



DISTRICT DISASTER MANAGEMENT PLAN NUAPADA DISTRICT



VOLUME-I



SAFETY



**it's a choice
not a chance**

PREFACE

“Disaster is a serious disruption of the functioning of society which poses a significant, widespread threat to human life, health, property or the environment, whether arising from accident, nature or human activity, whether developing suddenly or as the result of long term processes, but excluding armed conflict.”

The District Disaster Management Plan is a key part of an emergency management. It will play a significant role to address the unexpected disasters that occur in the District. The information available in DDMP is valuable in terms of its use during disaster. Based on the history of various disasters that occur in the District, the plan has been so designed as an action plan rather than a resource book. During the time of disaster there will be a delay before outside help arrives. At first, self help is essential and depends on a prepared community which is alert and informed .Efforts have been made to collect and develop this plan to make it more applicable and effective to handle any type of disaster.

The District Disaster Preparedness and Response Plan, includes the facts and figures that have been collected from various formal and informal sources with a view to meet the challenges during any Natural Disaster. Collection and classification of data are to be updated twice in May and November every year.

MESSAGE

I convey my immense pleasure to present the people of Nuapada, “the District Disaster Management Plan 2022-23”. The plan is brief and exhaustive, covering all the aspects under the purview of disaster management. It’s providing necessary information on disaster mitigation, preparedness, response & Re-construction measures helpful for a disaster manager.

A dedicated effort has been made by the District Disaster Management Authority, Nuapada to prepare a comprehensive plan under the stewardship of DPO, OSDMA. We have prepared a complete list of possible disaster in the District, collected the history of disasters, standard operating procedures (SOPs) for each disasters, contact No. of all nodal Officers, List of Shelters & Medical Facilities & a hazard specific crisis management plan with vulnerability analysis of the District.

I sincerely wish that this plan will assist the District a great deal & subsequently reduce the loss of life & property due to the disaster and to achieve the mission of “zero casualty” through successful disaster management.

(Mrs. Swadha Dev Singh (IAS))

Collector, Nuapada

Message



I congratulate the District Disaster Management Authority of Nuapada District for preparing a Comprehensive plan integrating prevention, mitigation, preparedness & response measures for successful disaster management. I am confident that the implementation of this plan will make this District, Disaster resilient.

The plan aim's is to improve the disaster resiliency of the District by integrating disaster risk reduction in to development and by increasing the preparedness to respond to all kinds of disasters successfully. The implementation of the plan requires sincere Co-operation of the line department, as well as the active participation of the Civil Society, Community based Organisations, Communities & the private sector.

I wish all success to the team behind the preparation of DDMP-2022.

**Addl. District Magistrate,
Nuapada.**

Abstract of District Disaster Management Plan-2022-23

Chapter. 1: Introduction

- Aims and Objectives of the DDMP
- Authority for DDMP: Approval & implementation
- Evolution of DDMP in brief: (Evolution, Procedure and Methodology to be followed for preparation of DDMP)
- Stakeholders and their responsibilities
- Plan for review and updating: Periodicity]

Chapter 2 : District Profile

History & Location, Administrative Setup, Climate & Rain fall, Geography, Topography, River System, Demography, Socio- Economic Profile, Critical infrastructure like Anganwadi centres, Schools and other Educational Institutions, Hospitals and Health Centres, Veterinary Hospitals, Police and Fire Stations, Cooperative Societies, Banks and Post offices, Road and Railway network, Cyclone and Flood Shelters, Rain gauge and Automatic Weather Stations.

Chapter3: Hazard, Risk and Vulnerability Analysis

- A brief description of disasters that the District has faced during last 10 years and hazard vulnerability of the District has been mentioned.
- Vulnerability and Risk Assessment related to disasters has been mentioned (Drought Flood vulnerable area of the District)
- Detailed list of vulnerable Villages/Wards.

Chapter 4: Institutional Arrangement

- National Disaster Management Authority (NDMA)
- State Disaster Management Authority
- Organogram of District Disaster Management Authority
- Structure of District Disaster Management Authority
- District Level Committee on Natural Calamity (DLCNC)
- National Disaster Response Force (NDRF)
- Odisha Disaster Rapid Action Force (ODRAF)
- National Legal Service Authority (NALSA)/ State Legal Service Authority (SALSA)/ District Legal Service Authority(DLSA)

Chapter 5: Prevention and Mitigation

Ways & Means to prevent or reduce the impact of various disasters,
Structural Measures & Non Structural Measures

Chapter 6: Climate Change Adaption & Mitigation:**Chapter 7: Inclusive Disaster Risk Reduction**

Chapter 8: Safety of school and child care institutions

Implementation of school policy guidelines 2016, Guideline on school safety policy 2016, NDMA, Category of type of schools, School safety advisory committee. Details of school safety in the District, Disaster management Education, Details of child care institutions

Chapter 9: Forest Fire Management**Chapter 10: Chemical (Industrial), Nuclear and Radiological Disaster****Chapter 11: Biological Disaster and Public Health in Emergencies****Chapter 12: Capacity Building Measures**

Capacity Building of Govt. Officials, PRI Members etc
Periodic mock drills to be organized involving District and block level officials/ institutions to assess the capacity and preparedness to face certain disasters, Disaster management Education for (School Safety and School Disaster Preparedness. Community Capacity Building and Community Based Disaster Management. Capacity building of Cyclone and Flood Shelter Maintenance & Management Committee and Task Force members.

Chapter 13: Preparedness

Relief Lines : District to Blocks , Relief Line Channels : *Block to GPs & Villages*, Resources available : Response force & Volunteers ,
Preparedness at District level, Preparedness at Community Level,
Preparedness at Family Level, Preparedness at Individual Level,
Preparedness of Departments.

Chapter 14: Response

Response refers to activities done for handling disaster to bring the situation to normalcy not exceeding fifteen days from the abatement of disaster.

Phases of Response : Timeline, Relief Management: Timeline, Response at District level, Block level, G.P level, Community level and Individual level.

