. OSDMA has set up a cell for persons with disabilities headed by a person with disability. The cell will look into inclusion in EWS, SER, rehabilitation and resettlement. Impart training for response forces ODRAF, Red Cross, Civil Defense and community level task force volunteers. Monitoring accessibility in shelters will also be work of the cell.

The Odisha State Disaster Management Plan 2017 takes note of the vulnerability of disabled persons and the specific provision provided is related to inclusive education of children with disabilities during disasters. It also makes special mention of children with disabilities and specifically 'mentally retarded' (Intellectual Disability).

For preparation of the inclusive DDMP the following data at district level are to be collected

After compiling the database of the people who need special attention in the wake of a disaster and to make the district disaster management plan more inclusive, the following may be considered during District Disaster Management Plan preparation.

Pre-Disaster: Identification of special needs of physically challenged and mentally challenged persons. Make necessary Planning for evacuation of people with special needs with special care and compassion. The DDMP should outline adequate training and orientation of field level functionaries who are normally engaged as frontline worriers of disaster management at grass roots. Special responsibility may be entrusted with the appropriate officials at block level to ensure the execution of the plan. The district must ensure that the committees and groups created in the district for the disaster management pursuits **has adequate representation from the vulnerable section of the society** as outlined above.

During Disaster: Appropriate Relocation of the people in the shelter with special care, priority in meeting the needs of such population, organizing medical attention if needed.

Post disaster: Ensuring careful & safe return of such people to home, prioritisation during relief distribution, prioritisation of rehabilitation & reconstruction efforts

Chapter – 9

Safety of Schools and Child Care Institutions

Implementation of School Safety Policy Guidelines 2016 (SSP-2016 Guidelines)

8.1 Order on WP(C) 483/2004 of Hon'ble Supreme Court

The Hon'ble Supreme Court vide orders of dated 14.08.2017 in WP (C) 483/2004, directs vide letter no 2437/2004/SC/PIL/(WRIT) dt. 23.08.2017 that the School Safety Policy (SSP) 2016 guidelines issued by NDMA are statutory in nature and shall be implemented in letter and spirit by all concerned authorities for all schools. The direction of the Supreme Court in Implementation of the School Safety Policy Guidelines Inter-alia postulates as follow:

- Time bound implementation of the Guidelines
- District Disaster Management Authority to ensure and monitor compliance of the said Guidelines
- District Education Officer of each District to be a "Nodal officer" with responsibility, liability and obligation as well as powers and functions to ensure strict compliance with the Guidelines within the district of his jurisdiction.
- Joint Monitoring Committee consisting of representations of both Department of School Education & Literacy, Ministry of HRD and NDMA
- Quarterly compliance reports from the Chief Secretary to MHRD and NDMA on the actions taken.

Hon'ble Supreme Court has also defined few actions at different levels to ensure school safety

State & District Level • Policy for safety audits in all schools	School Level: • Schools must take appropriate safety measures and an emergency response plan that delineates staff responsibilities,
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• ‘Stability certificate’ by Government-certified engineer. • Manual for fire safety procedures and other safety precautions • The National Building Code of India, 2005, to construct fire-safe buildings. (Revised 2016)	communication modes, and training and updating procedures for all members of the faculty, staff and students. • Fire insurance coverage should be made mandatory for all schools. • Ensuring that the kitchen in the precincts of the school has adequate safety mechanisms.
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Ref. : Fire Safety Measures in School s(Section 3.1 p-23) / Training of School Teachers & Other Staff (Section 3.1 p-25) /School Building Specifications (Section 3.1 p-27) Clearance & Certificates (Section 3.1 p-29) SC. **Judgement on WP(C) 483/2004**

8.2 Guidelines on School Safety Policy, 2016- NDMA

The School Safety encompasses “ the creation of safe environments for children starting from their homes to their schools and back.” This as well includes safety from large-scale natural hazards, human made risks, pandemics, violence as well as more frequent and smaller-scale fires, transportation and other related emergencies and environmental threats that can adversely affect the lives of children.

Vision :

- The Guidelines stand for a vision of India where all children and their teachers, and other stakeholders in the school community are safe from any kind of preventable risks that may threaten their well being during the pursuit of education.
- Educational continuity is maintained/ resumed even in the immediate aftermath of a disaster so that Children are physically, mentally and emotionally secure within their schools.

Approach and Objectives

- All hazard approach.
- All schools; all stakeholders 2. Strengthening existing policy provisions to make schools safer
- School Safety as an indicator of quality for continued planning, execution and monitoring
- Primary objective is to ensure the creation of safe learning environment for children.
- Also seek to highlight specific actions towards school safety that can be undertaken by different stakeholders within the existing framework of delivery of education.

Applicability

- The National School Safety Policy Guidelines apply to all schools in the country-whether government, aided or private, irrespective of their location in rural or urban areas.
- They apply to all stakeholders involved in delivery of education to Children in India

All hazard approaches

- School Safety efforts needs to take cognizance of all kinds of hazards that may affect the wellbeing of children.
- Hazards include structural and non-structural factors.

- Structural factors include dilapidated buildings, poorly designed structures, faulty construction, poorly maintained infrastructure, loose building elements, etc.
- Non Structural factors include loosely placed heavy objects such as almirahs, infestation of the campus by snakes and any other pests, broken or no boundary walls, uneven flooring, blocked evacuation routes, poorly designed and placed furniture that may cause accidents and injury, inadequate sanitation facilities, etc.

Right to Education Act 2009

- The Act sets minimum norms and standards with regard to location and quality of schools and in Clause 19, lays down that no school shall be established, or recognized unless it fulfills the norms and standards specified in the schedule.
- One of the key standards is in relation to access to “all weather buildings”; in “areas with difficult terrain, risk of landslides, floods, lack of roads and in general, danger for young children in the approach...”
- The State Government / Local Authority shall locate the school in such a manner as to avoid such dangers”.
- The Act lays down the formation of the School Management Committee for planning of infrastructure and other requirements with respect to operational functioning of schools.
- The School Development Plan, as laid out by the Act, spells out the physical requirements of additional infrastructure and equipments to meet the norms spelt out in the schedule (in relation to all weather buildings).

Key Action Areas

- 1. Institutional strengthening at the State & District levels**
 - Co-opting senior officials of the Department of Education in SDMA and DDMA.
 - Nomination of School Safety Focal Point Teacher & Sensitization of School Management Committee on DM.
- 2. Planning for Safety**
 - Structural Measures (including siting, design and detailing for structural safety).
 - Non structural Measures.
 - Preparation & implementation of School Disaster Management Plan.
 - Leveraging existing flagship programmes to make school campus safer.
- 3. Capacity building for safe schools**
 - Training for students and school staff
 - Specialized training and skill building of Education officers, representatives of SCERT and DIET, SDMA, DDMA, etc on school safety
 - Mock Drills
- 4. Disaster Management in Core Curriculum**
- 5. Regular monitoring of risk and revision of School Safety Plans (including Safety Audits & Availability of Emergency Equipment).**

8.3 Category & type of schools

Name of the Block	Government Schools				Government Aided schools		Private Schools	
	Elementary		Secondary		Elementary	Secondary	Elementary	Secondary
	Rural	Urban	Rural	Urban				
Aul	169	0	28	0	11	15	22	0
Derabish	178	0	20	0	9	17	15	0

Garadpur	136	0	20	0	1	13	18	0
Kendrapara	161	11	20	5	9	2	13	4
Mohakalapara	232	0	26	0	23	19	31	1
Marshaghai	133	0	18	0	6	20	19	1
Pattamundai	200	27	25	3	10	25	33	1
Rajkanika	174	0	19	0	13	17	16	0
Rajnagar	212	0	15	0	18	15	12	0

8.4 Category & type of students

Name of the Block	Government Schools				Government Aided schools		Private Schools	
	Elementary		Secondary		Elementary	Secondary	Elementary	Secondary
	Rural	Urban	Rural	Urban				
Aul	11866	0	5315	0	478	1971	3308	0
Derabish	9170	0	4616	0	285	2211	3072	2250
Garadpur	6739	0	3965	0	211	1281	2363	0
Kendrapara	10665	1815	6018	1658	1497	2239	5772	3787
Mohakalapara	21716	0	5702	0	1065	3401	3466	204
Marshaghai	8701	0	3863	0	267	1690	2872	295
Pattamundai	16734	2934	4200	1191	465	2671	4702	31
Rajkanika	12519	0	5458	0	688	2020	1780	0
Rajnagar	20174	0	6329	0	861	2787	1441	0

8.5 School Safety Advisory Committee (District)

1. Date of Formation
2. Institutional Architecture

Sl No	Name & Designation	Contact No.	Email ID	Remarks
1	Sri Amrit Ruturaj, IAS Collector & District Magistrate, Kendrapara	9439883093	dm-kendrapara@nic.in	Chairperson
2	Shri Sandeep Sampat Madkar, IPS, S.P. Kendrapara	9438001323	spkdp.odpol@nic.in	Co- Chairperson
3	Sri Dillip Kumar Rout, District Fire Officer	6371281774	birabhadtratudu101@gmail.com	Member
4	Sri Mamatarani Parida, D.W.O.	9438617866	dwo.kendrapara@yahoo.in	Member
5	Smt. P. Mohapatra, DSWO	9437293454	dswokendrapara@nic.in	Member
6	Dr. Anita Patnaik, CDMO	9439988886	cdmokendrapara@gmail.com	Member
7	Er. Basanta Kumar Nayak, Executive Engineer, RWSS	8280408048	eerwss_ctc2@nic.in	Member
8	Sri Hemalata Bahalia, District Emergency Officer	9937176197	deoc.kendrapada@gmail.com	Member
9	Sri Santosh Kumar Sahoo, District Panchayat Officer	7978263878	oriken@nic.in	Member
10	Sri Arabinda Acharya, Principal DIET, Kendrapara	9937105948		Member

11	Sri Susanta Ku. Jena, BEO-Kendrapara	8895380325		Member
12	Sri Sanjeeb Kr. Singh, DPCSSA, Kendrapara	9437296156	dpckendrassa.opepa@nic.in	Member
13	Sri Sanjeeb Kr. Singh, District Education Officer	9437296156	deokendrapara17@gmail.com	Nodal officer & Member convenor
14	Sri Niranjana Sahoo, President NGO forum	9938960028	sathisamaja@gmail.com	Member

8.6 Details of School Safety in the district

SI N o	Activity	Total Scho ol	Achieved								
			Ken dra para	Aul	Ra jka ni ka	Gar adp ur	Raj nag ar	Dera bish	Mar sha gha i	Patt am und ai	Mah akal apa ra
1	Schools having School Safety Advisory Committee (Number)	2175	316	206	215	170	276	219	185	244	348
2	Schools having School Disaster management Plan (Number)	2175	316	206	215	170	276	219	185	244	348
3	Schools having conducted Safety Audits (Structural) (Number)	2175	316	206	215	170	276	219	185	244	348
4	Safety Audits (Non-Structural) (Number)	2175	316	206	215	170	276	219	185	244	348

5	Schools having conducted Annual Mock Drills (Number)	2175	316	206	215	170	276	219	185	244	348
6	Schools Having Fire Extinguisher (Number)	2175	316	206	215	170	276	219	185	244	348
7	Schools Adhering to safety norms in storing inflammable & Toxic Material (Number)	2175	316	206	215	170	276	219	185	244	348
8	Schools confirming safety standards as per local building bye-laws (Latest) (Number)	2175/ 2175	316/ 316	206/2 06	215/ 215	170/1 70	276/2 76	219/ 219	185/1 85	244/2 44	348/3 48
9	Schools having issued Recognition certificate under sub Rule(4)-Rule 15 of RTE rules 2010 (only to schools that comply with Structural safety norms) (Number)	0356/ 2175	000/ 316	000/2 06	005/ 215	00/1 70	267/2 76	000/ 219	00/1 85	000/2 44	084/3 48
10	Schools where students & teachers undergo regular training on School Safety & Disaster Preparedness (Number)	2175	316	206	215	170	276	219	185	244	348

1 1	Schools where disaster management is being taught as part of the curriculum (Number)	2175	316	206	215	170	276	219	185	244	348
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8.7 Disaster management Education (School Safety and School Disaster Preparedness):

[Disaster management education should include organizing awareness generation programmes in schools and colleges and conducting basic mock drills for fire and other disasters. For the purpose, in the first phase district level high schools and colleges (both govt. and private) may be taken into consideration.]

Sl. No.	Name of the Programme	No. of Schools, Colleges and Other Educational institutions to be covered during the year 2019	Time Line	Remarks
1	Awareness generation and mock drills for fire/earth quake etc.	2175	Dec.-19	Refresher
2	Preparation of School disaster management plan	1837	Dec.-19	

Details of Child Care Institutions

Sl No.	Block/ULB	Name and Address of the Organization	Boys	Girls	Total No of Children	Name and Contact no. of the Shift-in-Charge	Fire Safety Equipments (Fire Extinguisher, Alarm)	Staff Training on Fire Safety Equipment	Nearby open space for evacuation	Alternative Shelter/s Identified
1	Garadpur	Pallisri Mahila Samiti(GIA), At/Po- Korua, Ps- Patkura, Pin -754134	40	85	125	Srikanth Nayak - Superintendent, Mob- 94370 89978	Yes	Yes	Korua Womens Building	Near Lokantha Mahabidyalaya Building
2	Kendrapara	RIESWA(N on GIA) At/ Po –	4	6	10	Amit Kumar Sahoo	Yes	No	Mankarpur Primary School	Separate Building

	Municipal ty	Mankarpur, PS/ Dist- Kendrapara				, Superi ntende nt , Mob- 87632 20494				of RIESW A
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A. Nuclear & Radiological Disaster:

India has traditionally been vulnerable to natural disasters on account of its unique geoclimatic conditions and it has, of late, like all other countries in the world, become equally vulnerable to various man-made disasters. Nuclear and Radiological Emergencies as one such facet of man-made disasters is of relevance and concern to us. Any radiation incident resulting in or having a potential to result in exposure and/or contamination of the workers or the public in excess of the respective permissible limits can lead to a Nuclear/Radiological Emergency

For improving the quality of life in society, India has embarked upon a large programme of using nuclear energy for generation of electricity. As on date, India has 17 power reactors and five research reactors in operation along with six power reactors under construction. It is also planned to explore setting up Thorium based reactors to meet its ever-increasing energy needs. Further, the country utilises radioisotopes in a variety of applications in the non-power sector, viz., in the field of industry, agriculture, medicine, research, etc. Due to the inherent safety culture, the best safety practices and standards followed in these applications and effective regulation by the Atomic Energy Regulatory Board, the radiation dose to which the persons working in nuclear/radiation facilities are exposed to, is well within the permissible limits and the risk of its impact on the public domain is very low.

However, nuclear emergencies can still arise due to factors beyond the control of the operating agencies; e.g., human error, system failure, sabotage, earthquake, cyclone, flood, etc. Such failures, even though of very low probability, may lead to an on-site or off-site emergency. To combat this, proper emergency preparedness plans must be in place so that there is minimum avoidable loss of life, livelihood, property and impact on the environment.

Although, the State of Odisha does not have any major Nuclear/Radiological set up or power plants, still the Districts need to be prepared in case of any Emergencies especially Medical Preparedness and Capacity Building of the Response Forces. Mock Exercises on Nuclear and Radiological Disasters or Emergencies at regular intervals is also highly essential. Districts are required to keep and updated the following information given in the table ever year for minimizing the risk of Nuclear/Radiological Disaster.

Chapter-11

Biological Disaster and Public Health in Emergencies: -

10.1 Biological Disaster Management & Medical Preparedness

Biological disasters, be they natural or man-made, can be prevented or mitigated by proper planning and preparedness. The primary responsibility of managing biological disasters vests with the state government. The central government would support the state in terms of guidance, technical expertise, and with human and material logistic support to develop the policies, plans and guidelines for managing biological disasters in accordance with the national guidelines and those laid down by SDMA.

The H&FW would be the nodal Department for managing biological disasters in the State. Further, Home department will be the nodal for Bio-terrorism, Bio War, F&ARD Department will be the nodal department for animal health and Agriculture & Farmers Empowerment Department will be the nodal department for agro-terrorism. Besides, the community, medical care, public health and veterinary professionals, etc., must also remain in complete preparedness for such eventualities.

Table 11.1 Nodal Departments for Managing Biological Disaster

Sl No.	Bio Disaster	Nodal Department	Contact person	Contact details (Office/Mobile)
1	Biological Disaster	H&FW Department	CDMO (District)	9439988886
2	Bio Terrorism/ War	Home Department	SP	9438001323
3	Animal Health Disaster	F&ARD Department	CDVO (District)	9437083894
4	Agro -Terrorism	A&FE Department	CDAO	8917672742

11.2 Legal Framework

Stringent Legal frameworks must be drawn & enforced in order to:

- Prevention, mitigation and control of the spread of biological disaster at all level.
- Managing the prevailing and foreseeable public health concerns, threat of biological weapons by adversaries and cross-border issues.
- Notify the affected area, restrict movements or quarantine the affected area, enter any premises to take samples of suspected materials and seal them.
- Establish controls over biological sample transfer, biosecurity and biosafety of materials/laboratories.

11.3 Institutional & Operational Framework

SDMA will coordinate all the disasters including those of biological origin in the state. A multi-sectoral approach must be adopted involving H&FW, Home Department, PR&DW, SSEPD, F&ARD and A&FE.

- The intelligence and deterrence required & the management structure must be identified and strengthened so as to act as one crisis management structure, committees, task forces and technical expert groups preferably within the Nodal department

Table 11.5- Crisis Management Committee

SL	Member	Dept./Instt.	Contact Details
1	ADMO PH	CDMO Office	9437351420
2			

Table 11.6 Task Force

SL	Member	Dept./Instt.	Contact Details
1			
2			
3			

Table 11.6 Technical Experts

SL	Member	Dept./Instt.	Contact Details
1			
2			
3			

- A public health institution of eminence, matching international standards needs to be created, with following measures:
 - All existing public health institutions providing technical expertise in the area of field epidemiology, surveillance, teaching, training, research, etc., need to be strengthened. The core capacity needs to be developed for surveillance, border control at ports and airports, quarantine facilities, etc.
 - Each District will strengthen its public health infrastructure, including public health institutions which would collect epidemiological intelligence, share information with IDSP, provide for outbreak investigations and manage outbreaks.
 - Hospitals will develop capabilities to attend to mass casualties and public health emergencies with isolation facilities. In the districts, DDMA's will provide the requisite management structure for district DM, factoring in the requirements for managing biological disasters.
- The strategic approach for management of biological disasters must be done with responsible participation of the government, private sector, NGOs and civil society.

11.7 Nodal Public Health Institution

Name of the Institution, Address & Contact details of the contact (Nodal) Person	No. of trained Doctors (Biological Disaster)	No. of trained Paramedical staffs (Biological Disaster)	Facilities available	Equipment's available

11.8 Collaborative Institutions

Name of the NGO/CSO/ Private Sector	Expertise	Contact Person	Contact Details (Number & Email ID)	Address

11.9 Preventive Measures

Prevention and preparedness shall focus on the assessment of bio-threats, medical and public health consequences, medical countermeasures and long-term strategies for mitigation. The important components of prevention and preparedness would include

- An epidemiological intelligence gathering mechanism to deter a BW/ BT attack;
- A robust surveillance system that can detect early warning signs, decipher the epidemiological clues to determine whether it is an intentional attack;
- Capacity building for surveillance, laboratories, and hospital systems that can support outbreak detection, investigation and management.
- Developing a biological disaster response plan
- Pre-exposure immunisation (preventive, if available any) of first responders against anthrax and smallpox must be done to enable them to help victims' post-exposure.