Chapter 15: Restoration and Rehabilitation

Rehabilitation and restoration comes under recovery phase immediately after relief and rescue operation of the disaster. Like Damage Loss Assessment, Calculation of assistance for agricultural input subsidy, Assistance sought for repair /restoration of damaged house, Assistance for provision for temporary accommodation, food, clothing and medical care etc.

Chapter 16 Recovery

Preparation of Recovery plan for displaced population, vulnerable groups, environment, livelihoods. Allocate funds for the stabilisation of the repaired & reconstructed infrastructure.

Chapter 17 Financial Arrangements

National Disaster Response Fund (NDRF), State Disaster Response Fund (SDRF), Chief Minister Relief Fund (CMRF), Different State and Central Government Schemes and Programms.

Chapter 18: Preparation and Implementation of DDMP

Chapter 19: Lessons learnt and Documentation

- Note: In this chapter lessons learnt from past disaster in the District has been elaborated. Emphasis has been given on what went wrong and what were the best practices during managing any past disaster.
- Documentation process of Past disaster & Case Study

Preparation and Implementation of District Disaster Management Plan

- Procedure for preparation of DDMP as per the DM Act 2005 & Sandai Framework for Disaster Risk Reduction. (DRR)
- Roles of ADM, DEO and Nodal Officers support from other line Departments
- Support of line departments (for providing information)
- Time lines for updating DDMP. (From January to February of every year)

Abbreviations

AAY	India Awas Yojna
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AWCs	Anwanwadi centre
BEOC	Block Emergency Operation Centers
BNRGSK	Bharat Nirmak Rajiv Gandhi Seva Kendra
BSF	Boarder Security Forces
CDVO	Chief District Veterinary Officer
CHCs	Community Health Centre
CIFS	Central Industrial Security Forces
CPMF	Central Paramilitary Forces
CWC	Central Warehouse Corporation
DDA	Deputy Director Agriculture
DDMA	District Disaster Management Authority
DDMP	District Disaster Management Plan
DDMT	District Disaster Management Teams
DEOC	District Emergency Operation Centre
DIP	District Irrigation Plan

DLCNC	District Level Committee on Natural Calamity
DM Act	Disaster Management Act 2005
DRR-CCA	Disaster Risk Reduction and Climate Change Adaptation
FIR	First Information Report
GPDP	Gram Panchayat Development Plan
HH	Households
IEC	Information Education and Communication
IMR	Infant Mortality Rate
IPPE	Intensive participatory Planning Exercises
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MHUs	Mobile Health Unit
MMR	Maternal Mortality Rate
NABARD	National Bank for Agriculture and Rural Development
NDMA	National Disaster Management Authority
NDRF	National Disaster Response Force
NDRFs	National Disaster Response Funds
NEC	National Executive Committee
NFSA	National Food Security Act
NGOs	Non-Government Organisation

NH	National Highways
NRLM	National Rural Livelihood Mission
ODF	Open Defecation Free
ODRAF	Odisha Disaster Rapid Action Force
OSDMA	Odisha State Disaster Management Authority
OSWC	Odisha State Warehouse Corporation
PACS	Primary Agriculture Cooperative Society
PHCs	Public Health Centre
PWD	Person with Disability
RAT	Railway Affected Tank
RAW	Railway Affected Work
RMC	Regulated Market Committee
SDG	Sustainable Development Goal
SDHs	Sub-Divisional Hospital
SDMA	State Disaster Management Authorities
SDRF	State Disaster Response Funds
SDVO	Sub-Divisional Veterinary Officer
SEC	State Executive Committee
VDMC	Village Disaster Management Committee
SLCNC	State Level Committee on Natural Calamity
SoP	Standard Operating Procedure

Chapter –1: Introduction

India has been traditionally vulnerable to Natural Disasters on account of its unique geo-climatic conditions. Floods, drought, cyclone, earthquakes and landslides have been a recurrent phenomenon. About 60% of the landmass is prone to earthquakes of various intensities, about 40 million hectares of land is prone to floods, about 8% of the total area is prone to cyclones which covers around 8000 K.M. stretch of Indian coastline 68% of the area is susceptible to drought. In the past decade, about 4344 people lost their lives and about 30 million people were affected by disasters every year. The loss in terms of private, community and public assets has been astronomical.

The super cyclone of Odisha in October 1999 and the Bhuj Earthquake in Gujarat in January 2001 underscored the need to adopt a multi disciplinary and multi-sectoral approach and incorporation of risk reduction in the development plans and strategies. Over the past couple of years, the Government of India has brought a paradigm shift in the approach to disaster management from relief and rehabilitation to prevention, mitigation and preparedness. The new approach proceeds from the conviction that development cannot be sustainable unless disaster mitigation has to be multidisciplinary spanning across all sectors of development. The new policy also emanates from the belief that investment in disaster mitigation is much more cost effective than expenditure on relief and rehabilitation.

Odisha is vulnerable to multiple natural hazards. Due to its sub-tropical littoral location, the state is prone to tropical cyclones, storm surges and tsunamis. It has a 480 km coastline. There are eleven major river systems in Odisha such as the Subarnarekha, the Budhabalanga &

Jambhira, the Baitarani, the Brahmani, the Mahanadi, the Rushikulya, the Vansadhara, the Nagabali, the Indravati, the Kolab and the Bahuda. Its densely populated areas with heavy load of silt have very little carrying capacity, resulting in frequent floods, only to be compounded by breached embankments. About two-third of the total cultivated area being rain-dependent, drought poses a serious threat at regular intervals in the event of failure of Monsoon. Though a large part of the state comes under Earthquake Risk Zone-II (Low Damage Risk Zone-III (Moderate Damage Risk Zone) covering 44 out of the 106 urban local bodies of the state.

Apart from these, loss of life due to lightning has remained the highest of all natural calamities over the last decade. Heat-wave conditions during summer months also lead to heat-stroke death and other suffering to the people. And its occurrence is not limited to any particular season or month although increased number of fire accidents occurs in the summer months.