11.9.1 Pre-Disaster Preventive Measures

- Important buildings and those housing vital installations need to be protected against biological agents wherever deemed necessary through security surveillance.
- Restricting the entry to authorised personnel only by proper screening,
- Installation of High Efficiency Particulate Air (HEPA) filters in the ventilation systems to prevent infectious microbes from entering the circulating air inside critical buildings.
- Those exposed to biological agents may not come to know of it till symptoms manifest because of the varied incubation period of these agents. A high index of suspicion and awareness among the community and health professionals will help in the early detection of diseases.
- Environmental monitoring can help substantially in preventing these outbreaks.
- Elimination of breeding places by water management, draining of stagnant pools and not allowing water to collect by overturning receptacles, etc.
- Biological vector control measures e.g. Gambusia fish, as an important measure in vector control.
- Outdoor fogging and control of vectors by regular spraying of insecticides.

Table 11.10 Important/Critical Infrastructure

Sl	Infrastructure/ Institution Type	Dept./Instt.	Contact person with contact Details

11.10.2 Post-Disaster Preventive Measures

- When exposure is suspected, the affected persons shall be quarantined and put under observation for any atypical or typical signs and symptoms appearing during the period of observation.
- Health professionals who are associated with such investigations will have adequate protection and adopt recognised universal precautions.
- It often may not be possible to evolve an EWS. However, sensitisation and awareness will ensure early detection.
- Dead bodies resulting from biological disasters increase risk of infection if not disposed off properly. Burial of a large number of dead bodies may cause water contamination. With due consideration to the social, ethnic and religious issues involved, utmost care will be exercised in the disposal of dead bodies.

11.11 Infrastructure that can be used as quarantine centres

Sl	Infrastructure/ Institution Type	Dept./Instt.	Contact person with contact Details

11.12 Disease Containment by Isolation and Quarantine Methodologies:

- Isolation refers to isolating suspected cases in hospital settings. In the case of biological disasters such as pandemic influenza which affects millions, home isolation may have to be recommended to those who can be treated at home.
- Quarantine refers to not only restricting the movements of exposed persons but also the healthy population beyond a defined geographical area or unit/institution (airport and maritime quarantine) for a period in excess of the incubation period of the disease.
- Restrictions in the movement of the affected population is an important method to contain communicable diseases. The status of the law-and-order mechanism of the state and district is an important factor in helping health authorities in this regard.

11.13 Preparedness and Capacity Development

An important aspect of medical preparedness in Biological Disaster Management includes the integration of both government and private sectors. The important components of preparedness include planning, capacity building, well-rehearsed hospital DM plans, training of doctors and paramedics, and upgradation of medical infrastructure at various levels to reduce morbidity and mortality. A biological disaster response plan is to be evolved on the basis of the national guidelines with due participation of health officials, doctors, various private and government hospitals, and the public at the national, state and district levels. The government health departments also need to be equipped with state-of-the-art tools for rapid epidemiological investigation and control of any act of biological threat. The important components of preparedness are.

Establishment of Command, Control and Coordination Functions

The incident command system needs to be encouraged and instituted so that the overall action is brought under the ambit of an incident commander who will be supported by logistics, finance, and technical teams etc. EOCs will be established in all the state health departments with an identified nodal person as Director (Emergency Medical Relief) for coordinating a well-orchestrated response.

- Human Resource Development: The DHO, in consultation with the state epidemiological cell, will develop a simple & informative format for daily data collection, depending upon quantum of information available at each level.
- Control rooms will be nominated/ established at different levels in order to get all the relevant information and transmit it to the concerned official. The addresses and telephone numbers of the district collector, DHO, hospitals, specialists from various medical disciplines like paediatrics, anaesthesia, microbiology etc., and a list of all stakeholders from the private sector will be available in the control room.
- Manning the health Facilities: The shortfall of public health specialists, epidemiologists, clinical microbiologists and virologists will be fulfilled over a stipulated period of time. Teaching/training institutions for these purposes will be established.

11.14 Training & Education

- Necessary training /refresher training must be provided to medical officers, nurses, emergency medical technicians, paramedics, drivers of ambulances, and QRMTs/ MFRs to handle disasters due to natural epidemics/ Bio disaster.

- Structured education and web-based training must be given for greater awareness and networking of knowledge so that they are able to detect early warning signs and report the same to the authorities, treat unusual illnesses, and undertake public health measures in time to contain an epidemic in its early stage.
- Refresher training will be conducted for all stakeholders at regular intervals. An adequate number of specialists will be made available at various levels for the management of cases resulting from an outbreak of any epidemic or due to a biological disaster.
- Standardised training modules for different medical responders /community members for capacity building in the area of disaster management developed by state government or national government should be followed to create adequate training facilities for the same.
- Selected hospitals will develop training modules and standard clinical protocols for specialised care, and will execute these programmes for other hospitals. Table-top exercises using different simulations will be used for training at different levels followed by full-scale mock drills twice a year.
- A district-wise resource list of all the laboratories and handlers who are working on various types of pathogenic organisms and toxins will be prepared.
- BDM related topics will be covered in the various continuing medical education programmes and workshops of educational institutions in the form of symposia, exhibition/demonstrations, medical preparedness weeks, etc.
- Biological disaster related education shall be given in various vernacular languages. Simple exercise models for creating awareness will also be formulated at the district level.
- Biological disaster plans will be rehearsed as a part of training every six months.
- Knowledge of infectious diseases, epidemics and BT activities will be incorporated in the school syllabi and also at the undergraduate level in medical and veterinary colleges.

11.15 Community Preparedness

Community members including public and private health practitioners are usually the first responders, though they are not so effective due to their limited knowledge of BDM. These people will be sensitised regarding the threat and impact of potential biological disasters through public awareness and media campaigns. The areas which need to be emphasised are:

- **Risk communication to the community**
 - Community education/awareness about various disasters and development of Dos and Don'ts.
 - The public will be made aware of the basic need for safe food, water and sanitation. They will also be educated about the importance of washing hands, and basic hygiene and cleanliness. The community will also be given basic information about the approach that health care providers will adopt during biological disasters.
 - Toll-free numbers and a reward system for providing vital information about any oncoming Biological disaster by an early responder or the public will be helpful.
 - Definition of predisposing existing factors, endemicity of diseases, various morbidity and mortality indices. The availability of such data will help in planning and executing response plans.
- **Community participation**
 - Providing support to public health services, preventive measures such as chlorination of water for controlling the possibility of epidemics, sanitation of the area, disposal of the dead, and simple non-pharmacological interventions will be mediated through various resident welfare associations, ASHA /ANM, village sanitation committees, and PRIs.

- Community level social workers who can help in rebuilding efforts, create counselling groups, define more vulnerable groups, take care of cultural and religious sensitivities, and also act as informers to local medical authorities during a biological disaster phase, will be created after proper training and education.
- NGOs and Voluntary Organisations (VOs) will be involved in educating and sensitising the community.
- Supporting activities like street shows, dramas, posters, distribution of reading material, school exhibitions, electronic media, and publicity, etc., will be undertaken.

A legally mandated quarantine in a geographic area, isolation in hospitals, home quarantine of contacts, and isolation management of less severe cases at homes would only be possible with active community participation.

11.16 Medical Preparedness

Medical preparedness will be based on the assessment of bio-threat and the capabilities to handle, detect and characterise the microorganism. Specific preparedness will include pre-immunisation of hospital staff and first responders who may come in contact with those exposed to anthrax, smallpox or other agents. It further relates to activities for management of diseases caused by biological agents, EMR, quick evacuation of casualties, well-rehearsed hospital DM plans, training of doctors and paramedics and upgradation of medical infrastructure at various levels which will reduce morbidity and mortality. Medical preparedness will also entail specialised facilities including chains of laboratories supported by skilled human resource for collection and dispatch of samples. The major aspects of medical preparedness are e.g. Hospital DM Plan

Hospital planning will include both internal hospital planning, and for hospitals being part of the regional plan for managing casualties due to biological disasters. The major features will include the following:

- Hospital disaster planning will consider the possibility & needs to evacuate or quarantine or divert patients to other facilities.
- The plan will be ‘all hazard’, simple to read and understand, easily adaptable with normal medical practices and flexible enough to tackle different levels and types of disasters.
- The plan will include capacity development, development of infrastructure over a period of time and be able to identify resources for expansion of beds during a crisis.
- The plan will be based on the need assessment analysis of mass casualty incidents. There will be a triage area and emergency treatment facilities for at least 50 patients and critical care management facilities for at least 10 patients.
- The quality of medical treatment of serious/ critical patients will not be compromised. The development plan will aim at the survival and recuperation of as many patients as possible.
- Hospitals will plan to recruit a sufficient number of personnel, including doctors and paramedical staff, to meet the patients’ needs for emergency care.
- It is essential that all hospital DM plans have the command structure clearly defined, which can be extrapolated to a disaster scenario, with clear-cut job definitions when an alert is sounded. Emergency services provided must be integrated with other departments of the hospital.
- The hospitals will submit data on their capabilities to the district authorities and on the basis of the data analysis, the surge capacities will be decided by the district administration.
- There is no universal hospital DM plan which can be implemented by all hospitals in all situations. Therefore, on the basis of their specific considerations, each hospital will

develop a disaster plan specific to itself. The plan shall be available with the district administration and tested twice a year by mock drills.

- The hospital DM plan will cater to the increased requirement of beds, ambulances, medical officers, paramedics and mobile medical teams during a disaster. The additional requirement of disease related medical equipment, disaster-related stockpiling and inventory of emergency medicines will also be factored into the hospital DM plan. The DM plan must be strengthened by associating the private medical sector.
- Networking between public and private hospitals must be done and hospital DM plans need to be updated at the district/state level through frequent mock drills.
- The registration and accreditation policy must make it mandatory to have a hospital DM plan.
- The existing infectious diseases hospitals will be remodelled to manage diseases with microorganisms that require a high degree of biosafety, security and infection control practices. There will be one such hospital in each state capital. In addition, the district hospitals and medical colleges will have isolation wards to manage such patients. Also, identified hospitals in vulnerable states will be strengthened for managing CBRN disaster victims by putting in place decontamination systems, critical care Intensive Care Units (ICUs) and isolation wards with pressure control and lamellar flow systems. The infectious control practices will include the following:
 - When dealing with biological emergencies, the health workers associated with the investigation of such exposures will have adequate personal protection.
 - Depending upon the risk, the level of protection will be scaled up from use of surgical masks and gloves, to impermeable gowns, N-95 masks or powered air-purifying respirators. They will follow laid down SOPs for use of PPE.
 - Infection control practices will be followed at all health care facilities, including laboratories.
 - Of the potential biological disaster agents, only plague, smallpox and VHFs are spread readily from person to person by aerosols and require more than standard infection control precautions (gowns, masks with eye shields, and gloves).
 - The suspected victims and those who have been in contact with them will be advised to follow simple public health measures such as using masks/ handkerchief tied over the nose and mouth, frequent washing of hands, staying away from other people by at least a metre, etc.
- To handle biological disasters, a hospital DM plan will have the following facilities:
 - Medical and paramedical staff: It is important to train medical staff and paramedics properly in universal safety precautions, use of PPE, communication, triage, barrier nursing, and collection and dispatch of biological samples. A team of specialists must be made available to handle infectious diseases affecting various body systems and they will be suitably immunised against agents such as anthrax and smallpox.
 - Expansion of casualty area: If the hospital casualty ward is unable to accommodate a large number of casualties, provision will be made to use the patients' waiting hall, duly reoriented, to receive the casualties. Each major hospital will cater to at least 50 additional patients at times of disaster.
 - Isolation wards: Adequate number of isolation wards are required to be planned with surge capacity to accommodate a large number of patients of infective disease. If required, side rooms, seminar rooms, other halls can be improvised for this purpose.
 - Security arrangements: Hospital security staff will prepare SOPs to prevent overcrowding of hospitals by visitors, relatives, VIPs, and the media at the time of a disaster. Help of the district administration will be sought, if required.

- Identification of patients: The process will start at the time of giving first aid and triage. A system of labelling and identifying patients during spot registration by giving a serial number to the patient and putting an identification tag around the wrist can be done. In mass casualties, it can be supplemented by giving colour coded tags, such as red for serious patients, yellow for moderately serious patients, blue for those in need of observation and black for the dead.
- Brought dead: All those brought in dead and patients who die while receiving resuscitation will be segregated and shifted to the mortuary through a separate route. Temporary mortuary facilities will be created to cater for a mass casualty incidence.
- Diagnostic services: All laboratories and radio diagnostic services will be kept fully operational and utilised as and when required. These services will be available within the emergency treatment areas.
- Communication: Both intra & inter communication facilities will be made available. These can be further augmented by the use of mobile phones.
- Medical supplies: Adequate supply of essential drugs and non-drug items will be made available for at least 50 patients in the emergency complex itself for immediate use. Additionally, hospital medical stores will have adequate buffer stocks.
- Blood bank services: The services will cater for an adequate supply of safe blood and its components. Voluntary blood donations will be encouraged to fulfil the increased demand of blood.
- Other logistic support: Adequate, uninterrupted supply of water and electricity will be ensured for proper management of casualties. The laying down of public health standards for hospitals and strengthening of CHCs across the nation for basic specialities on 24x7 basis under NRHM by GoI are steps in the right direction to strengthen medical care facilities in rural areas. NRHM initiatives will be expedited to reach every nook and corner of the country.

- **Mobile Hospitals and Mobile Teams**

States will acquire and locate at least one mobile hospital at strategic locations. These hospitals can be attached to earmarked hospitals for their use in non-disaster periods. These will be manned by trained manpower and perform the following functions:

- To be mobilised to the disaster site for management of cases at times of any epidemic outbreak or biological disaster.
- Provide on-site medical treatment to casualties as per triage and evacuation guidelines. The teams will also make a complete assessment of the situation and transmit information to the appropriate authorities.
- Additional medical teams will be mobilised to assist in handling the large number of casualties in the wake of a mass casualty event.
- Adequate stock of medical stores, including essential drugs, will be stocked and made available to the medical teams.
- The stocking of emergency medical stores shall be done by the state government. Brick of medical stocks capable of treating 25/50/100 casualties will be kept ready to move with mobile units at short notice.
- Drills will be conducted at regular intervals by mobile hospitals and mobile teams to keep them in a functional mode at all times.

- **Stockpile of Antibiotics and Vaccines**

- Government medical stores will stock sufficient quantities of essential drugs, antibiotics and vaccines based on the risk assessment. State and local public health authorities have to develop plans for distributing and administering these materials. There is a need to have a supply of readily available anthrax, smallpox and other vaccines, which will be administered rapidly in the event of an outbreak to contain the spread of the disease. All first responders will be vaccinated in an impending disaster situation.
- A plan will be prepared to define the availability of antibiotics, anti-virals, vaccines, sera and other drugs from private pharmaceutical companies who will be able to supply these items at short notice.

Table-11.19 -Stockpile of Medicines

Sl	Medicine/Drugs	Actual Requirement	Present availability

- **Public Health Issues**

- Panic is a critical element in a disaster and, therefore, DM plans will address measures to allay public anxiety and fear arising out of Bio Terrorisms.
- Availability of safe food, clean water, and minimum standards of hygiene and sanitation will be ensured. Vulnerable groups such as children, pregnant women, the aged and patients suffering from diseases like HIV/AIDS will be given special attention.
- The routine training of medical undergraduates, nurses and health workers for mental health services is grossly inadequate. There is virtually no emphasis on the mental health aspects of disasters even in the routine postgraduate training in psychiatry. There is a need for coordinated training services and monitoring at the district and state levels.
- Most victims at the scene of a disaster suffer from psycho-social problems. Some people, including relief workers, may develop post-traumatic stress disorders. The plan will involve community level social workers who can help victims of psychosocial problems.
- Complete ban on the press or media is not the right approach in such circumstances. The media is very useful for disseminating proper information and educating the community during a disaster.

- **Emergency Medical Response**

A biological disaster can lead to mass casualty incidences, both intentional or otherwise. The development of infectious diseases depends on various factors such as type of agents, incubation period, immune status of individuals, amount of infectious agent entering the body, etc. However, a large number of cases arising in a short span of time may require prompt establishment of medical posts near the incident site. They would triage the patient, provide basic life-support if required at the site, and transport patients to the nearest identified health facility along with collection and dispatch of biological and environmental samples. If the incident command system is implemented, then the RRT/MFR will be integrated with the ICP and function under the overall directions of the incident commander. Important components of an EMR plan are as follows:

- Pre-hospital care shall be established and operationalised using a trained medical force. EMR at the site will depend upon the quick and efficient response of MFRs.
- MFRs must be trained in the use of PPE and in collection and dispatch of samples from air, water, food and biological materials. The standards for detection and basic life support (airway maintenance, ventilation support, anti-shock treatment and preparation for transportation) will also be developed. EMR will be integrated with ICP and will function under the overall directions of the incident commander

- There will be periodic mock drills for checking response time and reducing it to a minimum. Periodic training and refresher training schedules will also be prepared.
- The medical posts shall provide evacuation services, specialised health care, food, shelter, sanitation, etc. These will coordinate with other functionaries involved in search, rescue, helplines and information dissemination, transport, communication, power and water supply, and law and order.
- SOPs for providing hospital care and a command control centre with the district collector as supreme head, will be laid down and rehearsed using mock exercises.
- The modes of communication will be dovetailed with emergency services of the district. Inter-hospital and inter-services communication will be established at all levels.
- Mechanisms for checking the status of coordination in planning, operations and logistic management will be developed.

11.20 Psycho Social Care

Disasters usually leave a trail of human agonies including loss of human life, livestock, damage to properties, loss of livelihood, and all development works. In any disaster the magnitude of psychosocial and mental health problems is enormous. Apart from logistic and material help, relief and rehabilitation, the sufferings of human beings will require psychosocial and mental health interventions. It has been recognized that most of the disaster affected persons' experience stress and emotional reactions after disaster as a 'normal response to an abnormal situation', and are able to cope well with a little psychosocial support. However, a significant proportion of people are not able to cope effectively with the situation in the absence of appropriate/ adequate support system and they experience significant signs and symptoms requiring psychosocial support and mental health services. The symptoms are directly related to trauma experience. The Greater the trauma, the more severe is the response if other factors are same.

Psychosocial support in the context of disasters refers to comprehensive interventions aimed to help individuals, families and groups to restore social cohesion and infrastructure along with maintaining their independence and dignity in the aftermath of a disaster. Psychosocial support helps in reducing the level of actual and perceived stress that may prevent adverse psychological and social consequences among disaster affected people.

11.21 Disaster Mental Health Services

The Psycho-Social Support and Mental Health Services (PSSMHS) should be considered as a continuum of the interventions in disaster situations. While psychosocial support will comprise of the general interventions related to the larger issues of relief work needs, social relationships and harmony to promote or protect psychosocial wellbeing, the mental health services will comprise of interventions aimed at prevention or treatment of psychological symptoms or disorders. The experiences of the people subsequent to the disaster have direct relevance to recovery. The more the problems and life difficulties the survivors experience during the recovery phase, the more persistent will be their emotional reactions. This warrants appropriate interventions in accordance with the phase of recovery of the affected population with the diminished social supports being built for speedy recovery.

Table-11.22 Nodal Psycho Social Health Institution

Name of the Institution,	No. of trained	No. of trained Paramedical	Facilities available	Equipment's (If required)
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Address & Contact details of the contact (Nodal) Person	Doctors (Psycho Social)	staffs (Psycho Social)		any) available

Table-11.23-Collaborative Institutions

Name of the NGO/CSO/ Private Sector	Expertise	Contact Person	Contact Details (Number & Email ID)	Address

11.24 Community Based Disaster Psychosocial Care

The psychosocial aspects of disasters on human beings have been acknowledged as an international agenda (WHO, 1992). However, in India, the psychosocial aspects have never been emphasized until very recently after tsunami, 2004. The Bhopal gas tragedy (1984) was the most important disaster to draw the national attention due to its severe impact and the sensitivity of the politico-economic issues involved. The psychosocial impact was studied systematically although intervention programmes were more of psychiatric in nature. Marathwada earthquake (1993), and Andhra Pradesh Super Cyclone (1996) were disasters in which mental health professionals took an active part in terms of providing mental health services and undertaking research to study the psychosocial impact of these disasters.

The ICMR studies over last twenty years have provided strong base for integration of mental health services with general health care services and sensitization of the community members and rescue workers. Further, In the post Tsunami phase in India, the WHO along with the Department of Social Welfare, United Nations Team for (UNTRS), and partners have developed a model for providing sustained, low-cost community-based volunteer provided support systems. Community level workers who are the anchor for this programme are selected from various categories of people, including teachers, health workers, and members of Self-Help Groups etc, who have volunteered for this purpose. However, the finer details of the mechanisms and strategies for integration of mental health services with general health care services still need to be worked out.

Concept of Social Support Network

The psychological response to a disaster depends on three main factors

Table-11.26

Disaster	Community	Survivor
» Place of occurrence » Magnitude	» Level of preparedness » Social support network	» Age / Sex

» Suddenness » Type	» Leadership » Past disaster experience	» Level of education/ exposure » Marital status » Physical health / » Disability » Personality/ » Coping skills » Magnitude of losses » Social support available
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The psychological reactions that people experience as a result of the disaster may be either adaptive or maladaptive.

Table-11.27

Adaptive	Maladaptive
• Adaptive responses allow individuals to overcome the difficulties caused by the disaster. • For instance, obtaining information or developing effective survival skills.	• Maladaptive reactions can include denial, ineffective actions etc. reactions can be prevented from occurring and if they do occur then they can be treated. • The incident of a young girl can be considered here from Orissa cyclone. The rescue team saw her hanging from a tree after five hours, but she was not having any clothes on her body. After accepting the clothes from the rescue team, she immediately jumped in the floodwater and committed suicide.

After a disaster there are four main phases, which the survivors go through. The first phase is considered as rescue which is up to 72 hours after the disaster. The second phase is relief which continues for three months after the disaster. The third phase is rehabilitation, which lasts for one to two years and the last phase is rebuilding, or reconstruction, which extends over lifetime. Reconstruction phase is the longest period when the population rebuilds personal skills, social support and leadership. This overlaps with the rebuilding phase.

Table-11.28

Phases after a Disaster	Duration	Characteristics
Occurrence of the disaster	Hours	Apathy, Disorientation, Wandering Surprise, Fear, Perplexity Anxiety, Helplessness
Heroic	Up to 1-2 weeks	Feeling strong, Direct feeling of saviour, eroism, Solidarity, Optimism
Honeymoon	2 weeks to 3 to 6 months	Great solidarity, Eagerness to rebuild, Sharing of common experience
Disillusionment	2months to 2 years	Withdrawal, Loneliness, Anger, frustration, Community disorganization, Negativity, Hostility, Impulsiveness, Violence, Alcohol and drug abuse

Reconstruction	2-5 years and Lifetime	Acceptance of losses Realistic assessment of the situation, Search for alternatives to rebuild lives
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11.29 Coping with Loss & Circles of Support

It is very clear that the usual social support systems are eroded after a disaster. The family and the neighbourhood no more exist as a functional unit. The tertiary level of support system exists to some extent in terms of larger community, government and other external agencies. So, it is essential to pull these external resources (out of the affected community) for rebuilding the social support system and normalize the life of the survivors. At the third level the government and external agencies take the main role to rebuild the entire support system. Apart from the government agencies a lot of other players also come to the forefront. These include:

- Professionals from the medical, legal and other such fields.
- Student volunteers
- Religious social service groups
- Non-government organizations both national and international
- Business communities
- Civil society bodies
- Individuals in their own capacity contributing their skills or money

11.30 Needs of More Vulnerable Groups

The reactions to and impact of a single disaster event may vary among specific groups of survivors within the affected community, i.e. people with special needs or more vulnerable groups viz. children, people with disability, women, elderly people and people needing special medical care facilities. Lot of inter group and intra group variations are there in terms of vulnerabilities as detailed below

Table-11.31

Category	Exposure/Vulnerability
Children	• Children who were physically, neurologically, mentally and sensory challenged in the pre-disaster period and those who became disabled after the disaster • Children who need critical medical care facilities e.g. children suffering from cancer, diabetic, asthma, poor heart condition, blood borne diseases, HIV-AIDS, etc. • The children with special needs who become orphans after a disaster, are most vulnerable to different types of exploitation. • Orphaned and unaccompanied Adolescent children, especially girls Children whose parents are missing or remarried
Women	• Pregnant and lactating women • Disabled women • Women on critical health care facility • Women who lost their children and plan to undergo recanalization surgery • Elderly women • Women with prior history of psychiatric illness

Elderly	• Reduced physical & mental capabilities, delayed response syndrome, • increased transfer trauma & the array of emotional difficulties, • dementia, and rigidity
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As per the PWD Act (1995) of Govt. of India, people with disabilities are a highly diverse group. Thus, each disability has its unique characteristics and disability specific needs. Since, their life conditions even prior to disaster are at a higher deprivation level, life conditions after a disaster become even worse. This could induce higher level of psychological distress and negative emotional reactions, which in turn could jeopardize their whole life functions. Therefore, psychosocial care givers should take extra caution to safeguard their self-respect and cater to their mental health needs. In case special intervention programme is needed to address their overall safety, dignity and needs, more emphasis should be placed on the inter-sectoral collaborations for their betterment. The following aspects & vulnerabilities should receive special attention of the care givers in the post-disaster phase:

- Accessibility to shelters and availability of basic amenities
- Availability of auxiliary aids, equipment's and services during the relief
- Special livelihood programme
- Treatment for any associated psychiatric illness
- Long-term community rehabilitation
- People on Dialysis
- People with organ transplantation
- Alcohol/drug dependents
- Heart patients
- People living with HIV/AIDS (PLWHA)
- People on Specific therapies (such as Cancer patients)
- Insulin dependent diabetics on high doses of insulin

11.32. Principles of Psychosocial Support

- No one who experiences or witnesses the event is untouched by it
- Disaster stress and grief reactions are normal responses to an abnormal situation
- Disaster results in two types of trauma i.e. individual and collective trauma. Individual trauma manifests itself in stress and grief reactions, while collective trauma can lead to deterioration in the social ties of survivors with each other.
- Disaster mental health services must be tailored to the needs of specific communities to be served
- Interventions must be appropriate to the phase of disaster 1. Initial phase: listening, supporting, ventilation, catharsis and grief resolution are helpful and 2. latter phase: handling frustration, anger and disillusionment
- Support systems are crucial for recovery
- Attitude of the caregiver

11.33. Basic Techniques of Disaster Psychosocial Care

- Ventilation: ventilation is a process to help the disaster survivors in expressing their thoughts, feelings and emotions related to the disaster and the resulting living conditions.
- Empathy: “looking at the event from the other person’s perspective and trying to realise the trauma of the other person by keeping himself/herself in that situation”. This skill of developing empathetic attitude towards survivors comes
- through regular habit of active listening of the survivor.

- **Active listening** Active listening is an important skill to facilitate ventilation and develop empathy, which in turn facilitate the whole process of providing emotional support. The following guidelines can help the care givers in achieving better results.
- Look at the person while he/she is talking:
- Respond occasionally while listening:
- Avoid interruptions
- Be tolerant & Empathise:
- **Social support:** Social support networks are extremely important for feeling comfortable and secure. In a disaster situation all the support systems get disrupted, hence the need to rebuild and restore.
- **Externalization of Interests:** Engaging them in small but productive activity/work (keeping age, gender, physical status, skills and interest as considerations) would help them in imbibing a positive thinking and feelings.
- **The Value of Relaxation:** Introducing relaxation activities for children (for instance some games, songs, dancing, painting, colouring and other things) and adults involving physical movement has proved to be very beneficial in helping survivors recover from their trauma and pain.
- **Turning towards Religion and Spirituality:** Helping people to turning towards his/her practiced religious rituals and practices (e.g. daily worship, prayer and related activities) would also facilitate the ventilation process, whereby there is a possibility of verbal/nonverbal expression of feeling/emotions and thus, making the survivor more peaceful in mind.

11.34. Understanding of Stress Symptoms & Management

The concept of stress was first used by Selye (1956) in his biological stress theory. It was defined as a set of specific physiological responses to environmental stimuli, e.g. chronic fatigue, nervous breakdown, physical damage etc. The important role of psychological factors remain in understanding the occurrence and modification of stress response.

Table 11.35

Emotional	Interpersonal	Sensational	Biological	Behavioural	Cognitive
Anxiety Guilt Embarrassment Depression Hurt Jealousy Feel like dying Cry frequently Moody	Cannot keep relationships Suspicious Gossip Competitive Withdraw Fearful and unassertive Aggressive	Heart rate Headaches Nausea Aches and pain Tremble Fainting Numbness Dry mouth Stomach cramps Sweaty Indigestion	Digestion problems Blood pressure Heart problems Tiredness Allergies Low immunity Mental problems	Substance dependence Sleep problems Tea smoking Restless Eating problems Aggression Irritation Speech problems Accident prone Eat, talk, walk faster	I must do well Life should not be like this I must have what I want This is terrible I cannot take this any longer Everyone should like me Working long hours

				Unkempt and untidy Low productivity Bad time management	» Not getting time to relax and take care of personal issues » Not able to contact the family members » The weather in the area etc
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Diverse Stress Responses

Table 11.36

Cognitive Responses:	Emotional Responses:	Self-image	Psychosomatic/Physiological Responses
Low awareness of the environment » Restricted scope of perception » Lowered ability to concentrate » Disturbed memory functions » Hesitation in decision making » Change in content of thinking » Low creativity and change in performance » Less ability to utilise relevant information	» Feelings of deprivation, guilt, anxiety, tension, aggression, irritation, worry, sadness, hopelessness and maladjustment.	» Low self confidence » Identity problem » Depression & Helplessness	» Headache & Body Ache » Muscular tension and pain » Gastrointestinal disorders/low appetite » Sleeplessness » Difficulty in breathing » High Blood Pressure (Source: Zimbardo, 1979) » Vague pain in different parts of the body » Increased heart beat & palpitation » Sweating in palms and feet » Shaking of the body & Fatigue » Butterfly sensation in the stomach

Relaxation Exercises

Table 11.37

Abdominal breathing	» Sit comfortably » Close your eyes » Put one hand on the abdomen » Focus on your breathing and try and see that you are breathing from your abdomen rather than your chest » Concentrate on the fact that your stomach is rising as you breath in and falling as you breath out
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Count breathing	Sit comfortably » Close your eyes » Count 1-2 two as you inhale » Release your breath slowly counting 1-2-3-4 (double the count of your inhalation) » Practice this till you feel relaxed
Nostril breathing	» Inhale naturally and then let out with a whooshing sound. Hold for some time and then let out again » Breathe through one nostril and breathe out through the other one » Combine breathing with visualization that you are getting energy and refreshment » Listening to some music while practicing these will enhance positive impact of the techniques
Free Meditation	» Sit comfortably or lie down and close your eyes » Put on some music and listen to the music » Do not try to think of anything, just concentrate on your breathing » If any thoughts come in do not try to control them or force them out, instead spend time on them and let them go as they come » Do it initially for about 5 minutes and slowly as you become better at it go on increasing the time period to about 20 –25 minutes and it would prove to be very relaxing
Candle meditation	» Sit comfortably » Light a candle or a lamp in front of you » Concentrate on the flame » Spend time just looking at the flame glowing and flickering » If you feel after some time close your eyes and look at the image in your mind » Slowly open your eyes after you are completely at ease » Do it initially for about 5 minutes and slowly as you become better at it go on increasing the time period to about 20 –25 minutes. It would prove to be very relaxing
Relaxation	» Lie down on the ground » Slowly move from your feet to your head saying the following to yourself

Disaster Psychosocial Referrals

Table-11.38

Within Caregiver's Control if the Survivor: » Is aware of who s/he is, where s/he is, and what has happened with him/her. » Is only slightly confused or dazed or show slight difficulty in thinking and decision making or finding difficulty in concentrating	Referral if the Survivor: » Is unable to tell/recall his/her name, name of the place and what has happened to him/her in past 24 hours » Complains about what is happening with him/her
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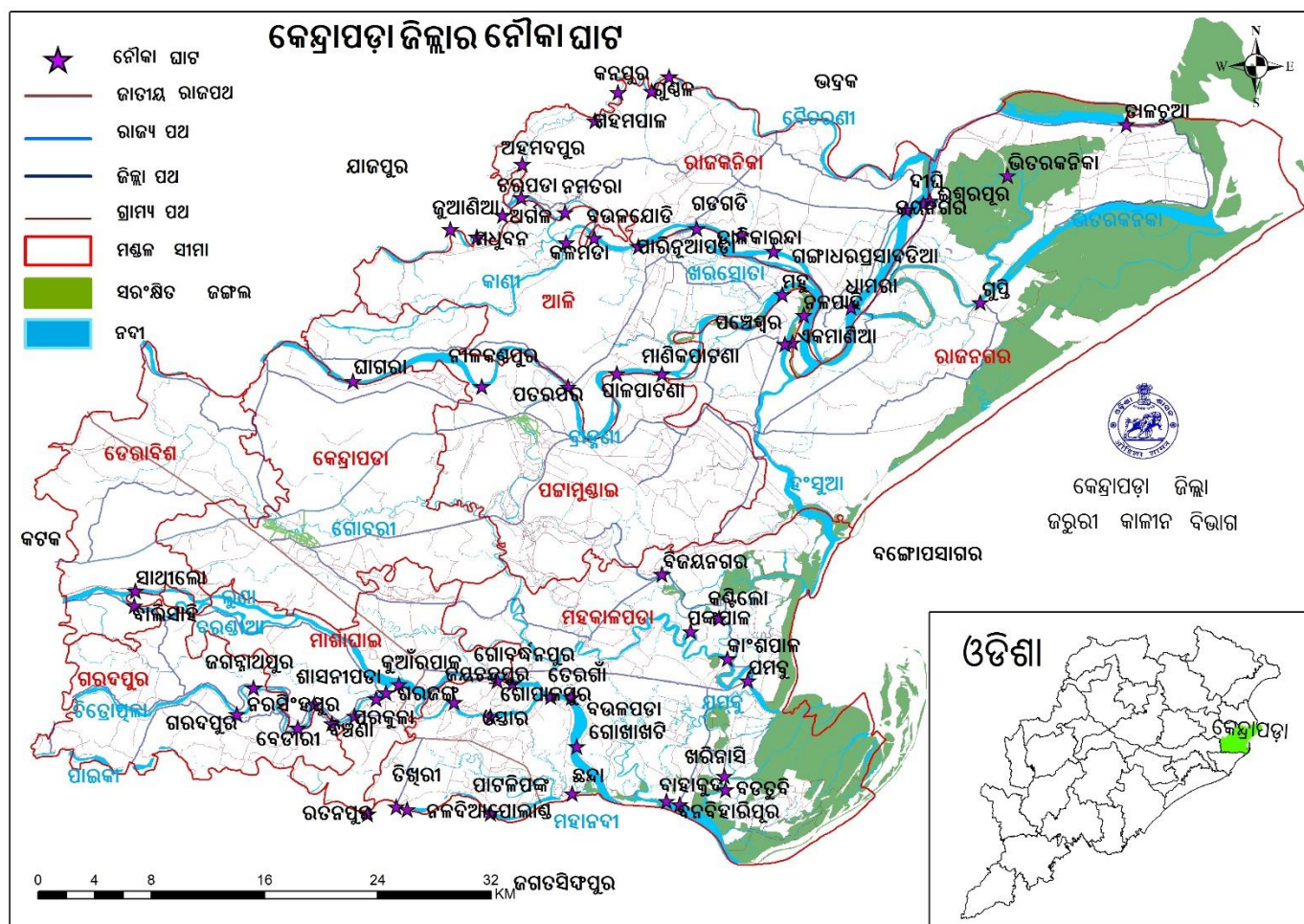
Behaviour	
Is restless, mildly agitated and excited » Has sleep difficulty and decreased appetite » Sad, rigid, clenches the fists	Is apathetic, immobile and unable to move around » Is withdrawn and mutilates himself/herself, does not take care of self » Violent and causes harm to others » Uses alcohol or drugs » Repeats ritualistic acts as compulsions
Emotions	
Within Care giver's Control if the Survivor » Is crying and weeping consistently by reiterating about the incident » Has blunt emotions, is numb and hardly reacts correctly to his/her environment » Easily irritated and angered over trivial issues » Shows high spirits or laugh excessively » Very quiet with no emotions	Consider Referral if the Survivor » Is unable to be aroused and is completely withdrawn » Is excessively emotional and shows inappropriate emotions » Is excessively happy, or sad and depressed
Perception	
Has all senses intact and has no perceptual disturbance, like seeing the ghosts of those expired	Hears voices in absence of the actual living organism » Sees things in absence of any living organisms' existence » Has complaints about vague bodily sensations » Takes a constant peculiar body position for days together
Thought	
Within Care giver's Control if the Survivor » Talks excessively about the disaster » Refuse to talk much » Has rapid or stammered speech	Consider Referral if the Survivor » Is talking irrelevant » Shows overflowing of incoherent speech » Does not talk at all for days together
Has a feeling of despair and worthlessness » Has a doubt on his/her own recovery » Is over concerned about unimportant things and neglects important things » Denies what happened to him/her and blames Others	Is excessively preoccupied with one idea or thought » Has bizarre thoughts, which have no answerable reason in that situation » Has a false but extremely firm and strong belief of something that is going to happen to him/her » Is attempted suicide or has suicidal thoughts

11.39. Ethics & Confidentiality

- Never make false promises to the survivors
- Maintain the confidentiality of the very private information/problems

- what the survivors share with you.
- Have the commitment and strive to help and support the survivors in an unbiased manner
- Helping the co-workers and taking care of your self is very crucial.
- Whenever, the pressure of work or dealing with human suffering become
- stressful for you, seeking help and support is a must.
- Keep smiling and spread smiling among others

Chapter – 12



Chapter – 13

Capacity Building Measures:

13.1 Approach

Developing a DDMP without building capacity or raising awareness amongst stakeholders can be detrimental to the development of a successful and sustainable plan. Stakeholders and communities are critical components to a successful, long-term, sustainable disaster management plan. Capacity Building develops and strengthens skills, competencies and abilities of both Government and non-government officials and communities to achieve their desired results during and after disasters, as well as preventing hazardous events from becoming disasters

Developing institutional capacity is very important. At the same time, by making the local community part of the process and solution would help in ensuring that disaster mitigation measures are more likely to be implemented and maintained over time.