Nuapada District has witnesses the devastating affects of Drought, Heat wave, Floods, Fire accidents and lightings. This District is one among the hottest place in the country with the mercury reaching 45⁰C. Besides, numbers of death cases have been recorded in an increasing trend in the District due to lighting and snake bites. Experience showed that the best approach for mitigating disasters or minimizing their impact is to take timely action, which is possible only if the Communities and concerned agencies and organizations in both public and private sectors became agree to undertake risk reduction measures in a sustainable way.

1.1 Overview to Disaster Management Plan

A dangerous condition or events that threaten or have the potential for causing injury to life or damage to property or the environment is called

Hazard. Hazards can be categorized in many ways. But based on their origin, worldwide they are basically grouped in two broad categories.

1. **Natural Hazard:** Hazards with Meteorological, geological or even biological origin.
2. **Human Induced Hazard:** Hazards with Human Caused or Technological origin. It is popularly known as Manmade Disasters.

It is also important to know that natural Phenomena are extreme Climatological, Hydrological or Geological processes that do not pose any threat to human or property. For example, a massive earthquake in an unpopulated area is a natural phenomenon but not a hazard. It is when these natural phenomena interact with human population or fragile areas which cases wide spread damage. The population which are prone to these natural phenomena are called **Vulnerable** to hazards. A disaster is the output of a hazard such as earthquake, flood, landslide or cyclone coinciding with a vulnerable situation, which may include communities, cities or villages. Without vulnerability or hazard there is no disaster. A disaster happens when vulnerability and hazard meet.

India is a vast country and is prone to many hazards. In the meantime, India has experienced the disaster like tsunami in 2008, great earthquakes like Assam-1950, Gujarat-1992, Sikkim-2011, Super cyclones of Odisha 1999, Phalin 2013, unexpected flash flood of Mumbai etc. Considering such situation, Government of India already has passed the Disaster Management Act on 23rd December, 2005 in the Parliament. After this Act, disaster is no more confined to any particular department rather it is confined to all departments. This act enables the state government to form disaster management authority at the state level and make it more effective and specific.

The state of Odisha is highly prone to many hazards like Droughts, Flash Flood, Landslide, Heat wave and Cyclone. The State Disaster Management Authority has been trying to visualize measures to mitigate disaster imparting training and awareness programmes including media and printed documents for public and Govt. Officials, by preparing disaster management plan for any kind of disaster.

Stormy affair: Odisha's encounters with 10 cyclones in two decades

Odisha has encountered 10 cyclones, including the approaching Jawad, in a span of 22 years and the frequency of such natural disasters is on only on the rise.

Odisha has encountered 10 cyclones in a span of 22 years and the frequency of such natural disasters is on only on the rise., The memories of the 1999 super cyclone is still fresh, wind speed of which could not be properly ascertained at the meteorological centre, Bhubaneswar, as the velocity crossed the capacity of the anemometer available then. After the 1999 disaster, which left over 10,000 people dead, the state had experienced another major calamity as cyclone Phailin. It made landfall near Gopalpur in Ganjam district on October 12, 2013, becoming the second strongest tropical cyclone in India since the 1999 one. It had hit Odisha at a wind speed of 260 mph. Twenty-three people were killed in the cyclonic storm after the government set a "Zero Casualty" mission with precautionary measures in place,. Phailin was followed by cyclone Hudhud in 2014 that struck the Visakhapatnam city of Andhra Pradesh on October 12, 2014.

Odisha, too, was affected by Hudhud. More than 60 people lost their lives in Andhra Pradesh, while the casualty count in the state was two. Subsequently, cyclone Titli in 2018 had left authorities in shock, as the weather system had unexpectedly changed its course and entered Gajapati

district, where no major preparations were made to deal with the calamity. Seventy-seven people were killed in Odisha due to heavy rainfall and landslide that accompanied the cyclone. In the year that followed i.e. in 2019, two cyclones Fani and Bulbul -- hit the country's eastern coast, causing extensive damage in Odisha and West Bengal. Fani had reached its peak intensity a day before its landfall and was marked as a high-end Category-4 major hurricane, with maximum sustained wind speed ranging from 209-251 kmph. Cyclone Amphan in 2020 had also claimed lives and damaged property in Odisha and West Bengal. It made landfall near Bakkhali in West Bengal on May 20. It was the first pre-monsoon super cyclone of this century that emerged from the Bay of Bengal. In May this year, Cyclone Yaas hit Odisha's Dhamra and left two people dead.

Shortly after, in September, cyclone Gulab crossed the Odisha-Andhra Pradesh coast, bringing with it heavy rain. The remnants of Cyclone Gulab then gave rise to Cyclone Shaheen, in a unique weather phenomenon. The name Shaheen was given by Qatar. Gulab was proposed by Pakistan. More than 20 people across different states and neighbouring countries died in cyclone Gulab. No death, however, was reported in Odisha, records show. Odisha also faced cyclone Jawad, which is being considered as the first winter cyclone in the state in about 100 years. The system has, however, weakened and may even escape its coast. The former director of Regional Meteorological Centre, Bhubaneswar, Sarat C Sahu, stated that climate change was a major factor for increase in frequency of cyclones. "When sea temperature touches 26.5 degrees celsius or more, it helps a low pressure intensify. In case of Jawad, the sea water temperature was 29 degree celsius. Besides sea pollution could also be another factor that creates an atmosphere suitable for formation of a cyclone," he added.

Administrative arrangement:

The Department of Revenue and Disaster Management is the administrative department for management of disasters. Special Relief Commissioner (SRC) is in charge of response phase of disasters, whereas, Odisha State Disaster Management Authority (OSDMA) deals with preparedness and mitigation aspects. OSDMA provides support to SRC during response phase. At the District level, Collector is the District Relief Officer and Disaster Manager. Block is the lowest unit of relief administration. Block Development Officer and Tahasildar jointly manage relief administration at the lowest level. A State Level Natural Calamity Committee functions under the chairmanship of the Chief Minister for overall supervision and monitoring at the state level. At the District level, District Natural Calamity Committee along with DDMA functions with representation from District level officers and peoples' representatives under the chairmanship of the District Collector for supervision and monitoring.