13.2 Capacity Building of Govt. Officials, PRI Members etc.:

Sl. No.	Name of the Course/ Training Programme	Participants	Duration of the Training Programme	Month of Organization	To be Organized by	Remarks if any
1.	Orientation training programme on disaster management	ADM, Sub-Collector All BDOs, Tahasildars, Head of line departments, Police & Fire Dept. etc.	½ day	April 2019	DDMA/ Collector	To be coincided with the first quarter meeting of the DDMA
2	Training programme on heat wave preparedness	All BDOs/ EE RWS &S, CDMO, CDVO, NGOs, etc.	1 day	April 2019	DDMA/ Collector	
3	Hospital preparedness and mass casualty management	Doctors and Hospital Administrators	1 day	April 2019	CDMO	

	including hospital management plan					
4	Training programme on treating heat wave related health issues	Doctors and Paramedical Staff/ ANMs	1 day	May 2019	CDMO	
5	Mass Casualty Management.	Para Medics/Police/ RPF/Home Guard/Fire and Civil Defense/ Railway Officials	1 day	May 2019	DDMA	
	Earth quake resistant construction	Asst. Engineers & JEs	1 day	May 2019	DDMA	
	Post disaster damage assessment	AEs of all Blocks and line departments	1 day	May 2019	DDMA	
	GIS mapping of Utilities	Block Computer Programmers, Line Department MIS officials	1 day	May 2019	DDMA	
	Public health in emergencies- safe drinking water and sanitation	All BDOs, Block and district level officials of PHED/ RWS & S Dept.	1 day	May 2019	CDMO	
	Training of teachers on school safety including DM plan and	Principal/ Head Masters of all Govt. & Private Institutions	1 day	May 2019	DEO	

	conduct of Mock Drills					
	Role of PRIs and ULBs in disaster management.	Members of ZP and ULBs, Chairman & Vice Chairman of PS.	1 day	May 2019	DDMA/ Collector	
	Block level training programmes on role of PRIs in disaster management	Sarapanchas & PS members	1 day	May 2019	BDO	
	Role of NGOs/VOs/CBOs in disaster management.	District and block level NGOs/ VOs involved with district administration in disaster management	1 day	April 2019	DDMA/ Collector	
	Training of ZKSS and BKSS members on basics of disaster management and creating community level awareness for dos and don'ts related to common disasters.	ZKSS and BKSS members	1 day	May 2019	District Culture Officer/ DIPRO	
	Search & rescue and safe evacuation.	Civil Defense Volunteers, NSS, NYK Volunteers, NCC	5 days	June 2019	SP/ Asst. Commandant of the nearest	

					ODRAF unit.	
	Training of Masons on earthquake resistant construction.			June 2019		
	Role of Media in Disaster Management	Media Personal	1 day	June 2019	DIPRO	

Tabletop Exercise:

Each year in the 1st week of April, Collector to organize a tabletop exercise involving all district and block level key officials to assess the emergency response plans for various disasters.

13.3 District/ Block level Mock Drills:

Sl. No.	Type of Mock Drill	Officials/ Institutions to be involved	Month/ Date	Remarks
1	Tsunami	BDO and Line Dept. NGOs and PRI representative	5th September 2018	
2	Flood	BDO and Line Dept. NGOs and PRI representative	19 th June 2019	
3	Cyclone	BDO and Line Dept. NGOs and PRI representative	19 th June 2019	
4	Industrial Accidents/ Industry Specific Mock drills	Factory & Boiler , Industry,	27 th February 2018	

Disaster management Education (School Safety and School Disaster Preparedness):

Sl. No.	Name of the Programme	No. of Schools, Colleges and Other Educational institutions to be covered during the year	Time Line	Remarks

1	Awareness generation and mock drills for fire/ earth quake etc.	2175	By Dember 2019	2175 refresher Complete d by Dec 2019
2	Preparation of School disaster management plan	1837	May By Dember 2019	338 Compl eted by Dec 2019

13.4 Community Capacity Building and Community Based Disaster Management:

Sl. No.	Block Name	No. of vulnerable villages to be covered during 2018-19	No. of VDMC and task force member to be oriented	No. NGOs to be involved in the process	Time line	Remarks
1	Rajnagar	0	249	4	June-December 2019	Tsunami Prone Village and
2	Mahakalpada	0	187	3	-do-	Flood/Cyclone affected village
3	Rajkanika	0	3	1	-do-	Flood/Cyclone affected village
4	Aul	0	3	1	-do-	
5	Garadpur	0	0	0	-do-	
6	Marshaghai	0	0	0	-do-	
7	Pattamundai	0	6	1	-do-	
8	Kendrapara	0				
9	Derabish	0				

[Block wise village list for 2019-19 to be given in 3.2 Volume II of the DDMP]

Capacity building of Cyclone and Flood Shelter Maintenance & Management Committee and Task Force members:

Sl. No.	Name of the Training Programme	Total No. of Persons to be trained	No. of Training Programmes to be organized	Time Line	Remarks if any
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1	Orientation of CSMMC and FSMMC	117	87	Dec	
2	Training of task force members on Search & Rescue and First Aid	117	87	Dec	

Shelter level mock drills:

Sl. No.	Type	No. of Cyclone/ Flood Shelters to be covered	No. of villages to be covered.	Month/ Date
1	Cyclone Mock drill	117	117	19th June
2	Tsunami Mock drill	23	64	5 th September

Chapter – 14**Preparedness****14.1 Relief Lines : District to Blocks**

Sl. No	Name of the Road		Type of Road & Length	Vulnerability of the route (Description of the Vulnerability)	Coverage (Blocks)
	From	To			
1	Kendrapara DHQ	Rajkanika BHQ	MDR(Black topping) about 41km	From Pattamundai to Patrapur Bridge about 3.4 Km and From Achyutpur to Ganja about 2.2 km vulnerable to flood.	Kendrapara, Pattamundai & Aul
2	Kendrapara DHQ	Aul BHQ	MDR(Black topping) about 33km	From Pattamundai to Patrapur Bridge about 3.4 Km vulnerable to flood.	Kendrapara, Pattamundai
3	Kendrapara DHQ	Mahakalpa da BHQ	MDR(Black topping) about 25km	NH was breached about 30 meter in 2006 flood near Gop square due to flood.	Kendrapara
4	Kendrapara DHQ	Garadpur BHQ	ODR(Black topping) about 45 km	Maximum time Road breached near bedari about 500 meter due to flood	Kendrapara

14.2 Relief Line Channels : **Block to GPs & Villages**

Sl. No	Name of the Road		Type of Road & Length in KM	Vulnerability of the route (Description of the Vulnerability)	Coverage (In Nos.)	
	From	To			Village	Population
1	Kendrapara	Ayaba	Black top/Concrete&10	Cyclone	10	30000
2	Kendrapara	Bagada	Black top/Concrete&4	Cyclone	5	1700
3	Kendrapara	Baro	Black top/Concrete&7	Cyclone	7	4200
4	Kendrapara	Bhagabatpur	Black top/Concrete&7.5	Cyclone	6	6000
5	Kendrapara	Bharatpur	Black top/Concrete&5	Cyclone	4	5000
6	Kendrapara	Chakroda	Black top/Concrete&7	Cyclone	5	7000
7	Kendrapara	Chandanpur	Black top/Concrete&13	Cyclone	8	10000
8	Kendrapara	Charigaon	Black top/Concrete&10.5	Cyclone	7	5000
9	Kendrapara	Dhola	Black top/Concrete&7	Cyclone	5	4000
10	Kendrapara	Dhumata	Black top/Concrete&13	Cyclone	7	10000
11	Kendrapara	Gangapada	Black top/Concrete&10	Cyclone	7	6000
12	Kendrapara	Ghagara	Black top/Concrete&11	Cyclone & Flood	8	10000
13	Kendrapara	Gulnagar	Black top/Concrete&2.5	Cyclone	1	1158
14	Kendrapara	Indupur	Black top/Concrete&13	Cyclone	7	13000
15	Kendrapara	Jamdhar	Black top/Concrete&7	Cyclone	3	5100
16	Kendrapara	Kalapada	Black top/Concrete&6.5	Cyclone	4	3500
17	Kendrapara	Kansar	Black top/Concrete&6	Cyclone	4	2500
18	Kendrapara	Kapaleswar	Black top/Concrete&2	Cyclone	2	500

19	Kendrapara	Keshpur	Black top/Concrete&15	Cyclone	15	17000
20	Kendrapara	Koro	Black top/Concrete&7	Cyclone	5	8000
21	Kendrapara	Kuturanga	Black top/Concrete&8	Cyclone	4	5000
22	Kendrapara	Nikirei	Black top/Concrete&10	Cyclone	7	8000
23	Kendrapara	Ostapur	Black top/Concrete&5	Cyclone	3	1000
24	Kendrapara	Palasingha	Black top/Concrete&11	Cyclone	8	11000
25	Kendrapara	Purusottamp	Black top/Concrete&12	Cyclone	4	2500
26	Kendrapara	Sanamantia	Black top/Concrete&12	Cyclone	7	10000
27	Kendrapara	Shyamsundar	Black top/Concrete&2	Cyclone	1	1420
28	Derabish	Balia	Black top/Concrete&10	Cyclone	10	6000
29	Derabish	Barimul	Black top/Concrete&3	Cyclone	4	6000
30	Derabish	Basupur	Black top/Concrete&9	Cyclone & Flood	8	10000
31	Derabish	Benipur	Black top/Concrete&12	Cyclone	8	11000
32	Derabish	Chandol	Black top/Concrete&12	Cyclone	11	12000
33	Derabish	Chatrachaka	Black top/Concrete&7	Cyclone	5	2500
34	Derabish	Chhoti	Black top/Concrete&9	Cyclone	4	6000
35	Derabish	Danpur	Black top/Concrete&12	Cyclone	11	11000
36	Derabish	Endar	Black top/Concrete&14	Cyclone	11	8000
37	Derabish	Golarahat	Black top/Concrete&10	Cyclone	7	5500
38	Derabish	Gualsingh	Black top/Concrete&0.5	Cyclone	1	953
39	Derabish	Harinka	Black top/Concrete&13	Cyclone	14	15000
40	Derabish	Indalo	Black top/Concrete&11.5	Cyclone & Flood	12	9000
41	Derabish	J.B.Mul	Black top/Concrete&14	Cyclone	18	16000
42	Derabish	Kaupada	Black top/Concrete&5	Cyclone	3	2500
43	Derabish	Khamala	Black top/Concrete&8	Cyclone	8	3500
44	Derabish	Kurujanga	Black top/Concrete&6	Cyclone	9	8000
45	Derabish	Kusiapal	Black top/Concrete&2	Cyclone	2	5000
46	Derabish	L.N.Pur	Black top/Concrete&8	Cyclone	8	5000
47	Derabish	Mangalpur	Black top/Concrete&11	Cyclone & Flood	6	8000
48	Derabish	Mukundpur	Black top/Concrete&12	Cyclone	11	9000
49	Derabish	Nahanga	Black top/Concrete&7	Cyclone	6	8000
50	Derabish	Narasinghpur	Black top/Concrete&13	Cyclone	17	10000
51	Derabish	Palei	Black top/Concrete&11	Cyclone	8	8000
52	Derabish	R.K.Sahi	Black top/Concrete&8	Cyclone	9	7000
53	Derabish	Raghudeipur	Black top/Concrete&8	Cyclone	5	9000
54	Marsaghai	Akhuadakhin	Black top/Concrete&8	Cyclone & Flood	6	9000
55	Marsaghai	Angulei	Black top/Concrete&5	Cyclone	3	4000
56	Marsaghai	Antei	Black top/Concrete&11	Cyclone & Flood	10	10000
57	Marsaghai	Ayitipur	Black top/Concrete&13	Cyclone & Flood	9	13000
58	Marsaghai	Bachharai	Black top/Concrete&5	Cyclone & Flood	5	8000
59	Marsaghai	Bandhakata	Black top/Concrete&6	Cyclone & Flood	3	4500
60	Marsaghai	Batira	Black top/Concrete&11	Cyclone & Flood	6	7000
61	Marsaghai	Berunha	Black top/Concrete&7	Cyclone & Flood	4	4500
62	Marsaghai	Dasipur	Black top/Concrete&6	Cyclone	5	3500
63	Marsaghai	Dumuka	Black top/Concrete&3	Cyclone & Flood	3	2000
64	Marsaghai	Garajanga	Black top/Concrete&3	Cyclone & Flood	1	1856
65	Marsaghai	Jalapoka	Black top/Concrete&15	Cyclone & Flood	10	15000
66	Marsaghai	Jamapada	Black top/Concrete&10	Cyclone & Flood	7	11500
67	Marsaghai	Karilopatna	Black top/Concrete&13	Cyclone & Flood	8	12000

68	Marsaghai	Kuhudi	Black top/Concrete&7	Cyclone	2	5500
69	Marsaghai	Mangarajpur	Black top/Concrete&10	Cyclone & Flood	5	4500
70	Marsaghai	Manikunda	Black top/Concrete&4	Cyclone & Flood	1	1074
71	Marsaghai	Marsaghai	Black top/Concrete&0.5	Cyclone & Flood	1	4098
72	Marsaghai	Mehendinaga	Black top/Concrete&7	Cyclone & Flood	5	7000
73	Marsaghai	Parakula	Black top/Concrete&4	Cyclone & Flood	3	4000
74	Marsaghai	Raghabpur	Black top/Concrete&8	Cyclone & Flood	5	7000
75	Marsaghai	Silipur	Black top/Concrete&2	Cyclone	1	4111
76	Marsaghai	Talasanga	Black top/Concrete&5	Cyclone & Flood	4	5500
77	Pattamundai	Alpua	Black top/Concrete&15	Cyclone & Flood	8	21000
78	Pattamundai	Amrutamano	Black top/Concrete&7	Cyclone & Flood	3	5500
79	Pattamundai	Andhara	Black top/Concrete&9	Cyclone & Flood	4	9500
80	Pattamundai	Aradapalli	Black top/Concrete&7	Cyclone	4	4000
81	Pattamundai	Bachhara	Black top/Concrete&3	Cyclone & Flood	1	1363
82	Pattamundai	Badamohanp	Black top/Concrete&11	Cyclone	11	10000
83	Pattamundai	Badamulabas	Black top/Concrete&5	Cyclone	1	677
84	Pattamundai	Badapada	Black top/Concrete&10	Cyclone	4	2500
85	Pattamundai	Balabhadrap	Black top/Concrete&11	Cyclone & Flood	4	4000
86	Pattamundai	Balipatna	Black top/Concrete&3	Cyclone & Flood	1	3055
87	Pattamundai	Baluria	Black top/Concrete&8	Cyclone & Flood	2	4500
88	Pattamundai	Bilikana	Black top/Concrete&12	Cyclone	7	5000
89	Pattamundai	Chandannaga	Black top/Concrete&11	Cyclone	5	1500
90	Pattamundai	Damarpur	Black top/Concrete&9	Cyclone & Flood	6	5000
91	Pattamundai	Dihapada	Black top/Concrete&7	Cyclone	4	2000
92	Pattamundai	Dihudipur	Black top/Concrete&12	Cyclone	9	5000
93	Pattamundai	Dosia	Black top/Concrete&9	Cyclone	5	2500
94	Pattamundai	Gangarampu	Black top/Concrete&8	Cyclone	5	1800
95	Pattamundai	Khadiana	Black top/Concrete&5	Cyclone	2	3000
96	Pattamundai	Khanata	Black top/Concrete&15	Cyclone	9	6500
97	Pattamundai	Narsinghpur	Black top/Concrete&5	Cyclone	1	2129
98	Pattamundai	Nilakanthapu	Black top/Concrete&4	Cyclone & Flood	1	244
99	Pattamundai	Oupada	Black top/Concrete&13	Cyclone	8	4000
100	Pattamundai	Penthapal	Black top/Concrete&11	Cyclone & Flood	4	9000
101	Pattamundai	Sanjaria	Black top/Concrete&10	Cyclone	8	8000
102	Pattamundai	Sansarfal	Black top/Concrete&12	Cyclone	7	6000
103	Pattamundai	Sasan	Black top/Concrete&7	Cyclone & Flood	3	2000
104	Pattamundai	Singhagaon	Black top/Concrete&11	Cyclone & Flood	7	10000
105	Pattamundai	Srirampur	Black top/Concrete&8	Cyclone & Flood	4	5000
106	Pattamundai	Taradipal	Black top/Concrete&13	Cyclone & Flood	5	10000
107	Mahaklapad	Alailo	Black top/Concrete&7	Cyclone	2	1000
108	Mahaklapad	Ameipal	Black top/Concrete&13	Cyclone & Flood	7	8000
109	Mahaklapad	Badakul	Black top/Concrete&7	Cyclone & Flood	6	7500
110	Mahaklapad	Badihi	Black top/Concrete&8	Cyclone	4	5500
111	Mahaklapad	Balipal	Black top/Concrete&5	Cyclone	4	3500
112	Mahaklapad	Baradanga	Black top/Concrete&8	Cyclone	4	4500
113	Mahaklapad	Barakandha	Black top/Concrete&7	Cyclone & Flood	5	3500
114	Mahaklapad	Batighar	Black top/Concrete&20	Cyclone	13	25000
115	Mahaklapad	Baulakani	Black top/Concrete&10	Cyclone & Flood	10	12000
116	Mahaklapad	Bijayanagar	Black top/Concrete&5	Cyclone	4	6500

117	Mahaklapad	Deulipada	Black top/Concrete&3	Cyclone	2	2000
118	Mahaklapad	Gogua	Black top/Concrete&12	Cyclone	5	8000
119	Mahaklapad	Jadupur	Black top/Concrete&8	Cyclone & Flood	3	8000
120	Mahaklapad	Jamboos	Black top/Concrete&15	Cyclone	10	10000
121	Mahaklapad	Jayachandara	Black top/Concrete&8	Cyclone & Flood	4	6500
122	Mahaklapad	Karanja	Black top/Concrete&4	Cyclone & Flood	1	3137
123	Mahaklapad	Kharanasi	Black top/Concrete&15	Cyclone	11	17000
124	Mahaklapad	Khurusia	Black top/Concrete&11	Cyclone & Flood	7	10000
125	Mahaklapad	Mangalpur	Black top/Concrete&2	Cyclone & Flood	3	1500
126	Mahaklapad	Mohakalpada	Black top/Concrete&0.5	Cyclone & Flood	2	1000
127	Mahaklapad	Patalipanka	Black top/Concrete&12	Cyclone & Flood	6	6000
128	Mahaklapad	Rajagarh	Black top/Concrete&7	Cyclone	4	3000
129	Mahaklapad	Ramnagar	Black top/Concrete&13	Cyclone & Flood	12	25000
130	Mahaklapad	Suniti	Black top/Concrete&15	Cyclone	11	13000
131	Mahaklapad	Teragaon	Black top/Concrete&4	Cyclone & Flood	1	1276
132	Mahaklapad	Tikarpanga	Black top/Concrete&10	Cyclone & Flood	6	3000
133	Mahaklapad	Tikhiri	Black top/Concrete&15	Cyclone & Flood	7	9000
134	Rajnagar	Balisahipatna	Black top/Concrete&6	Cyclone & Flood	4	1500
135	Rajnagar	Bandhapada	Black top/Concrete&5	Cyclone & Flood	3	1500
136	Rajnagar	Bramhansahi	Black top/Concrete&6	Cyclone	5	3500
137	Rajnagar	C.B.Mul	Black top/Concrete&8	Cyclone & Flood	6	6000
138	Rajnagar	Dangamal	Black top/Concrete&27	Cyclone	21	12000
139	Rajnagar	Dera	Black top/Concrete&8	Cyclone	7	5500
140	Rajnagar	Gupti	Black top/Concrete&17	Cyclone	16	10000
141	Rajnagar	Iswarpur	Black top/Concrete&19	Cyclone & Flood	12	8000
142	Rajnagar	Kandira	Black top/Concrete&10	Cyclone & Flood	10	8000
143	Rajnagar	Koilipur	Black top/Concrete&5	Cyclone	7	4000
144	Rajnagar	Kurunti	Black top/Concrete&6	Cyclone	3	2000
145	Rajnagar	Mahulia	Black top/Concrete&5	Cyclone & Flood	2	2500
146	Rajnagar	Ostia	Black top/Concrete&7	Cyclone & Flood	6	4000
147	Rajnagar	Rajnagar	Black top/Concrete&0.5	Cyclone & Flood	1	4701
148	Rajnagar	Rangani	Black top/Concrete&27	Cyclone	20	12000
149	Rajnagar	S.B.Gopalpu	Black top/Concrete&2	Cyclone	1	1100
150	Rajnagar	Satabhaya	Black top/Concrete&25	Cyclone	23	10000
151	Rajnagar	Talchua	Black top/Concrete&32	Cyclone	30	8000
152	Rajkanika	Abdulpur	Black top/Concrete&15	Cyclone & Flood	9	11000
153	Rajkanika	Akhulipada	Black top/Concrete&4	Cyclone	6	3000
154	Rajkanika	Baghabuda	Black top/Concrete&1.5	Cyclone	1	1483
155	Rajkanika	Balarampur	Black top/Concrete&4	Cyclone & Flood	2	5000
156	Rajkanika	Baradia	Black top/Concrete&6	Cyclone & Flood	5	2500
157	Rajkanika	Barahadomu	Black top/Concrete&9	Cyclone & Flood	7	7000
158	Rajkanika	Baruna	Black top/Concrete&6	Cyclone & Flood	5	6000
159	Rajkanika	Barunadiha	Black top/Concrete&5	Cyclone & Flood	3	5000
160	Rajkanika	Bharigada	Black top/Concrete&4	Cyclone & Flood	3	3500
161	Rajkanika	Charapada	Black top/Concrete&15	Cyclone & Flood	12	23000
162	Rajkanika	Deulatara	Black top/Concrete&11	Cyclone & Flood	8	11000
163	Rajkanika	Hatasahi	Black top/Concrete&13	Cyclone & Flood	7	12000
164	Rajkanika	Jagulaipada	Black top/Concrete&3	Cyclone & Flood	2	2500
165	Rajkanika	Jayanagar	Black top/Concrete&11	Cyclone	6	3000

166	Rajkanika	Kantapada	Black top/Concrete&0.5	Cyclone & Flood	3	500
167	Rajkanika	katnabania	Black top/Concrete&11	Cyclone & Flood	6	5000
168	Rajkanika	Koilipur	Black top/Concrete&11	Cyclone	8	5500
169	Rajkanika	Koranda	Black top/Concrete&5	Cyclone & Flood	3	3000
170	Rajkanika	Nahuni	Black top/Concrete&5	Cyclone & Flood	4	4000
171	Rajkanika	Namatara	Black top/Concrete&13	Cyclone & Flood	10	15000
172	Rajkanika	Olavar	Black top/Concrete&5	Cyclone & Flood	7	9000
173	Rajkanika	P.H.Patna	Black top/Concrete&9	Cyclone & Flood	8	10000
174	Rajkanika	Padhanapada	Black top/Concrete&15	Cyclone & Flood	10	16000
175	Rajkanika	Panasaganda	Black top/Concrete&18	Cyclone & Flood	11	17000
176	Rajkanika	Pegarapada	Black top/Concrete&6	Cyclone & Flood	4	5000
177	Rajkanika	Siko	Black top/Concrete&6	Cyclone & Flood	4	4000
178	Rajkanika	Siopada	Black top/Concrete&9	Cyclone & Flood	8	10000
179	Rajkanika	Tarasa	Black top/Concrete&3.5	Cyclone & Flood	3	2500
180	Rajkanika	Trailokyapur	Black top/Concrete&8	Cyclone & Flood	6	3500
181	Aul	Aragal	Black top/Concrete&9	Cyclone & Flood	6	9000
182	Aul	Areikana	Black top/Concrete&7	Cyclone & Flood	5	4000
183	Aul	Atala	Black top/Concrete&7	Cyclone & Flood	5	2500
184	Aul	Badambila	Black top/Concrete&6	Cyclone & Flood	6	4500
185	Aul	Balakati	Black top/Concrete&5	Cyclone & Flood	6	5500
186	Aul	Batipada	Black top/Concrete&10	Cyclone & Flood	3	3500
187	Aul	Bhuinpur	Black top/Concrete&5	Cyclone & Flood	3	5500
188	Aul	Chandiagadi	Black top/Concrete&6	Cyclone & Flood	2	5000
189	Aul	Demal	Black top/Concrete&1	Cyclone & Flood	1	1696
190	Aul	Desahi	Black top/Concrete&18	Cyclone & Flood	11	15000
191	Aul	Dimiripal	Black top/Concrete&7	Cyclone & Flood	4	5500
192	Aul	Eradanga	Black top/Concrete&17	Cyclone & Flood	10	11000
193	Aul	Govindpur	Black top/Concrete&14	Cyclone & Flood	7	13000
194	Aul	Juania	Black top/Concrete&13	Cyclone & Flood	6	12000
195	Aul	Kalashpur	Black top/Concrete&9	Cyclone & Flood	4	4500
196	Aul	Ketuapal	Black top/Concrete&16	Cyclone & Flood	8	12000
197	Aul	Koilidiha	Black top/Concrete&7	Cyclone & Flood	6	8000
198	Aul	Mahu	Black top/Concrete&9	Cyclone & Flood	6	5500
199	Aul	Manikapatna	Black top/Concrete&9	Cyclone & Flood	7	5500
200	Aul	Mendhapur	Black top/Concrete&4	Cyclone & Flood	3	3500
201	Aul	Narendrapur	Black top/Concrete&13	Cyclone & Flood	13	18000
202	Aul	Nial	Black top/Concrete&1	Cyclone & Flood	1	1563
203	Aul	Nuapada	Black top/Concrete&13	Cyclone & Flood	11	11000
204	Aul	Padanipal	Black top/Concrete&6	Cyclone & Flood	4	5000
205	Aul	Palimi	Black top/Concrete&18	Cyclone & Flood	14	15000
206	Aul	Patrapur	Black top/Concrete&10	Cyclone & Flood	9	14000
207	Aul	Pethapada	Black top/Concrete&13	Cyclone & Flood	9	12000
208	Aul	Sahira	Black top/Concrete&10	Cyclone & Flood	2	2000
209	Aul	Sanamanga	Black top/Concrete&9	Cyclone & Flood	9	11000
210	Aul	Sansidha	Black top/Concrete&10	Cyclone & Flood	5	8000
211	Aul	Singiri	Black top/Concrete&7	Cyclone & Flood	4	7000
212	Aul	Tunga	Black top/Concrete&2	Cyclone & Flood	2	2000
213	Garadpur	Badabetra	Black top/Concrete&10	Cyclone & Flood	9	8000
214	Garadpur	Bangalpur	Black top/Concrete&8	Cyclone & Flood	8	8000

215	Garadpur	Bantala	Black top/Concrete&7	Cyclone & Flood	7	7000
216	Garadpur	Bedari	Black top/Concrete&6	Cyclone & Flood	4	2000
217	Garadpur	Bhagabanpur	Black top/Concrete&8	Cyclone & Flood	10	9000
218	Garadpur	Garadpur	Black top/Concrete&0.5	Cyclone & Flood	1	1971
219	Garadpur	Kalabuda	Black top/Concrete&3	Cyclone & Flood	4	3000
220	Garadpur	Madhusasan	Black top/Concrete&11	Cyclone & Flood	8	5500
221	Garadpur	Nadiabarei	Black top/Concrete&5	Cyclone & Flood	6	4000
222	Garadpur	Padampur	Black top/Concrete&8	Cyclone & Flood	6	5000
223	Garadpur	Pakhada	Black top/Concrete&4	Cyclone & Flood	1	952
224	Garadpur	Palasuda	Black top/Concrete&9	Cyclone & Flood	7	6000
225	Garadpur	Patkura	Black top/Concrete&3	Cyclone & Flood	3	1000
226	Garadpur	Ramachandr	Black top/Concrete&3	Cyclone & Flood	3	2900
227	Garadpur	Sanaadhanga	Black top/Concrete&6.5	Cyclone & Flood	6	6000
228	Garadpur	Talakusuma	Black top/Concrete&5	Cyclone & Flood	2	3000
229	Garadpur	Tikanpur	Black top/Concrete&3	Cyclone & Flood	5	5000
230	Garadpur	Tyendakuda	Black top/Concrete&13	Cyclone & Flood	11	7500

14.3 Resources available : Response force & Volunteers

Sl. No	Response Force/	Capacity (In Nos.)	No. of trained person			Name of Nodal Person	Contact Details (Mobile/Phone)
			Search /Rescue	First Aid	Relief line Clearance		
1	NDRF(Munduli)	1065	6 teams, 1team =47 persons	6 teams, 1team =47 persons	6 teams, 1team =47 persons	Sh. Jacob Kispotta	09470587743 09437964571 0671-2879710, 2879711
2	ODRAF(6th Bn Cuttack)	43	12(10 person well trained in under water diving)	12	12	Mr. Lingaraj Parida	9861039267, 0671-2442148
3	Police	600	No team	No team	No team	Sri Niti Shekhar, IPS(SP Kendrapara)	9438916260
4	Home Guards	385	No team	15 Trained	15 Trained	Sri Niti Shekhar, IPS(SP Kendrapara)	9438916260
5	Civil Defense	342	83	83	83	Sri Birabhadra Tudu, Asst. Fire Officer	9437935991

6	NCC	100 Boys+50 Girls	Un trained	Un trained	Un trained	Captain. Manoranjan Mohanty	9437742265
7	NSS	1550	Un trained	Trained	Trained	Sri Ramanath Mohanty	8763356758
8	NYK	20	0	12	6	Mr. Abhijit Bose	9777343081
9	Trained Task force	1750	875	875	All 1750 trained	Alok Ray (Comm.Mobiliser) Ranjit Kumar Nayak (Comm.Mobiliser)	9437156076 9938705450
10	Fire	139	Trained	Trained	Trained	Sri Birabhadra Tudu, Asst. Fire Officer	9437935991

14.4 Table__: Satellite phone for communication in emergency preparedness.

Alloted Satellite Phone Numbers

Sl	Districts	Calling Numbers
1	Collector Angul	8991118454
2	Collector Balasore	8991118455
3	Collector Bargarh	8991118456
4	Collector Bhadrak	8991118457
5	Collector Bolangir	8991118458
6	Collector Boudh	8991118459
7	Collector Cuttack	8991118460
8	Collector Deogarh	8991118461
9	Collector Dhenkanal	8991118462
10	Collector Gajapati	8991118463
11	Collector Ganjam	8991118464
12	Collector Jagatsinghpur	8991118465
13	Collector Jajpur	8991118466
14	Collector Jharsuguda	8991118467
15	Collector Kalahandi	8991118468
16	Collector Kandhamal	8991118469

17	Collector Kendrapada	8991118470
18	Collector Keonjhar	8991118471
19	Collector Khorda	8991118472
20	Collector Koraput	8991118473
21	Collector Malkangiri	8991118474
22	Collector Mayurbhanj	8991118475
23	Collector Nabarangpur	8991118476
24	Collector Nayagarh	8991118477
25	Collector Nuapada	8991118478
26	Collector Puri	8991118479
27	Collector Rayagada	8991118480
28	Collector Sambalpur	8991118481
29	Collector Subarnapur	8991118482
30	Collector Sundargarh	8991118483
31	ODRAF Cuttack, OASP 6th Battalion	8991118484
32		8991118485
33	ODRAF Bhubaneswar, OSAP 7th Battalion	8991118486
34		8991118487
35	ODRAF Baripada, OSAP 5th Battalion	8991118488
36		8991118489
37	ODRAF Rourkela, OSAP 4th Battalion	8991118490
38		8991118491
39	ODRAF Koraput, OSAP 3rd Battalion	8991118492
40		8991118493
41	ODRAF Jharsuguda, OSAP 2nd Battalion	8991118494
42		8991118495
43	ODRAF Chatrapur, OSAP 8th Battalion	8991118496
44		8991118497
45	ODRAF Balasore	8991118498
46		8991118499

47	ODRAF Bolangir	8991118500
48		8991118501
49	ODRAF Jagatsinghpur	8991118502
50		8991118503
51	State Fire Office	8991118504
52	Commissioner of Police	8991118505
53	Revenue & DM Deptt.	8991118506
54	Managing Director, OSDMA	8991118507
55	Office of Chief Secretary	8991118508
56	Office of Chief Minister	8991118509
57	Special Relief Commissioner (SEOC)	8991118510
58	Managing Director, OSDMA	8991118511

PROCEDURE FOR USING INMARSAT ISAT PHONE 2(Satellite phone)

- Stand outside with a clear view to the sky with the phone antenna pointing upwards.
- There must be a clear line of sight between the phone's antenna and the satellite.
- Point the antenna towards **South-East** direction.
- Switch on the phone by pressing the Red power button of the phone for few seconds. Until the screen lights up.
- Align the antenna for getting the maximum satellite signal strength (minimum two bars)
- The screen will show "searching for satellite" "registering with network".
- The screen will show "ready for service". Inmarsat name will come in top right corner.
- Then the phone is ready to operate
- Simply dial the desired no:
 - From satellite to landline : Dial **00** + Country code 91+ **STD code (without 0)** + desired **Telephone No**
 - From **Satellite to mobile** : Dial 00 + 91+ Mobile Number
 - From **Satellite to satellite**: 00+ satellite phone number
 - From **Landline**(should have ISD facility) to **satellite**: 00 + satellite phone number
 - From **Prepaid mobile**(should have ISD facility with sufficient balance)to **satellite**: 00 + satellite phone number
- To end the call Press 'red' button

NOTE:A delay in microseconds will be observed so the user is advised to listen to one end and then speak.

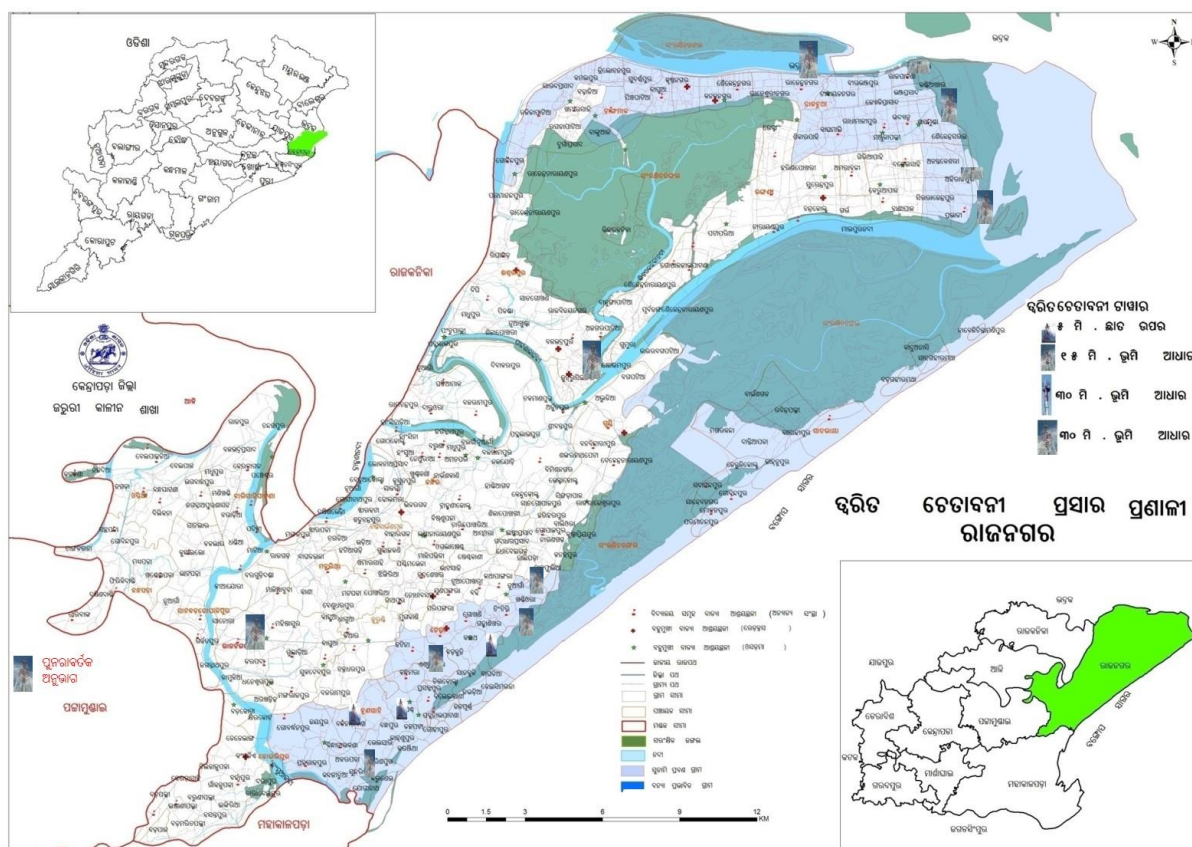
- The user is also advised to **SPEAK SOFTLY** to get better voice quality at the other end.
- Check the Battery. (Display will show a rectangular block that will be filled according to the charge in the battery). Always charge the battery till it gets charged 100%.
- For more detail information please follow the **User Guide document**.



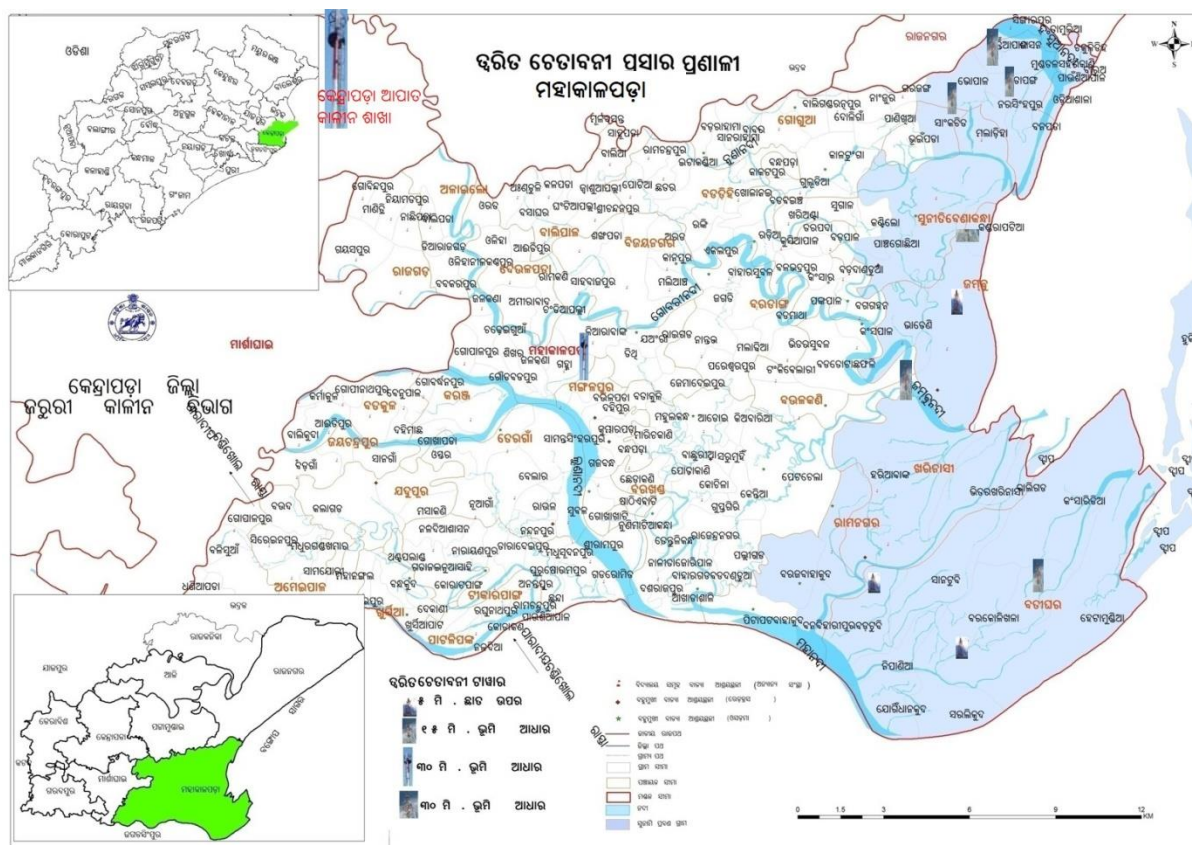
Early Warning Dissemination System:

Early Warning Dissemination System, the first-of-its-kind technology in India, to simultaneously warn coastal communities about impending natural disaster like cyclone, flood and tsunami through siren towers.