Coordination and Networking Mechanism

Disaster Management is a multi-agency function. It involves actions by different departments, organization and agencies. In short, it involves almost all departments of the State Government, Central Government, Armed Forces, Civil Society, Corporate Sector, Trader's Organizations, Faith Based Organizations, International Organizations working in the field of disaster response and UN Agencies etc. It is therefore, important that roles and responsibilities of each stakeholder are laid down during normal time and coordination mechanism worked out so that the same works during emergencies. Regular interaction with all the stakeholders is held at least

once in a year. Key stakeholders are also associated with the mock drills to test their preparedness and clarity of roles and responsibility.

Coordination and Networking strengthens the disaster preparedness mechanism to deliver tangible results in a time bound manner. In disaster management, coordination could be on the basis of information, service, support and institutional framework. OSDMA works as the focal point for coordinates with different stakeholders for strengthening the disaster preparedness in the state.

Section 31 of Disaster Management Act 2005 (DM Act) makes it mandatory on the part of District Disaster Management Authority (DDMA) to adopt a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary and expedient for prevention as well as mitigation of disasters. DDMP shall include Hazard Vulnerability Capacity and Risk Assessment (HVCRA), prevention, mitigation, preparedness measures, response plan and procedures These processes are to be incorporated in the developmental plans of the different departments as a preparedness measure to meet the disaster and relief, rescue and rehabilitation thereafter, so as to minimize the loss to be suffered by the communities and are to be documented so that it is handy and accessible to the general public.

1.2 Aims and Objectives of the DDMP:

A. Aims of DDMP

This was an attempt towards evolving a systematic, comprehensive and holistic approach to all disasters, natural as well as man-made. It

was felt that prevention is more cost-effective than post-disaster relief and rehabilitation.

The four pillars of this plan namely:

- a. Culture of preparedness
- b. Culture of Quick response
- c. Culture of Strategic Thinking and
- d. Culture of prevention

B. Objectives of DDMP

- Sustainable reduction of impact of natural and man-made disasters through preparedness at District, Block, Gram Panchayat and Village level.
- To provide effective support and resources to all the concerned individuals, groups and departments in disaster.
- To assist the line departments, block administration, communities in developing compatible skills for disaster preparedness and management
- To identify the areas vulnerable to major types of the hazards in the District.
- To adopt proactive measures at District level by all the govt. departments to prevent disaster and mitigate its effects.
- To define and assign the different tasks and responsibilities to stakeholders during the pre-disaster and post-disaster phases of the disaster.
- To enhance disaster resilience of the people in the District by way of capacity building.

- To have response system in place to face any eventuality to affect or elicit the least possible disruption to the normal life process when dealing with individuals in disaster.
- To ensure active participation by the government administration, communities, NGOs, CBOs and volunteers at all levels making optimal utilization of human and material resources at the time of disaster.
- To develop the standardized mechanism to respond to disaster situation to manage the disaster efficiently.
- To prepare a response plan based upon the guidelines issued in the State Disaster Management Plan so as to provide prompt relief, rescue and search support in the disaster affected areas.
- To adopt disaster resilient construction mechanism in the District by way of using Information, Education and Communication for making the community aware of the need of disaster resilient future development.
- To make the use of media in disaster management.
- Rehabilitation plan of the affected people and reconstruction measures to be taken by different govt. departments at District level and local authority.
- To develop immediate awareness among the people about hazard occurrence and increase their participation in preparedness, prevention, development, relief, rehabilitation and reconstruction process.

The District Disaster Management Plan (DDMP) is the guide for achieving the objective i.e. mitigation, preparedness, response and recovery. This Plan has been prepared to respond to disasters

with sense of urgency in a planned way to minimize human, property and environmental loss.

Authority for DDMP: Approval & implementation

As per Notification No. IVF (OSDMA)-24/20-10- 46209 dtd. 12th November, 2010 of Commissioner-cum-Secretary to Government, Revenue & Disaster Management, Government of Odisha, communicated by Joint Secretary to Government, R & D.M. Department, Odisha, Bhubaneswar, the District Disaster Management Authority of the District of Nuapada has been constituted as per following.

Sl. No.	Designation	Position at DDMA
1	Collector & District Magistrate	Chairperson, ex-officio
2	Chairman, Zilla Parishad	Co-Chairperson, ex-officio
3	Superintendent of Police	Member, ex-officio
4	Chief District Medical Officer	Member, ex-officio
5	The Executive Engineer in-charge of Embankments	Member, ex-officio
6	ADM, in-charge of emergency	Chief Executive Officer, Ex-officio
7	Executive Engineer, Rural development Department	Member
8	Project Director, DRDA	Member
9	Dy. Director, Agriculture	Member

All the members has been communicated on the above notification along with Powers and functions of the Chief Executive Officer of the District Authority communicated by Joint Secretary to Government, R & D.M. Department, Odisha vide Memo No 27167/R&DM dtd.12.7.2010.

1.3 Preparation and Approval of DDMP

The information submitted to all concerned was compiled and report was drafted under the close supervision of DDMA Authorities and members. The draft plan was shared with the officers of the line department to review and seeks suggestions for improvisation of the plan. After necessary modification, the revised plan shared with the members of District Disaster Management Authority (DDMA), Nuapada for final Approval.

1.4 Evolution of DDMP in brief: (Evolution, Methodology followed for preparation of DDMP)

1.4.1 Evolution of DDMP

Poor natural resource base, huge population pressure, inadequate infrastructure and less adaptive capacity of the community are increasing their exposure to these natural hazards. Due to the global climate change the occurrence of natural hazards will be more frequent, the poor community will become more vulnerable and the resultant impact will be more devastating. The disastrous effects of natural hazards cannot be eliminated completely but the miseries can be minimised to a reasonable extent by adoption of appropriate management practices. The present disaster management strategies basically focus on the **relief, rehabilitation, reconstruction and restoration** aspects i.e. **crisis**

management. This approach has been ineffective because response is untimely, insufficient, poorly coordinated and poorly targeted to disaster affected groups or areas, hence often increasing the societal vulnerability to hazards.