Sirens will go off from 20 towers installed along the 48-km-long coast of the district if a button is pressed in the State emergency centre in Bhubaneswar and also it is operationalized from Block Emergency Operation Centre of the two Coastal block of Kendrapara .



Alert Siren System installed at two coastal blocks namely Rajnagar and Mahakalapara of this District



Earth Network for Lightning awareness:

OSDMA in Collaboration with EarthNetwork receive the signal of lightning. In the GIS Cell of OSDMA the area is mapped and transmitted through social media and mobile devices for wide awareness of the people. The aim of the awareness is to reduce the death toll due to lightning. Now Lightning detection warning tower is going to be installed in 14 lightning prone district of Odisha in a project mode. It is also ascertained that due to the awareness the death is reduced to a minimum value during the recent past year.

Community Based Disaster Management/ Village Disaster Management Plan (VDMP):

OSDMA in collaboration with district administration of Kendrapara has done many Disaster Risk Reduction (DRR) activities. After successful completion of the Pilot based project through joint collaboration of UNDP, OSDMA & District of Kendrapara in 4 village of Bramanasahi Gram Panchayat of Rajnagar Block, extends support for doing Village Disaster Management Plan (VDMP) in 550 villages at 1st phase. It will cover total revenue village of Kendrapara district on later phase. The village selection procedure is based on the vulnerability of different natural disaster. It is on the implementing stage. The EoI has opened and work order is given to NGOs who is the key player on preparation of VDMP.

The development of disaster management plan at the village level aims at building the capacity and resilience of the community to equip them with skills so that management of various hazards becomes a way of life for them. The document will help the local community to prepare for and to respond to disaster effectively.

The specific objectives of the VDMP are to:

- involve the local community in the entire planning process.
- create a plan that will enable the immediate deployment of resources in an organized manner during an emergency.

- create a plan that will allow for quick and immediate response in the event of a disaster by the community.
- ensure that there is ownership of the plan within the community
- link the VDMP to the long-term development plan of the village. The hazard specific standard operating procedures and mitigation activities to be carried out by the Disaster Management Teams during each stage of the disaster management cycle must be highlighted in the plan.

14.5 Preparedness at District level:

Task	Activity
District Emergency operation Centre (DEOC)	• Test Checkup of all communication Interfaces in regular interval • Proper manning of the Control Room as per Para-10 of the Odisha Relief Code • A dedicated vehicle is earmarked for Control Room
Upward & Downward Communication	• Have a list of Nodal person with contact details • Establish regular linkages with all important stakeholders • Contact SEOC regularly
Meeting of DDMA (Heads of the department & stakeholder)	• DDMA meets twice every year & before any disaster • Fix time & venue for regular Preparedness meeting to Assess preparedness of District /Department /Civil Society /Block Community /Family /Individual level regularly • Circulate the minutes of the meeting with clear-cut role & responsibility
Capacity Building	• Identifying & designating Nodal Officer for different Dept. • Capacity building & skill up-gradation of ODRAF/Fire services/ Police/Home Guard • Identify Volunteer like Civil Defense/Cyclone shelter Task Force/NCC/NSS/Scout & Guide & train them on Search & Rescue, First aid, evacuation etc. • Take stocks of required materials for search & rescue, first aid, casualty management, evacuation, relief etc. & update IDRN portal regularly • Assess preparedness through Mock drill at District, Block & Community level
Shelter Management	• Take necessary steps for operation & maintenance of shelters • Test Check of various Equipment at shelter level & repair of the defective ones • Ensure regular meeting of Shelter committee • Assess Shelter level preparedness through Mock drill
Planning & Reporting	• Collect & transmit Rain fall data regularly • Collect & transmit weather report regularly • Ensure preparation of Disaster Management Plans & Safety plans at all levels • Capacity building of all Stake holders • Integrate the District plan with block & Village disaster management Plans • Develop healthy media partnership

14.6 Preparedness at Community Level

Task	Activity
Early Warning Dissemination	• Build regular linkages with BEOC & DEOC • Test Check of various Equipment at shelter level & repair of the defective ones • Keep updates from BEOC/DEOC • Monitor & Transmit updates to BEOC • Supply required information to BEOC & DEOC

Ensuring Preparedness	• Have a list of Nodal person deployed in the village with contact details • Identification of safer routes & shelters • Identify possible ways to reach persons like Farmers/Fisherman/NTFP collectors etc. who ventures into fields, sea & forest respectively • Build teams from among the task force on Search & Rescue, First aid, Damage & loss assessment • Assess preparedness at Family/Individual level • Test Check-up of equipment's
	• Understand Local dynamics exposed & vulnerable to different disaster • local Social Economic & weather conditions • Develop Village DM plan • List of emergency contact Nos. & display it in Centre places. • Participate in the activities of Preparing village Disaster Management, developing Safety plans, Capacity building Programmes & Mock Drills

14.7 Preparedness at Family Level

Task	Activity
Warning Communication	• List the minimum Important requirements Keep all the important Documents in a water proof polythene • Record the Safe & alternative routes to shelter • Keep News update in Radio/TV
Preparedness	• Always keep in readiness a “Ready to go Emergency Kit” containing Dry food (for 72 hours x Family member), Drinking water (2ltr/per person per day), Hand wash/soap, Important Documents/Valuables, Whistle/match box/lighter/ torch/battery/ umbrella, Mobile & charger / radio • Family must have a “Ready to go First Aid Kit” containing Iodine/ Band aids/ Cotton/ Medicines/ ORS/ ointments/ scissor/ halogens etc. • Assess preparedness on a regular basis by checking Radio/Mobile/ Emergency Kit/First Aid Kit/Fuels & Kerosene (as per need) • Replace the damaged outdated or expired materials with new ones.
Capacity Building	• Participate & involve in the activities of village disaster Management plan, preparation of Safety plans, participate in Capacity building Programmes & involve in Mock Drills

14.8 Preparedness at Individual Level

Task	Activity
Early Warning Dissemination	- List & keep a ready to go minimum Important requirements - Record the Safe & alternative routes to shelter - Keep News update in Radio/TV
Ensuring Preparedness	- Every individual/children must have a Personal Identity information like a copy of Aadhar card/ Voter ID / School Identity Card & Contact numbers of Preferably two who can be contacted in time of emergency - Family members especially kids must be sensitized about family gathering point during disaster & crowded places - Assess preparedness on a regular basis by checking Radio/Mobile/ Emergency Kit/First Aid Kit/Fuels & Kerosene (as per need)
Capacity development	- Participate & involve in the activities of - Disaster Management - Safety plans - Capacity building Programmes - Mock Drills & FAMEX

14.9 Preparedness of Departments

Name of the Department	Normal Time
Collector/ADM / Emergency Officer	- Ensure regular meetings of District Disaster Management Authority - Develop & update Disaster Management Plan, carry out Hazard analysis in the district - Identify safe alternate routes to cyclone shelters. - Keep a list of Contacts of EoCs, Nodal officer of different departments, Important stake holders, Village leaders, shelters - List of Relief lines & storage places - List & maintenance of SAR equipment - Capacity building of stakeholders & volunteers - Asses preparedness through Mock Drills for different disasters at district department, block & community level - Adopt sustainable mitigation measures - Integrate DM & DRR features in development programmes
CDMO	- Disaster Management Plans & Safety plans for Hospitals - Capacity building of Medical & Para Medical Staffs - Assess preparedness through Mock Drills & familiar exercises - Integrate department plans with plans with Village & Block Plans and development programmes - Develop media partnership - Develop capacity of hospitals with advance equipment, proper manning & disaster resilient infrastructures
Superintendent of Police (SP)	For effective preparedness, the police department must have a clearly defined disaster response plan in order to avoid confusion and improve efficiency in terms of cost and time.

	• Orientation and training for disaster response plan and procedures accompanied by simulated exercises will keep the department prepared for such eventualities. Special skills required during emergency operations need to be imparted to the officials and the staff. Selected personnel can be deputed for training as Nodal Officer or Officer-in-charge at the district level. • To the extent possible preventive measures have been undertaken to improve departmental capacity to respond to a disaster. • Maintain a list of disaster prone areas in the district. • Organize training on hazardous chemicals for police officers to facilitate handling of road accidents involving hazardous materials. • Designate an area within police station to be used as public information centre. • Maintain law and order and provide security to victims in the relief camps and protect their belongings at the disaster site. • In case of manmade disasters, investigation and prosecution procedures has been initiated.
EE- RWSS	• Executive Engineer RWSS be the nodal officer for conducting emergency operations with respect to delivering water and sanitation services. • All Rural Water Supply works in the district are properly maintained in the event of disaster by carrying out timely repairs where ever necessary. • Identify possible existing sources of ground water or surface water. • Coordinate with block on vulnerability analysis. • Procurement and safe storage of essential water and sanitation supplies. • An inventory/check list of water supply and sanitation resources. • Check up the PWS scheme which are prone to disaster.
EE- Irrigation	• There is no substitute for maintaining standards of services and regular maintenance during normal times. This affects the response of the department to any disaster situation. • For effective preparedness, the department must have a disaster response plan or disaster response procedures clearly defined. • Orientation and training for disaster response plan and procedures accompanied by simulated exercises will keep the department prepared for such eventualities. • Designate an official as Nodal Officer -Irrigation at the district level. • To the extent possible, preventive measures are undertaken to improve departmental capacity to respond to a disaster. • Identify flood prone rivers and areas, and activate flood monitoring mechanisms in all flood prone areas from before onset of monsoon at least a month in advance. • Water level gauges are marked on rivers, dams and minor tank structures not having level gauges. • Monitor flood situation – keep the DM, concerned sectors and community well informed. • Monitor and protect irrigation infrastructure. • Restore damaged infrastructure.
DD- Agriculture	• For effective preparedness, the department must have a disaster response plan or disaster response procedures clearly defined. • To the extent possible, preventive measures as recommended in the preparedness and mitigation document should be undertaken to improve departmental capacity to respond to a disaster.

	• Orientation and training for disaster response plan and procedures will keep the department prepared for such eventualities. Special skills required during disaster situations need to be imparted to the officials and the staff. • A suitable person can be deputed as – Nodal Officer Agriculture for coordinating response activities. • To the extent possible, preventive measures are communicated to the community to prevent extensive loss of crops and plantations. • Restore the agricultural operations (including soil conditions). • Crop protection. • Restore agriculture produce market.
EE- Rural Works	• Orientation and training for disaster response plan and procedures accompanied by simulated exercises will keep the department prepared for such eventualities. Special skills required during emergency operations need to be imparted to the officials and the staff. • For effective preparedness, the department must have a disaster response plan or disaster response procedures clearly defined. • To the extent possible, preventive measures are undertaken to improve departmental capacity to respond to a disaster • Suitable officer can be deputed for training as Nodal Officer - Rural works at the district level • Proper formal coordination and liaison mechanism with Road contractors.
EE- Public Works	• There is no substitute for maintaining standards of services and regular maintenance during normal times. This affects the response of the department to any disaster situation. • For effective preparedness, the department must have a disaster response plan or disaster response procedures clearly defined. • Orientation and training for disaster response plan and procedures accompanied by simulated exercises will keep the department prepared for such eventualities. Special skills required during emergency operations need to be imparted to the officials and the staff. • Suitable officer can be deputed for training as Nodal Officer - PWD at the district level. • To the extent possible, preventive measures should be undertaken to improve departmental capacity to respond to a disaster. • Proper formal coordination and liaison mechanism with private builders and colonizers. • Ensuring implementation of BIS codes.
DTO-Telecom	• Identify potential emergency situations. Make references to contingency specific action plans for the same. • To ensure the safety of own building and property. • Regular monitoring of the line department's telecom infrastructure. The telecom Company must ensure that the temporary construction work or retrofitting has been done to the vulnerable buildings. • The telecom department must have the arrangements (vehicles, cables, generator and equipments) to check and rectify the problem. • Power backup for the continuation of the uninterrupted telecommunication signals. • Keep the equipments, telephone, telex, wireless etc. functional and ready.

	• Awareness to the officials for the safety of life, material, equipments and for this placement of the items at safe places
CDVO	• There is no substitute for maintaining standards of services and regular maintenance during normal times. This affects the response of the department to any disaster situation. • For effective preparedness, the department clearly has a disaster response plan or disaster response procedures defined in order to avoid confusion and improve efficiency in cost and time. • Orientation and training for disaster response plan and procedures accompanied by simulated exercises keep the department prepared for such eventualities. • Suitable personnel can be deputed for training as Nodal Officer - Veterinary Services and the District Animal Husbandry Officer as the "Officer-in-charge - Veterinary Services at the site and district level respectively. • To the extent possible, preventive measures should be undertaken to improve departmental capacity to respond to a disaster. • Veterinary Hospital staffs are aware of damage - proof hospital rooms/buildings. • A standby generator is made available for every hospital and at least one kerosene-powered refrigeration unit is made available for storage of drugs. • Treatment of injured cattle. • Protection and care of abandoned/lost cattle.
RTO/MVI	• For effective preparedness the department must have a disaster response plan or disaster response procedures, clearly defined in order to avoid confusion improve efficiency in cost and time. • Orientation and training for disaster response plan and procedures accompanied by simulated exercises will keep the department prepared for such eventualities. Special skills required during emergency operations need to be imparted to the officials and the staff. • To the extent possible preventive measures should be undertaken to improve departmental capacity to respond to a disaster.
DFO-	• Prepare the disaster management plan. • Forest fire prone area to be identified and measures to be taken for its mitigation and prevention. • Organize community awareness programme for forest fire prevention. • Plantation of fodder trees. • Take necessary steps for prevention of forest fire. • Provide the wood and bamboos for reconstruction purpose.
Railway	• restoration of rail line. • Ensuring smooth rail movement for passenger and relief materials.
EE- Electricity	• There is no substitute for maintaining standards of services and regular maintenance during normal times. This determines the response of the department to any disaster situation. • For effective preparedness, the department must have a disaster response plan or disaster response procedures clearly defined. • Orientation and training for disaster response plan and procedures accompanied by simulated exercises, will keep the department prepared for such eventualities.

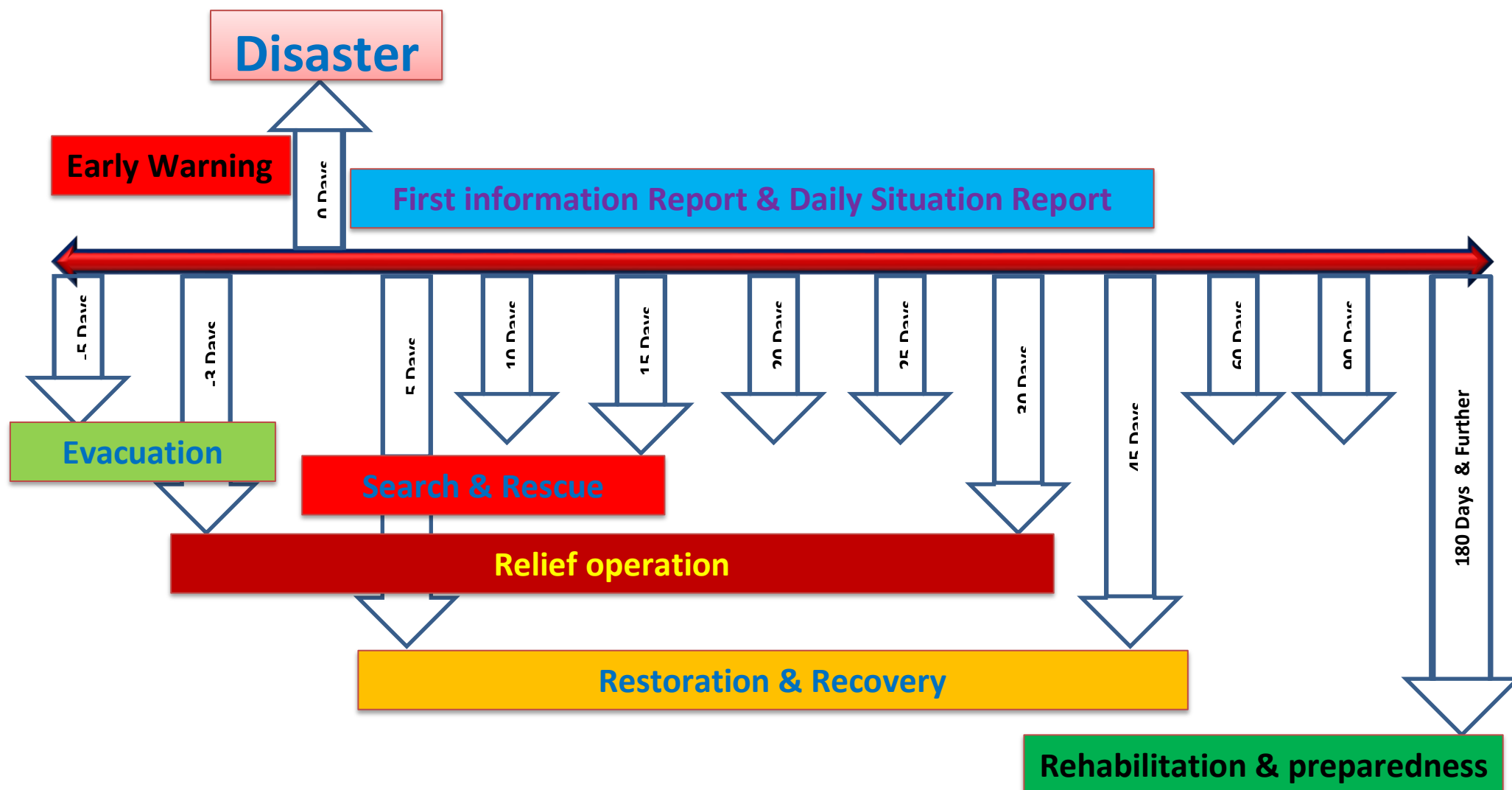
	• Select personnel can be designated as Nodal Officer - Power Supply at the district level. • Establish at each sub-station a disaster management tool kit comprising cable cutters, pulley blocks, jungle knives, axes, crowbars, ropes, Torch with charged batteries, communication tool, hacksaws and spanners. Tents for crews should also be in storage. • Restore the power supply and ensure uninterrupted power either by generator sets or alternate power supply to all vital installations and facilities.
EE – PHD	• Establish the flood and drought warning cell in the Office and a nodal officer for disaster management. • Establish mechanisms for the delivery of safe drinking water, halogen tablets, and bleaching powder in the relief camps/shelters in disaster probable areas. • Establish a contingency fund in the department. • The Department must try to construct hazard specific sanitation so that the available services can be utilized in a proper manner. • Identification of suitable land for solid waste management and awareness in the community on this subject. • Most of the diseases during the emergency are water born vector diseases, keeping community health and hygiene could only be possible through safe drinking water supply and eco-friendly sanitation facility. • Raise prior awareness amongst the community about how to treat water sources, using chlorine tablets, store safe water etc.
DEO- School & Mass Education	• Identify potential emergency situations. Make references to contingency specific action plans for the same. • Ensure that all furniture of the schools are strong enough and can be used as hiding places in case of earthquake. • Ensure that all classrooms have 2 big doors (entry and exit). • Ensure that all staircases are sufficiently big to provide escape routes. • Place sign boards, marks indicating nearest exit routes, safe places, first aid, and other necessary services. • Keep the equipments, telephone, telex, wireless etc. functional and ready. • Awareness to the officials for the safety of life, material, equipments and for this placement of the items at safe places.
DEO - Higher Secondary Education	• Identify Vulnerable locations. • Ensure that all furniture of the colleges are strong enough and can be used as hiding places in case of earthquake. • Ensure that all classrooms have 2 big doors (entry and exit). • Ensure that all staircases are sufficiently big to provide escape routes. • Place sign boards, marks indicating nearest exit routes, safe places, first aid, and other necessary services. • Keep the equipments, telephone, telex, wireless etc. functional and ready. • Awareness campaign with Do's Don'ts.