Hence, there is an urgent need to adopt a Community Based Disaster Management strategy, where maximum emphasis should be given on **early warning, preparedness, and mitigation** i.e. **risk management** to develop a well informed, better organised and more prepared community resilient to all type of disasters. This approach must include the capacity building of all stake holders, education and awareness generation among the community, IEC campaign on Dos and Don'ts during disasters, development of multi hazard plans, strengthening the existing support system and institution building to ensure sustainability.

Identification of the socio economic profile, natural resource base, opportunities, hazards and their potential impacts of the District and development of various preparedness, response and mitigation strategies to reduce the impact of disasters is the underlying principle for the preparation of District Disaster Management plan. The basic objective of this Action plan is to ensure safety of the lives, properties and livelihood of the people during the disasters. Therefore proper development and effective implementation of an integrated plan addressing each and every aspects of disaster management in Nuapada context is highly essential. The DDMP should not contain some distinct sectorial activities rather it should essentially aim at the holistic approach of disaster mitigation emphasizing on a wide range of multi sectorial activities. Hence a concerted and a coordinated effort of all the departments during the planning, implementation of the plan is of utmost importance.

Since 2010 District Disaster Management Authority (DDMA) has been preparing the DDMP every year with the support of OSDMA under UNDP programme to tackle the various types of disaster in the District. District Emergency Operation Centre (DEOC), Nuapada has been entrusted to prepare the DDMP. Moreover, recent development in Sendai Framework for Disaster Risk Reduction (2015-2030) and Sustainable Development Goal (SDG) focused in mainstreaming of DRR in development planning and programme. But the existing DDMP of the District is lacking of such important aspects of Disaster Management. During 2017, OSDMA has taken special efforts to bridge the gap under straightening of DDMA and SDMA projects. OSDMA developed detailed methodology and templates to update the existing DDMP. Thus, for 2017 and onwards, the DDMP has two parts vis. Volume I which contains the DDMP and Volume II covered relevant statistical figures and annexure.

1.4.2 Methodology

Steps	What is to be done	Who are to be involved	Methodology
I	Review and Analysis	Collector, ADM, Emergency Officer, BDOs, Tahasildars Village community, NGOs/CBOs, Community/Village level workers	<ul style="list-style-type: none"> ▪ Past history of disasters to be discussed and documented ▪ Extent of severity and damage to be recorded ▪ The nature of the Warning issued to be analyzed <p>The nature and extent of the rescue and restoration done, to be revisited</p>

II	Situation Analysis	BDOs, Tahasildars Village community, NGOs/CBOs, Community/Village level workers	<ul style="list-style-type: none"> ▪ Mapping the geography and topography of the risk prone areas, block-wise, GP-wise and village-wise ▪ Demographic details to be recorded ▪ Mapping of the habitation in the concerned areas ▪ The natural resources to be marked on the maps ▪ Listing all the livelihoods and properties ▪ The existing risk prone/ safe infrastructure to be marked on the map
III	Hazard Analysis	BDOs, Tahasildars Village community, NGOs/CBOs, Community/Village level workers	<ul style="list-style-type: none"> ▪ Identification of all possible hazards in the area based on past experience and available records <p>Identification of the most vulnerable areas with relation to threat to life, livelihoods and property</p>
IV	Vulnerability Assessment	BDOs, Tahasildars Village community, NGOs/CBOs,	<ul style="list-style-type: none"> ▪ Locations of the vulnerable areas are to be mapped separately ▪ Identification of the vulnerable people such as,

		<p>Community/Village level workers</p>	<p>the elderly, the disabled, children and pregnant women, families living in thatched houses, fishermen at sea (if any), ailing people, etc.</p> <ul style="list-style-type: none"> ▪ Identification of property or assets which are likely to be affected, such as, cattle and other livestock, kachcha houses, weak structures, pump sets, tube wells and other installations, crops, horticulture and plantations, boats, nets, etc. ▪ Identification of weak points on embankments (if any) ▪ Marking the drainage system in the concerned area
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Preparation of a Disaster Preparedness Plan involves the following steps:

V	Resource Identification	BDOs, Tahasildars Village community, NGOs/CBOs, Community/Village level workers	<ul style="list-style-type: none"> ▪ Identification of the existing resources which may help to reduce risks to life and property ▪ Identification of the safe houses and buildings for shelter and storage ▪ Listing the existing flood/cyclone shelters, if any ▪ Identification of the elevated and up-lands which can act as natural barriers to protect livestock ▪ Listing of the existing health and sanitation facilities ▪ Identification of safe routes for evacuation ▪ Identification of the sources of funds to carry out the preparedness activities.
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1.4.3 Consultation with Dist & Block level Officials

For smooth implementation of the proposed Disaster Preparedness Response/Mitigation, the Plan for involving some institutional at the District level has been prepared. There are various Disaster Management Teams (DMTs) has been formed with distinct roles and responsibilities. (Briefly described in Chapter-4 of this Volume-1)

District Disaster Management Authority (DDMA) is the nodal committee for the disaster management at the District level and it consistent of

representatives of various stakeholders like PRIs (ZP President) Government officials (various departmental heads) NGOs etc. The Collector & District Magistrate is the Chairman of the Committee and the ADM in charge of Emergency, Nuapada is the Chief Executive Officer of the Committee.

1.5 Stakeholders and their responsibilities

At the District level, District Disaster Management Authority, with the District Collector designated as the Response Officer (RO), and other line departments at District HQ are responsible to deal with all phases of disaster management within District. Other technical institutions, community at large, local self-governments, NGOs etc. are also stakeholders of the District Disaster Management Plan.

Roles and Responsibilities of the Collector and District Magistrate

PHASE	ACTIVITIES
Pre-Disaster	<p>Preparedness Before the Disaster:</p> <ul style="list-style-type: none"> ▪ Reviewing and analyzing the calamity situation in the District over the next one-year through a meeting at the District level involving all the departments of the District as well as block levels and the locally active NGOs ▪ Identifying and mapping of disaster prone zones and strategies to stay prepared for the worst. ▪ Ensure proper extension of the disaster preparedness techniques for drought, heat wave, flash flood, epidemics by the concerned department. ▪ Ensure IEC through Emergency section/BDO's /Tahasildars/NGO's /AW centers /Street plays/ Workshops / Wallings.