Chapter 15

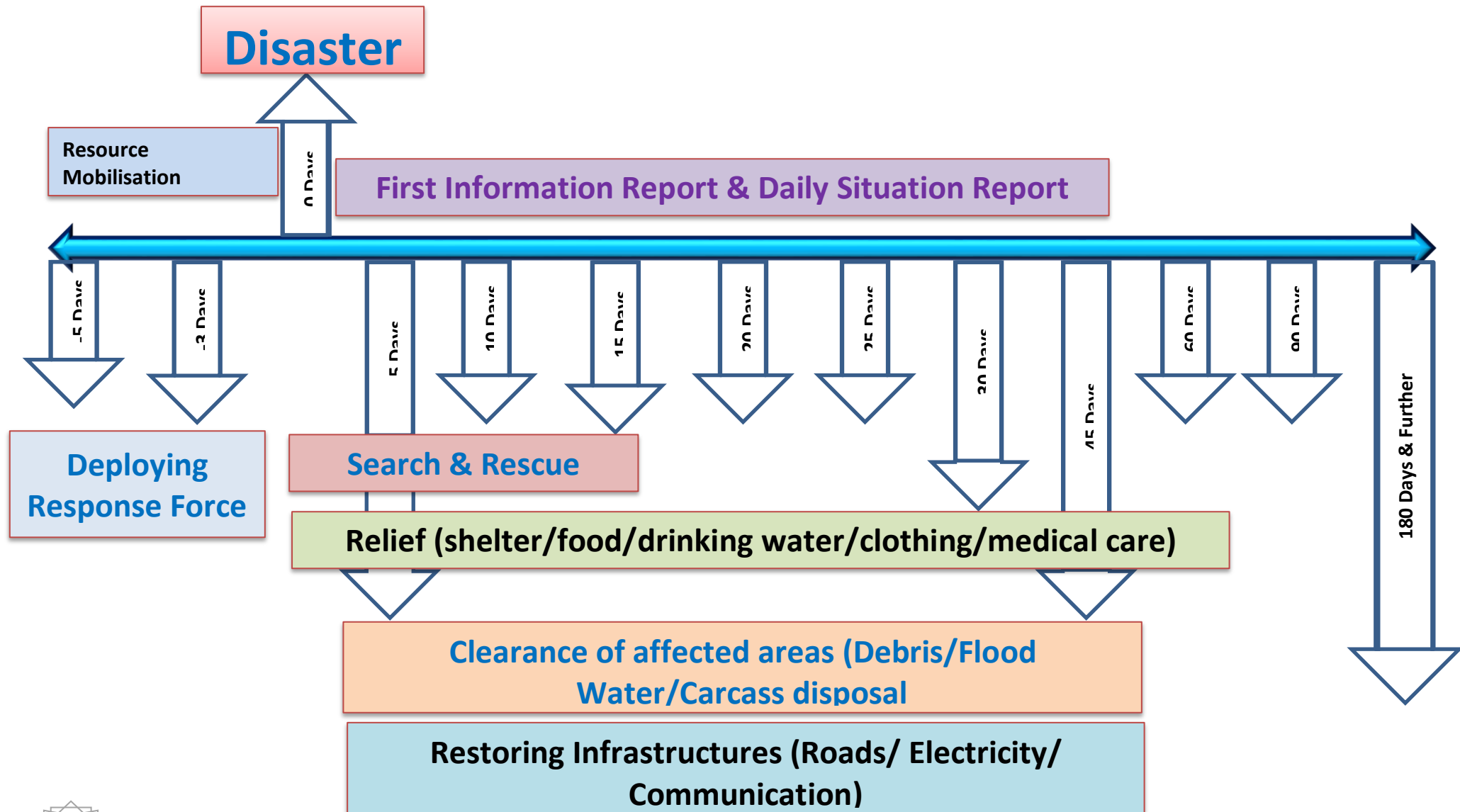
Response

Response refers to activities done for handling disaster to bring the situation to normalcy not exceeding fifteen days from the abatement of disaster. The onset of an emergency creates the need for time sensitive actions to save life and property, reduce hardships and suffering, and restore essential life support and community systems, to mitigate further damage or loss and provide the foundation for subsequent recovery. Effective response planning requires realistic identification of likely response functions, assignment of specific tasks to individual response agencies, identification of equipment, supplies and personnel required by the response agencies for performing the assigned tasks. A response plan essentially outlines the strategy and resources needed for search and rescue, evacuation, etc.

15.1 Phases of Response : Timeline (Indicative)



15.2 Relief Management: Timeline



15.3 Response

Response: District

Task	Activity
Warning Communication	- Warning dissemination to the list of Nodal person & concerned BDOs - Recording the receipt of information & regular Status update - Transmitting updates to SEOC in regular interval as instructed
Meeting of DDMA (Heads of the department & stakeholder)	- Collector to take up a department coordination meeting & distribute works among all the Departments - Collector issues circular to keep Govt. offices open cancelling all holidays. - A fixed time to be finalized every day for reporting at all level. - A nodal officer is identified for media management - Circulate the minutes of the meeting with clear-cut role & responsibility
Pre-positioning of staff, resources & Evacuation	- Identifying & designating Nodal Officer for different stages of disaster & affected areas. - Positioning of ODRAF/NDRF/Fire services/ Police/Home Guard in the affected areas - Pooling Volunteer services (Civil Defense/Task Force/NCC/NSS/Scout & Guide) - Take stock of required materials for search & rescue, first aid, casualty management, evacuation, relief etc. - Make necessary arrangements of shelters for evacuation - Constitute a special team for special care to vulnerable section like Specially abled, Sr. Citizen, Pregnant & lactating women, Infants & children etc.
Response	- EOCs to Ensure back up (Power/Fuel/internet/ Communication at Dist/Dept. & Block levels - Response force under guidance of Nodal officers ensure complete Evacuation (Human/ Animal), carry out Search & Rescue, clear relief lines, - Collector to submit requisition of vehicle/boat/ helicopters & list of support from state & Centre to all concerned authorities - CSO to store required relief materials (Chhuda. Gur, Dry Foods) in the nearby storage points - CDVO to store, transport & distribute required fodders for animals to the affected areas

	• Cyclone shelter committee & Village Disaster management committee to organize free kitchen in the shelters with help of revenue dept. • EE- RWSS & CDMO to ensure supply of drinking water, disinfection of water & maintain Health & hygiene in the shelters • CDMO to carry out First aid & casualty management • Collector to collect & transmit First Information Report (FIR) & Daily Situation Report as per requirement
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15.4 Response : Community Level

Activity
• DEOC to disseminate warning communication to BEOC & Community • Response force to ensure Power/Fuel/internet/ Communication at Shelters back up • Supply Inspectors & Marketing Inspectors to distribute relief materials with response force, Task force & volunteers • Response force to carry out Search & Rescue measures, Emergent relief operation, Relief line clearance, distribution of relief • Doctors to carry out First aid & casualty management, Carcass disposal & sufficient mortuary facility in the affected areas

15.5 Response: Family & Individual Level

Task	Activity
Response	• Listen to the instruction of the response force & warnings • Economic use of “Ready to go Emergency Kit” Ready to go First Aid Kit • Cooperate the response force/officers & Render volunteer service if asked for • Maintain cleanliness & hygiene at shelter

8.7 Format for First Information Report (FIR) on occurrence of natural calamity

(To be sent to Special Relief Commissioner, Orissa within maximum of 18 hours of occurrence of calamity)

From: District - _____ Date of Report:- _____

To

Special Relief Commissioner, Orissa
State Emergency Operation Centre (SEOC),
Rajiv Bhawan, Ground Floor, Unit-5, Bhubaneswar
Fax No: 0674-2534176, E-mail: relief_sr@yahoo.com/src@ori.nic.in

- a. Nature of Calamity
- b. Date and time of occurrence
- c. Affected area (number and name of affected Blocks)
- d. Population affected (approx.)
- e. Number of Persons
 - Dead
 - Missing
 - Injured
- f. Animals
 - Affected
 - Lost
- g. Crops affected and area (approx. in hect.)
- h. Number of houses damaged
- i. Damage to public property
- j. Relief measures undertaken in brief
- k. Immediate response & relief assistance required and the best logistical means of delivering that relief from State/National
- l. Forecast of possible future developments including new risks
- m. Any other relevant information

Authorised Signatory

District Emergency Operation Centre (DEOC)

District:- _____

NB: The Districts will submit a detailed report on each of the above points as soon as possible after submission of the above First Information Report (FIR).

8.8 Daily Status Report on Relief/ Restoration Measures Undertaken By Departments

1. Health Department.

Medical Relief Centres Opened-

Mobile teams deployed-

Wells disinfected-

ORS distributed-

Halogen Tablets distributed-

Minor Ailment Treated-

2.R.D. Department.

Mobile vans deployed-

Water tanker deployed-

ORS powder distributed-

Halogen Tablets distributed-

Water pouches distributed-

Bleaching powder distributed-

Sintex Tanks available-

Tube wells disinfected-

3. FS & CW Department

-Qtls. Chuda, Qtls gur supplied to
Blocks

(Qty .in quintals)

District	Chuda	Gur

- Qtls of rice has been allocated to the Districts mentioned below

Blocks

Quantity allocated (in quintal)

Total:

4. Fisheries & A.R.D. Department

- Animals vaccinated-
- Animals treated-

Damages to Roads/River Embakments

1.R.D. Department.

Roads damaged-
CD/Breach occurred-
Breach closed-
Building damaged-
Building collapsed-
Pipe water supply affected-
Tube Wells affected-

2.Works Department.

Roads damaged-
Breach occurred-
CD works damaged-
CDs washed away-
Breach closed-

3.W.R Department.

Breach occurred-
Breaches closed-

Breach closing works in progress

Rehabilitation & Restoration

Rehabilitation and restoration comes under recovery phase immediately after relief and rescue operation of the disaster. This post disaster phase continues until the life of the affected people comes to normal. This phase mainly covers damage assessment, disposal of debris, disbursement of assistance for houses, formulation of assistance packages, monitoring and review, cases of non-starters, rejected cases, non-occupancy of houses, relocation, town planning and development plans, awareness and capacity building, housing insurance, grievance redress and social rehabilitation etc.

The district is the primary level with requisite resources to respond to any natural calamity, through the issue of essential commodities, group assistance to the affected people, damage assessment and administering appropriate rehabilitation and restoration measures.

The District Disaster management Authority reviews the relief measures submit financial requisition to the state Govt. under SDRF & NDRF. The requisition must reach the SDMA & SRC office in the prescribed format as detailed below for smooth & quick processing.

Damage Loss Assessment

Sector	Damage in Physical terms	Requirement of funds for repair of immediate nature	Out of (3) amount available from annual budget	Out of (3) amount available from related schemes/ programmes / other sources	Out of (3) amount proposed* to be met from SDRF/NDRF as per the list of works indicated in the revised items & norms
1	2	3	4	5	6
Roads & Bridges					
Drinking water Supply works (Rural)					
Drinking water Supply works (Urban)					
Irrigation					
**Power					
Primary Health Centres					
Community assets in social sectors covered by Panchayats					

Farmers affected by successive calamities

Sl.	Name of the Block	Area held by farmers other than SMF (in hectares)	Crop loss > 33%							
			No of Farmers	Irrigated area in hect	Amount spent @ Rs.13,500/- per hect.	Rainfed Area in hect.	Amount spent @ Rs.6800/- per hect.	Perennial Area in hect	Amount Spent @ Rs.18000/ per Hect.	Total Amount Spent
1										
2										
3										
4										
5										
Total										

(Rs. In lakh)

Animal Husbandry (Replacement of Animals)

Name of the Block	No of Livestock / Birds lost					No of animals qualifying for relief grant (i.e., subject to ceiling of 3 large milch animal or 30 small milch animals or 3 large draught animal or 6 small draught animal per household				Expenditure incurred (Milch animals @ Rs.30,000 for large animal , Rs.3000 for small animals & Draught animals @ Rs 25000 for large animal, Rs. 16,000 for small animals)				Poultry @ 50/- per bird subject to a ceiling of assistance of Rs.5000/- per beneficiary household.	Total expenditure (11+12+13+14+15)
	Milch Animal		Draught Animal		Poultry Birds	Milch Animal		Draught Animal		Milch Animal		Draught Animal			
	Buffalo/ Cow	Sheep/ Goat	Camel/ Horse/ Bullock	Calf/ Donkey/ Pony		Buffalo/ Cow	Sheep/ Goat	Camel/ Horse/ Bullock	Calf/ Donkey/ Pony	Buffalo / Cow	Sheep / Goat	Camel/ Horse/ Bullock	Calf/ Donkey/ Pony		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)

Contd..

Assistance for provision for temporary accommodation, food, clothing and medical care

Sl. No.	Name of the district	Average No. (in a day) of relief camps	Average duration of operation of relief camps	Average No. of people accommodated per day in the relief camps	Expenditure incurred on (Rs. in lakh)				
					Tempo- rary accommoda- tion	Food	clothing	Medica l care	Total expen- diture
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
19									
Total									

Extent of damage due to natural calamities

Dist :

Nature and period of natural calamity :

Sl.	Item	Details
1.	Total number of Blocks in the district	
2.	Number and names of Blocks affected	
3.	Number of villages affected	
4.	Population affected (in lakh)	
5.	Total land area affected (in lakh ha.)	
6.	Cropped area affected (in lakh ha)	
	i) Total cropped area affected	
	ii) Estimated loss to crops (Rs. in lakh)	
	iii) Area where cropped damage was more than 33%	
7.	Percentage of area held by SMF	
	i) In the State as a whole	
	ii) In the affected districts	
8.	House damaged	
	a) No. of houses damaged	
	i) Fully damaged pucca houses	
	ii) Fully damaged kutch houses	
	iii) Severely damaged pucca houses	
	iv) Severely damaged kutcha houses	
	v) Partly damaged houses (pucca + kutcha)	
	vi) No. of huts damaged	
	b) Estimated value of damage to houses (Rs. in lakh)	
9.	No. of human lives lost	
	No. of persons with grievous injuries	
	No. of persons with minor injuries	
10.	Animal lost	
	a) No. of big animals lost	
	b) No. of small animals lost	
	c) No. of poultry (birds) lost	
11.	Damage to public properties	
	a) In physical terms (sector wise details should be given – e.g. length of State roads damaged, length of districts roads damaged, length of village roads damaged, No. of bridges damaged, No. of culverts damaged, No. of school buildings damaged etc.)	
	b) Estimated value of the damage to public properties	
	Estimated total damage to houses, crops and public properties	

Chapter-17: Recovery

A series of long-term activities framed to improve upon the repaired activities in the Reconstruction & rehabilitation phase are covered under Recovery phase. Recovery includes all aspects of mitigation and also incorporates the continuation of the enabling process, which assists the affected persons and their families not only to overcome their losses, but also to achieve a proper and effective way to continue various functions of their lives. The Recovery process is therefore a long-term process in which everyone has a role – the Government including the PRI members, NGOs and especially the affected people, their families and the community.

- Preparation of Recovery plan for displaced population, vulnerable groups, environment, livelihoods
- Organise initial and subsequent technical assessments of disaster affected areas and determine the extent of recovery works necessitated in addition to reconstruction & rehabilitation works.
- Evaluate the extent of works under SDRF/NDRF & other sources (damaged infrastructures)
- Explore opportunities for external aids like (International Agencies / Civil Society / Corporate Sector)
- Allocate funds for the stabilisation of the repaired & reconstructed infrastructure.
- Integrate Climate change & Disaster Risk Reduction features in the recovery programmes

The DM & Collector will be the co-ordinator of all Recovery activities in the District. The role of the DM & Collector will be to:

- Generally monitor the management of the recovery process;
- Ensure implementation of the recovery plan by line departments, blocks
- Effective service delivery minimising overlap and duplication;

Chapter- 18

Financial Arrangement

18.1 National Disaster Response Fund (NDRF)

The National Disaster Response Fund (NDRF) has been constituted by the Government of India as per the sub-sections (1) of section (46) of Disaster Management Act, 2005 and recommendation of the 13th Finance Commission. NDRF has been constituted by replacing the National Calamity Contingency Fund (NCCF). It is administered by the National Executive Committee (NEC).

In the event of a calamity of a severe nature when the State Disaster Response Fund (SDRF) is insufficient to meet the relief requirements, additional central assistance is provided from NDRF, after following the laid down procedure. The State Government is required to submit a memorandum indicating the sector-wise damage and requirement of funds. On receipt of memorandum from the State,

- An Inter-Ministerial Central Team is constituted and deputed for an on the spot assessment of damage and requirement of funds for relief operations, as per the extant items and norms.
- The report of the Central Team is considered by the Inter-Ministerial Group (IMG) / A Sub-committee NEC constituted under section 8 of DM act, 2005, headed by the Home Secretary.
- Thereafter, the High Level Committee (HLC) comprising of the Finance Minister, the Agriculture Minister, the Home Minister and the Deputy Chairman, Niti Ayog considers the request of the State Government based on the report of the Central Team recommendation of the IMG thereon, extant norms of assistance and approves the quantum of assistance from NDRF.
- This is, however, subject to the adjustment of 75% of the balance available in the State's SDRF for the instant Calamity.

(Please refer page no.401 of Volume-II for NDRF Items and Norms)

18.2 State Disaster Response Fund (SDRF)

As per the provisions of Disaster Management Act, 2005 sub-section (1)(a) of Section (48) and based on the recommendation of the 13th Finance Commission, the Government of Odisha has constituted the State Disaster Response Fund (SDRF) replacing the Calamity Relief Fund (CRF). The amount of corpus of the SDRF determined by the 13th Finance Commission for each year the Finance Commission period 2010-15 has been approved by the Central Government. The Central Government contributes 75% of the said fund. The balance 25% matching share of contribution is given by the State Government. The share of the Central Government in SDRF is released to the State in 2 installments in June and December respectively in each financial year. Likewise, the State Government transfers its contribution of 25% to the SDRF in two installments in June and December of the same year.

Ministry of Home Affairs, upon being satisfied that exigencies of a particular calamity so warrant, may recommend an earlier release of the Central share up to 25% of the funds due to the State in the following year. This release will be adjusted against the installments of the subsequent year.

As per the Guidelines on Constitution and Administration of the State Disaster Response Fund (SDRF) laid down by the Ministry of Home Affairs, Government of India, the SDRF shall be used only for meeting the expenditure for providing immediate relief to the victims of cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloud burst and pest attack. The State Executive Committee (SEC) headed by the Chief Secretary SEC decides on all matters connected with the financing of the relief expenditure of immediate nature from SDRF.