- Reviewing the DCR and making it functional as per SOP fixed by him (SOP to be prepared earlier)
- Making the DCR well equipped and depute senior officers from time to time to review the receipt of information and dissemination.
- Calling a meeting for NGO co-ordination cell. And discuss issues such as Capacity assessment of different NGOs and ask them to adopt certain vulnerable areas to avoid overlapping and duplicity.
- Preparing a checklist (containing the dos and don'ts) and pass that on to the NGOs
- Ensuring/installing communication system to the inaccessible villages.
- Ensuring proper functioning of warning systems & communication systems.
- Checking stock of the Public distribution system/ICDS and arrangement of the temporary Godowns.
- Checking the Resources with other department such as Police, Fire, Civil Defense and of NSS/NCC/NYK.
- Preparing a list Power Boats already deployed and/or to be deployed on hire during crisis.
- Assigning specific duties to different officers/Sr. Officers at Headquarters and staying in constant touch with them.
- Ensuring Mock drill of the rescue and relief teams.
- Preparing a map showing the location of temporary shelter camps at high elevation with accessibility
- Ensuring formation of GP and village level Disaster Management Committee through Block Development officers.

Dissemination of Warning:

- Receiving Warning from reliable sources and crosschecking them for authenticity.
- Disseminating warning to District level officials /Revenue field functionaries /PRIs & coordination with the Revenue control room
- Keeping the Control Room active round the clock.
- Distributing duties to the District level officials, Sub-collectors, Tahasildars and BDOs.
- Arranging vehicles and public address systems for information dissemination.
- Establishing coordination with the NGOs and other Civil Society Organisations and assigning them duties.
- Asking the people in the vulnerable areas to move to the shelters and to move their domesticated animals to safer places and to cooperate with the volunteers and other officials engaged in similar activities

During
Disaster

Flash Flood & Epidemics

- To co-ordinate with Civil defense, NGOs/CBOs. Police/ Fire Brigade for support during Flash Flood
- Arrangement & Deployment of boats/vehicles etc. for evacuation of people from low lying and marooned areas and administer emergent relief.
- Deployment of police for maintaining discipline and peace keeping during evacuation, relief distribution etc.
- Keeping a record of the affected area and people so as to account for the relief materials needed.
- Procurement and transportation of relief materials to affected areas
- Arrangement of free kitchen in the shelter camps & affected areas and assigning the responsibilities to officials for proper distribution with coordination from NGOs/CBOs
- Distribution of basic medicines and disinfectants to prevent epidemic and ensuring Health care activities by the CDMO in the shelter camps & through mobile Units/Temporary Health in regular intervals
- CDVO through Mobile units/Temporary Health camps in the affected areas
- Ensuring that there is enough storage of food and pure water in the shelters.
- Monitoring all the activities in the affected areas.

Drought & Heat Wave:

- Organizing urgent meeting with key line departments to review the heat wave & drought like situation and the initiatives taken by the department to combat the situation

- Instruct the Labour department to issue circulars to all the departments that are implementing labour intensive work for changing the working time and making provision of drinking water at the work site.
- Coordinate with the RWSS department to prepare its contingency plan to reduce the drinking water crisis during heat wave and drought situation
- Monitor the activities of Blocks, GPs,NGOs etc
- Meeting with the Irrigation, MIP, LI, Watershed department to assess the current water availability and the crop area likely to be saved
- Coordinate with the Agriculture/Horticulture department for timely supply of seeds/ seedlings of suitable variety.
- Monitoring and Supervision of the different Food and Social security schemes of the Govt. to check whether it is reaching the target group or not.
- Providing employment opportunity to the most vulnerable group by initiating FFW/CFW work.

**Post-
Disaster**Short-term Measures:

- Formation of special task force with required equipments.
- Assigning responsibilities for specific areas.
- Damage Assessment
- Temporary supply of food, drinking water and medicines to the shelters and affected areas
- Arrangement for safe shelter for animals.
- Providing temporary arrangements for income generation for the affected people
- Drought resistance short duration paddy seeds to be made available to farmers.
- Encouraging NGOs/INGOs from outside to carry out restoration and reconstruction works
- Ensuring crop insurance
- Supervising all the activities

Long Term Measures

- Immediate restoration of Road communication, Irrigation system, Educational institutions, Govt. Institutions, Electrical installation, Drinking water supply, Construction of IAY houses for the BPL families
- Breach Closure and other Embankment Strengthening activities
- Planning for holistic approach of drought mitigation through Watershed and Watershed plus intervention
- Planning for increasing the irrigation potential of the District through the construction of more Medium and Minor Irrigation Project.

- Meeting with District level officials /Officials at Head quarter and chalk out emergency plan with vulnerable areas and resource list
- Co-ordination meeting of NGOs /PRIs. &Assignment of duties.

Roles and responsibilities of the Additional District Magistrate (A.D.M)

PHASE	ACTIVITIES
<i>Pre – Disaster</i>	<ul style="list-style-type: none"> • Playing a second fiddle to the Collector in all aspects • Ensuring proper dissemination of warning both downward and upward level improper interval of timing. • Ensuring proper functioning of Control room • Deployment of Office in charges of Collectorate in control room round the clock basis.
During Disaster	<ul style="list-style-type: none"> ▪ Arrangement of Vehicles ▪ Keeping the Police and Fire Personnel ready ▪ Keeping staffs at the DCR ready ▪ Deployment of additional staff if necessary ▪ Proper allocation of relief materials to the affected areas ▪ Allocation of officials for proper distribution of relief materials ▪ Supervision of relief distribution
	<ul style="list-style-type: none"> ▪ Keeping liaison with all line departments

<i>Post-Disaster</i>	<ul style="list-style-type: none"> ▪ Restoration of roads, transport and communication systems ▪ Collection of progress report on restoration and reporting to the Govt/SRC/RDC ▪ Periodical visits to the affected areas to supervise the restoration works ▪ Procuring the list of the affected people and property from the BDOs/Tahasildars ▪ Preparing a comprehensive damage report ▪ Allotment of relief materials/financial assistance ▪ Monitoring to make sure that everything is at its place ▪ Coordination with line departments and civil society organizations ▪ Supervision of restoration activities under taken by different voluntary agencies.
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Roles and Responsibilities of the CDMO

PHASE	ACTIVITIES
Pre-Disaster	<p>Preparedness and Warning Dissemination:</p> <ul style="list-style-type: none"> ▪ Stock pilling of Life saving drugs/ORS packets/Halogen tablets on receipt of warning from the Collector/DCR ▪ Transmission of messages to all PHCs to stock medicines and keep the medical staff ready ▪ Disease surveillance and transmission of reports to the higher authorities on a daily basis. ▪ Vaccination. ▪ To obtain and transmit information on natural calamities from the DCR

	<ul style="list-style-type: none"> ▪ Advance inoculation programme in the flood/Cyclone prone areas. ▪ Ensuring distribution of areas of operation among the mobile team. ▪ Pre-distribution of basic medicines to the people who are likely to be affected ▪ Shifting the patients who are in critical situation to the District Hospital ▪ Awareness messages to stop the outbreak of epidemics ▪ Conducting mock drills
During Disaster	<ul style="list-style-type: none"> ▪ Constitute mobile teams and visit the worst affected areas. ▪ Dis-infection of Drinking water sources. ▪ Opening of site operation camps ▪ Regular Health Check up at Shelter camp/Cyclone shelter & affected areas ▪ Assigning responsibilities to the ADMOs/ SDMOs for close monitoring of Health camps.
Post-Disaster	<p>Restoration and Rehabilitation</p> <ul style="list-style-type: none"> ▪ Organization of Health Camps, ▪ Deploying mobile fully equipped and manned Medical vans ▪ Close monitoring of Health camps. ▪ Ensuring adequate quantities of medicine/disinfectants

	<ul style="list-style-type: none"> ▪ Making sure that there is no out break of water borne diseases/Malnutrition ▪ Co-ordination with the District Rehabilitation Committees, other line departments, NGOs /ICDS projects, village committee, PHD, RWSS, etc.
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Roles and Responsibilities of the Superintendent of Police

PHASE	ACTIVITIES
Pre-Disaster	<p>Preparedness and Dissemination of Warning</p> <ul style="list-style-type: none"> ▪ Reception of Warning from the DCR ▪ Communication establishment with District and Block/Tahasil Control rooms and departmental offices within the division. ▪ Alerting the APR force for deployment at the time of calamity ▪ To issue directive to police field functionaries to co-operate with Revenue Personnel in management of Relief operation.
During Disaster	<p>Rescue and Evacuation:</p> <ul style="list-style-type: none"> ▪ Clearance of roads and other means of transportation ▪ Traffic management and patrolling of all highways and other access roads to disaster sites ▪ Making sure that discipline is maintained

	<ul style="list-style-type: none"> ▪ Assistance to District authorities for taking necessary action against hoarders, black marketers and those found manipulating relief material ▪ Co-ordination with fire personnel. ▪ Provision of security in transit camps/feeding centers/relief camps/cattle camps/cooperative food stores and distribution centers ▪ Safe guarding of belongings of evacuees <p>Distribution of Relief:</p> <ul style="list-style-type: none"> ▪ Maintaining laws and order at the Shelters and the relief camps ▪ Coordination with military service personnel in the area ▪ Deploying officers/ police personnel to record death cases ▪ Assisting the community in organizing emergency transport ▪ Assisting the District officials/NGOs in distribution of relief materials. ▪ Providing escorts in transit of relief materials to the relief camps/affected areas.
Post-Disaster	<ul style="list-style-type: none"> ▪ FIR of the disasters, the damages and the death cases. ▪ Assisting in collection of damage statistics of private properties and distribution of assistance such as HB grant/sand-cast subsidies. ▪ Maintaining law and order ▪ Close Coordination with District administration and local/external NGOs in reconstruction and rehabilitation process ▪ Assisting the District authority whenever the need arises

	<ul style="list-style-type: none"> ▪ Periodical visits to the affected areas to ensure law and order
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Roles and Responsibilities of the District Emergency Officer

PHASE	ACTIVITIES
Pre-Disaster	<ul style="list-style-type: none"> ▪ Making sure that everything stays at place in the control room. ▪ Seeing to it that the DDMP and the contingency plan for flood/cyclone reach all the line departments. ▪ Receiving the Warning from SRC/OSDMA and crosschecking them with IMD and in websites for authenticity ▪ Disseminating the warning to the block/Tahasil offices and asking them to disseminate further to reach each and every household. ▪ Deploying the staff of the control room for round the clock alertness. ▪ Making sure that all the shelters receive enough water and food stocks in advance ▪ Establishing contact with all the line depts. Over phone, email, wireless, sat phone and VHF ▪ Procuring all the required resources from all the possible sources. ▪ Regularly updating the information received from the blocks
During-Disaster	<ul style="list-style-type: none"> ▪ Coordinating with all the line departments for rescue and evacuation.

	<ul style="list-style-type: none"> ▪ Checking the stocks with the DCR and asking for more if needed. ▪ Distributing the relief materials to all the places. ▪ Checking every bit of receipt and dispatch of relief items ▪ Establishing round the clock contact with all the depts., BDOs and Tahasildars and with the shelters.
Post-Disaster	<ul style="list-style-type: none"> ▪ Receiving the list of beneficiaries from different blocks and GPs ▪ Crosschecking the list of beneficiaries to avoid fabrication

Roles and Responsibilities of the BDOs and Tahasildars

PHASE	ACTIVITIES
<i>Pre Disaster</i>	<p>Preparedness:</p> <ul style="list-style-type: none"> ▪ Providing authentic information required by the DCR ▪ Preparing a record of previous disasters in the locality and analyzing the effects ▪ Preparing hazard maps of the Block./Tahasil & the GPs in minute details ▪ Mapping the cut off areas with alternate route map. ▪ Identification of shelter places in the maps ▪ Keeping a List of storage Points & facilities available, dealers of foodstuffs. ▪ Keeping a list of vulnerable people and area and weak points on embankments (if applicable)