(Please refer page no.401 of Volume-II for SDRF Items and Norms)

18.3 Chief Minister Relief Fund (CMRF)

Chief Minister's Relief Fund aims to provide assistance to calamities and in distress condition, to indigent persons suffering from critical ailments and to undertake charitable activities for public welfare.

18.3.1 Cases Eligible for Assistance under CMRF

18.3.1.1 Poor and persons in distress: Relief to the poor, including grant and aid (financial or otherwise) to persons in distress.

18.3.1.2 Aged, differently able, orphans, AIDS affected : Assistance for the relief and rehabilitation of the aged, differently able' orphans, HIV/AIDS affected persons/families and those otherwise differently able or incapable of earning their livelihood, by grant and aid (financial and otherwise) and / or maintenance, establishment and support of institutions and homes for the benefit of such persons.

18.3.1.3 Persons affected by calamities or violence: Assistance for relief & rehabilitation of persons affected by natural or man-made calamities, communal violence', naxal violence or public disorder of a serious nature or any other calamity' affecting a family or a community, which deserves extreme compassion and not covered under any existing assistance scheme of State/central Government.

18.3.1.4 Assistance for Rural Development: Financial assistance out of CMRF may also be considered to undertake, promote, aid or otherwise support rural development including any programme for promoting the social and economic welfare of the public in any rural area either directly or through an independent agency following due procedure.

To assist more number of deserving person and for better utilisation of the Chief Minister's Relief Fund, the State Government have delegated powers to the Collectors for sanction of assistance out of CMRF so as to extend such assistance to the deserving persons immediately at the time of their need.

18.4 Release of Funds to Departments and Districts:

Funds required towards pure relief to affected persons / families for natural calamities in shape of emergency assistance, organizing relief camp / free kitchen / cattle camp, agriculture input subsidy and other assistances to affected farmers, ex-gratia as assistance for death cases, grievous injury, house building assistance, assistance to fisherman / fish seed farmers / sericulture farmers, assistance for repair / restoration of dwelling houses damaged due to natural calamities are administered through the respective collectors.

Part funds towards repair / restoration of immediate nature of the damaged public infrastructure are released to the Departments concerned. On receipt of requisition from the Collectors / Departments concerned, funds are released after obtaining approval / sanction of S.E.C. However, funds towards pure relief are released under orders of Special Relief Commissioner / Chief Secretary and the same is placed before the State Executive Committee in its next meeting for approval. To save time, Collectors have been instructed to disburse the ex-gratia assistance from the available cash and record the same on receipt of fund from Special Relief Commissioner.

18.5 Damage Assessments and Report after Flood/Cyclone

Private properties and properties of Government under different Departments are damaged by high floods and cyclones. As per para-75 of Orissa Relief Code, the Collector shall undertake assessment of damages to private properties as well as properties of Government. This assessment shall be done

quickly soon after the abatement of flood in the prescribed formats prescribed in Appendix- X of Orissa Relief Code.

18.5.1 Submission of preliminary damage report (Para-76 of ORC)

1. The Collector as well as the district level officers under each Department of Government shall immediately after assessment of flood damage forward a copy of their report to their immediate Head of Department. The district level officers may also supply reports to the Collector.
2. The Heads of Departments after necessary scrutiny shall forward their reports to their respective Departments of Government with copy to Special Relief Commissioner, not later than two weeks from the date of abatement of flood.
3. The Special Relief Commissioner shall compile the State report and shall furnish the consolidated preliminary report to the Revenue Department within a week of the receipt of the reports from the Heads of Department.
4. The preliminary flood damage report should be prepared as accurately as possible, as the relief measures, if any, are to be based on the merit and statistical data of that report.

18.5.2 Submission of final flood damage report (Para-77 of ORC)

The concerned Heads of Departments as well as the Collector shall take immediate steps to compile the final report on flood/cyclone damage in the formats prescribed in Appendix- X soon after submission of the preliminary report.

Accidental errors, clerical mistakes, shortcomings, if any, noticed should be rectified in the final report. The final report shall be made available to Special Relief Commissioner as soon as possible and not later than one month from the date of abatement of flood.

On receipt of the reports from the different sources, Special Relief Commissioner shall forthwith compile the State report and furnish the same to the Revenue Department.

18.6 Central and State Government programmes and Schemes on Natural Calamities

Mainstreaming Disaster Management in development planning is the most critical component to mitigate disaster risks. That's why it's important to make note of financial resources which are used in the implementation of such programmes and schemes which can lessen the risk from disasters by reducing vulnerability. It is also crucial to build communities resilience to deal with them. Moreover, as mandated by Ministry of Finance & Ministry of Home Affairs on 01st and 03rd June, 2014 respectively, 10 % flexi-fund within the centrally sponsored schemes (CSS) to be utilised, inter alia for mitigation / restoration activities in the event of natural calamities in the sector covered by CSS. Thus, relevant Central Government and State Government funded schemes are identified which are crucial to build over resilience of communities in the context of the district.

Table__ : Different State and Central Government Schemes and Programms

Sl No.	Name of the Scheme	Sector	Nodal Department	Objective of the Scheme
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1	National Agriculture Insurance Scheme (NAIS)/ Rastriya Krishi Bima Yojna (RKBY)	Crop Insurance	Agriculture Insurance Company of India (AICI)	To protect the farmers against the losses suffered by them due to crop failures on account of natural calamities, such as droughts, floods, hailstorm, storms, animal depredation, etc.
2	Janashree Vima Yojna	Life Insurance	Life Insurance Corporation Of India	The objective of the scheme is to provide life insurance protection to the rural and urban poor persons below poverty line and marginally above the poverty line.
3	<i>Biju Krushak Kalyan Yojana (BKKY)</i>	Health Insurance	Director, Agriculture & Food Production (Govt. of Odisha)	<i>to providing health insurance cover to farmers in the Rural Odisha and their families,</i>
4	<i>Rashtriya Swasthya Bima Yojana (RSBY)</i>	Health Insurance	Ministry of Health & family welfare (Govt. Of India)	To provide financial protection against catastrophic health costs by reducing out. .To improve access to quality health care for below poverty line households of pocket expenditure for hospitalization and other vulnerable groups in the unorganized sector.
5	<i>Ahar Yojana</i>	Food	Food & Civil Supplies Govt. Of Odisha	To provide cheap lunch to labourers who travel to big cities in search of work
6	<i>Madhu Babu Pension Yojana (MBPY)</i>	Social Security	Women and Child Development Dept. (Govt. Odisha)	To provide pension to the Old person , destitute & disabled persons in the state.
7	<i>National Family Benefit Scheme (NFBS)</i>	Social Security	Women and Child Development Dept. (Govt. Odisha)	In the event of death of the primary bread earner of families living below the poverty line, the bereaved families are assisted with a financial assistance of Rs. 20,000/-
8	<i>Chief Minister Relief Fund (CMRF)</i>	Social Security	General Administration Dept.(Govt. Of Odisha)	To provide immediate relief to the people in distress of Odisha.
9	<i>Odisha State Treatment Fund (OSTF)</i>	Health	Health & Family Welfare Dept. (Govt. Of Odisha)	Provide financial assistance for treatment of the poor patients suffering from life threatening disorder & diseases.

10	<i>Integrated Child Protection Scheme (ICPS)</i>	Social Security	Ministry of Women and Child Development Dept. (Govt. India)	Aimed at building a protective environment for children in difficult circumstances, as well as other vulnerable children, through Government-Civil Society Partnership
11	Pradhan Mantri Gramin Awaas Yojana (PMGAY)	Housing, Rural	Ministry of Rural Development. (Govt. India)	Provides financial assistance to rural poor for constructing their houses themselves.
12	Integrated Child Development Services (ICDS)	Child Development	Ministry of Women and Child Development Dept. (Govt. India)	Tackle malnutrition and health problems in children below 6 years of age and their mothers.
13	Janani Suraksha Yojana (JSY)	Mother Care	Ministry of Health & Family Welfare Dept. (Govt. Of India)	One-time cash incentive to pregnant women for institutional/home births through skilled assistance.
14	Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)	Rural Wage Employment	Ministry of Rural Development. (Govt. India)	Legal guarantee for one hundred days of employment in every financial year to adult members of any rural household willing to do public work-related unskilled manual work at the statutory minimum wage of Rs. 120 per day in 2009 prices.
15	Swarnajayanti Gram Swarojgar Yojana (SGSY)	Rural Employment	Ministry of Rural Development. (Govt. India)	Bring the assisted poor families above the poverty line by organizing them into Self Help Groups (SHGs) through the process of social mobilization, their training and capacity building and provision of income generating assets through a mix of bank credit and government subsidy.
16	Pradhan Mantri Awas Yojana (PMAY)	Housing	Ministry of Housing and Urban Poverty Alleviation (Govt. India)	To enable better living and drive economic growth stressing on the need for people centric urban planning and development.
17	UJALA Scheme	Replaced "Bachat Lamp Yojana"	Ministry of Power	UJALA - Unnat Jyoti by Affordable LEDs for All. Scheme aims at reducing electricity bills of consumers,

				contribute to the energy security of India and also help in environment protection.
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18.7 Roles of District Planning committee on financial outlay on mainstreaming Disaster Risk Reduction (DRR) in development programs.

Adequate budget, dedicated staff, capacity development, a monitoring framework, and interdepartmental cooperation need to be in place for effective mainstreaming.

- The funding gap between implementation of NAPCC and current scenario is huge. Ability to access and leverage climate change finance is important.
- More attention needs to be paid to the monitoring and measuring of mainstreaming. This should include an assessment of inclusion of gender issues and Below Poverty Line families in climate change planning.
- Risk diversification in the context of unpredictable climate patterns is necessary. The options need to include effective programmes of contingency crop planning, crop diversification including the use of hazard resistant crops as well as promoting supplementary income generation from off-farm and non-farm activities.
- The main obstacle in the path of government departments being able to address climate change concerns is dedicated personnel. Officials need to be highly skilled and trained. Additional qualities that an official needs to have in order to function effectively include empathy and communication.
- Detailed procedures that list the precise steps that are to be implemented in case of an emergency and by whom need to be put into place. This will ensure that systems work irrespective of the calibre of the individual official in position at that time.
- Preparation for a disaster as well as risk reduction should be incorporated into school and college curricula. This step will ensure that citizens who are usually the first on the scene of a disaster are well-equipped to deal with emergencies and also reduce dependence on the National Disaster Response Force.

18.8 Fund provision for disaster preparedness & capacity building

As far as the financial provisions are concerned, the state governments are provided monetary support on six natural calamities, identified by the Finance Commission. The policy and the funding mechanism for provision of relief assistance to those affected by natural calamities are clearly laid down. These are reviewed by the Finance Commission appointed by the Government of India every five years. Financial assistance in the wake of disasters is provided through:

National Disaster Response Fund (NDRF)

The NDRF (earlier known by the nomenclature NCCF) is a Fund constituted under Section 46 of Disaster Management Act, 2005. It covers calamities of cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloud burst and pest attack. NDRF is operated by the Government of India (GoI) for the purpose of providing immediate relief to people affected by the calamities of severe nature, under non-plan expenditure. NDRF is classified in the Public Account in Sub section(b) Reserve Funds not bearing interest of the GoI under the National Disaster Response

Fund major head 8235 – ‘General and other Reserve Funds’ – 119. Funds are to be credited into NDRF in accordance with the provisions of DM Act. Let us have a look at some of these provisions:

- Upon a request made by a state not having adequate balance in its State Disaster Response Fund (SDRF), Ministry of Home Affairs (MHA) or Ministry of Agriculture, as the case may be, will assess whether a case for additional assistance from NDRF is made out under the guidelines and the approved items and norms of assistance under NDRF/SDRF.
- MHA shall oversee the utilization of releases from NDRF for the purposes for which funds have been released and monitor compliance with guidelines of NDRF.
- Upon the approval of High Level Committee (HLC), constituted with members from Ministry of Finance, Ministry of Agriculture, Ministry of Home Affairs, Deputy Chairman Planning Commission, the assistance shall be released by the Ministry of Finance from NDRF to states.
- The actual expenditure out of NDRF should be booked under respective minor heads within major head.
- The Pay and Accounts Office, Ministry of Finance shall release payments to the state governments. The detailed accounts of the Fund shall be maintained by the Controller General of Accounts through the Chief Controller of Accounts, Ministry of Finance.
- The State Executive Committee shall be responsible for ensuring that the expenditure incurred out of funds received under NDRF is in accordance with the items and norms of expenditure of NDRF/SDRF.
- The accounts of NDRF shall be maintained and audited by the Comptroller and Auditor General (CAG) annually. Its report will be submitted to Ministry of Finance and Ministry of Home Affairs.

State Disaster Response Fund (SDRF)

SDRF (which has replaced the earlier Calamity Relief Fund (CRF)) is a Fund constituted under Section 48 (1a) of Disaster Management Act. The SDRF shall be used only for meeting the expenditure for providing immediate relief to the victims of Disasters, as identified for NDRF grant. The SDRF is constituted in Public Account under the Reserve Fund bearing Interest in the Major Head: 8121. The provisions include:

- Of the total contribution indicated by the Thirteenth Finance Commission, GoI will contribute 75 per cent for general category states and 90 per cent for special category states, of the total yearly allocation in the form of a non-plan grant. The balance 25 per cent in case of general category states and 10 per cent in case of special category states will be contributed by the state government concerned.
- The share of GoI to SDRF shall be paid as Grant-in-aid and accounted for in the GoI accounts under the Major Head “3601-Grants-in-aid to state governments – 01 Non-Plan Grants – 109 Grants towards contribution to SDRF”.
- The Annual Report shall, inter-alia, furnish details of expenditure incurred by the state government on each of calamities, for each type of expenditure allowed as per the items and norms of expenditure of SDRF/NDRF so fixed by MHA with the concurrence of Ministry of Finance.
- The State’s SDRF account would distinctly show the receipt of assistance from NDRF apart from the remaining four sources of receipts into the Fund, namely (i) Centre’s share of SDRF, (ii) State’s share of Disaster Response Fund, (iii) Returns on investments, and (iv) Redemption of investments.
- The State government will constitute a State Executive Committee (SEC) according to DM Act and entrust it with responsibility to decide on all matters connected with the financing of relief expenditure of immediate relief from SDRF.
- The accounts of SDRF and investment shall be maintained by Accountant General in charge of accounts of the State. CAG would cause audit of SDRF annually.
- The share of the Central government in SDRF shall be remitted to State governments in two instalments in each financial year. The State governments shall furnish a certificate to MHA and Ministry of Finance indicating that the amount received earlier has been credited to SDRF along with State’s share of contribution, accompanied by a statement giving the up-to-date expenditure and balance amount available in the SDRF.

National, State, District Response Funds

NDMA has made the following recommendations to highlight the disaster management concerns for financial allocations:

- I. Funding of National and State level Mitigation Projects.
- II. Constitution of Disaster Response Fund at the National, State and District Levels.
- III. Constitution of Disaster Mitigation Fund at the National and State Levels.
- IV. Enlargement of the scope of disasters for relief to include some more natural hazards afflicting different parts of the country like frost, cold wave, heat wave, lightning, river and sea erosion. Besides these, it has also been recommended that man-made calamities occurring due to Chemical, Biological, Radiological and Nuclear origins should also be considered.

The Fourteenth Finance Commission (2015-2020) has responded very positively for greater allocation of fund for disaster management (i.e. the allocation of funds for five year is Rs. 4130 crore for Odisha. For the year 2017-18 the allocation budget is Rs. 824 crore for Odisha state. This budget emphasizes maximum for capacity building measure expenditure. The finance commissioner suggested various recommendations to solve the issue in state and district level.

Under section 48 of the Disaster Management Act, 2005, state governments have the responsibility of establishing State and District Disaster Response and Mitigation Funds. The erstwhile State Natural Calamity Relief Fund (NCRF) is to be merged with State Disaster Response Fund. Actions need to be taken at state level for creation of such funds. There is capacity building fund, which is utilized mostly to modernize the ODRAF to fight against disaster.

An alternative mechanism is to be constituted in all the districts of Odisha to tackle the disasters. As the 14th Finance Commission recommends it, District shall set apart 10% of its development fund for disaster preparedness and mitigation measures.

Section 46 to section 49 of Disaster Management Act, 2005 seeks to provide for the constitution of the following funds:

Section 46, Constitution of National Disaster Response Fund

Section 47, Constitution of National Disaster Mitigation Fund.

Section 48, Seeks to provide for the establishment of State & District Disaster Response Fund and Disaster Mitigation Funds.

Section 49, Seeks to enjoin upon every ministry or department of Government of India to make provision of funds in its annual budget for the purposes of carrying out the activities or programmes set out in its Disaster Management Plan.

Section 39 seeks to enjoin upon each department of the State Government to allocate funds for prevention of disaster, mitigation, capacity building and preparedness. Section 50 provides for emergency procurement and accounting norms where as section 66 provides norms for payment of compensation

The district authority gets 100% financial assistance from Govt. of Odisha for carrying out various capacity building activities such as sensitization programmes, trainings, street plays, mock drills etc.

Chapter 19

Lessons learnt and Documentation

Documentation on Managing Cyclone YASS.

YASS cyclone has revived the memories of super cyclone that had struck Odisha in 1999 which had left a devastating effect on the state. About 10,000 people were killed. Compared to

that deadly site, this time fortunately the human casualty was minimal. Thanks to the lessons learnt by the District Administration and the timely and accurate predictions by weather department. This had helped the District administration in taking up elaborate disaster mitigation drills and make all out arrangements for disaster management. Great focus was laid on evacuation of people to safer places. The government certainly needs a pat on the back for taking up the gigantic task of saving lives as a result of which the death toll as of now could be restricted to zero.

But the destruction in terms of damage to property, destruction of tree cover, damage to electricity poles, telephone lines etc was akin to 1999. In fact, when the weathermen predicted that the wind speed would be around 200 kms, people did not believe but when they experienced the fury they were left dumbstruck and the old timers have started dredging the memories of 1999.

The government has clearly demonstrated that the cyclone preparedness in Kendrapara had undergone drastic change. But then what is important now is to analyse the reasons for such natural calamities.

- Need of long-term preparedness/ mitigation activities
- Capacity Building all officials
- Community awareness
- Need of more construction and maintenance of Flood/ Cyclone Shelters
- Assist in drawing up/ updating DM Plans at State/ district levels
- Advise Govt. on planning, policy aspects of DM, damage assessment, evaluation, documentation for learning
- Coordination with non-state actors/other agencies in DM
- Link DM with community safety
- Communication Network.
- Prepositioning of HAM Radio or VHF in all district Offices & Block Offices for communication purpose.
- Identification of places for prepositioning of Cell on Wheels in Dist. Hqs as well as in each Blocks for early restoration of Tele communication networks.
- Safety audit of Govt. buildings, electronic gadgets, etc. removal of LED display screens & High mast street lights, etc. Will be made before any disaster like situation.
- Identification of locations for prepositioning of plasma cutters & hydra for immediate restoration of power supply and clearance of road blockage.
- Provision of Walkie Talkies to all District level officials along with one police personnel for its operation.
- Availability of sufficient foods and drinking water for the persons engaged in restoration works like electricity, drinking water supply, sanitation, etc.
- Separate cells should be opened for coordination of restoration works.
- More numbers of farmers should be included under the Pradhan Mantri Fasal Bima Yojana (PMFBY) for getting benefit during any disaster.
- Building of an extra disaster resilient ward in District Head Quarter Hospital for 200 patients which may be used at the time of any disaster situation.
- Fourteen Mobile Medical Van (1 for DHH & 13 CHCs) with all equipment's should be procured for immediate service to the affected people at the time of disaster.