	<ul style="list-style-type: none"> ▪ Creating a Control Room at the respective level and assignment of duties to the staff. ▪ Pre-positioning of staff for site operation centers. ▪ Uninterrupted communication with the DCR ▪ Arrangement of alternative communication/generator sets, etc ▪ Formation of GP/village level disaster committees and task forces ▪ Arrangement of boats on hire available locally. ▪ Deployment of Boat in the most vulnerable areas. ▪ Organizing awareness camps at GP/village levels
	<p>Dissemination of Warning:</p> <ul style="list-style-type: none"> ▪ Crosschecking with the DCR for the authenticity of the warnings ▪ Arrangement or requisition of Jeeps/Trekkers/ Auto Rickshaw to disseminate received warning information's to the population of vulnerable / weak places ▪ Dissemination of warning/ coordination with District control room. ▪ Warning the people about probable affected areas ▪ Mobilizing the people to leave for identified shelters with their domestic animals and personnel belongings.
During Disasters	<p>Rescue and Evacuation:</p> <ul style="list-style-type: none"> ▪ Deployment of Police/Fire Brigade for search and rescue. ▪ Co-ordination with civil defense/NCC/NSS/Rajya Sainik Board for rescue operation. ▪ Ensuring availability of rescue materials.

	<ul style="list-style-type: none"> ▪ Guiding the evacuees in the identified shelter places and arranging all common needs for them. ▪ Provision of rescue kits. ▪ Clearance of roads and water logging for restoring communication to affected GPs/Villages. ▪ Assisting the District Team in every possible ways ▪ Coordinating with the NGOs/CBOs for rescue work ▪ Mobilizing the local youth to help the rescue team <p>Distribution of Relief:</p> <ul style="list-style-type: none"> ▪ Keeping the record of everything at the shelters ▪ Arrangement of free kitchen in the shelter camps./worst affected areas. ▪ Deploying staff for proper distribution of relief materials ▪ Arrangement of communication system in the worst cut off areas. ▪ Ensuring supply of safe drinking water & health facilities in the effected areas/shelter camps. ▪ Coordination with NGOs/Other voluntary organizations
<p><i>Post-Disaster</i></p>	<p>Restoration and Reconstruction:</p> <ul style="list-style-type: none"> ▪ Collection of damage statistics of PR department properties /ICDS/school buildings etc. ▪ Ensuring just distribution of HB grants and other financial assistance ▪ Provision of temporary income generation activities for the worst affected people ▪ Supervision of Relief operation and restoration work in the affected areas.

	<ul style="list-style-type: none"> ▪ Restoring the transportation and educational institutions on high priority ▪ Helping the local economic activities to come back to normalcy ▪ Provision of grants/loans for the local traders and shop-keepers ▪ Keeping liaison with District administration and other line departments ▪ Ensuring coordination with the RI and G.P/Village committee. ▪ .Co-ordination with NGOs/Civil society organization etc.
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Responsibilities of other Line Departments:

DESIGNATION OF THE OFFICER	DUTIES TO BE PERFORMED IN NORMAL TIME.
Asst. Engineer, Electrical	<ul style="list-style-type: none"> • He should see that the field staff checks the electrical line and replace old materials used in the power supply. • He should see that all had wiring in service connections are rectified. • He should enumerate the diesel sale available and his jurisdiction and keep it available. • He should see that the report regarding cyclone warning should be reported to other subordinate offices. • He should see that trees, branches etc. fall on electrical lines are out and removed.

	<ul style="list-style-type: none"> • The field staff should see that electrical supply in the places where cyclone may be serve is cut off. • The field staff should be in touch with local Tahasildars and inform the situation at frequent intervals. • To provide Diesel generators to hospital water works. Control Room Collector's office in case of failure of powers.
Superintending Engineer Irrigation.	<ul style="list-style-type: none"> • The branches to canal drain bandha to be closed. • The Embankments should be Strengthened. • It should be checked whether the passage bridge and channels are in good condition. • The obstruction in the canals if any should be got removed immediately to be enabling free flow of water. • The bocks and shutters of the canals are to be checked and satisfied that they are in good condition. • The instruments and materials etc. required attending to immediate repairs breach of closures etc. should be stacked at places where they may be required locating such places early. • Navigation in the canal should be stopped. • Water supply in to canals should be out off by closing the sluices. • The canals and drains should be free from constructing and they should be made available for free discharge of drain water.
Fire officers	<ul style="list-style-type: none"> • The Fire Engineers should alert and other vehicles should be kept in good working condition.

	<ul style="list-style-type: none"> • Materials required for use in emergency should be indented for and kept in reserve • Message received from public on disaster for help should be immediately attended. • Keep in touch with each of the other fire stations in the District.
Executive engineer roads and buildings	<ul style="list-style-type: none"> • Govt. buildings should be inspected and necessary repairs to be got executed to with standing hazards affected. • Script for slides, pamphlets, and cultural programmers should be got prepared immediately. • Arrangements should be made to obtain poster and films by addressing the Director through the Collectors. • Public addresses equipment should be obtain kept ready. • The community Radio sets available in the coastal villages should be ascertained • The names of Hamlets where they are not available to be reported. • The public should be fully educated regarding the precautionary measures & after cyclone through available media. • Specific duties should be assigned to the field staff. • The field staff should proceed to the place of work allotted and be ready to attend to cyclone duty.

RTO & MVI C.S.O. D.M.(Tel)	<ul style="list-style-type: none"> • List of vehicles running condition to be requisitioned kept ready. • The MVI/Asst. MVI will report before A.D.M. (Relief) • The Asst. Engineer & Jr. Engineers will remain alert. • Based on the experience on the previous cyclone sufficient no. of trucks should be procured and kept in District head quarters. • To contact all Block Control Room and Collector's Office.
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Local Authorities have the following duties:

- i. To provide assistance to the District Collector in disaster management activities.
- ii. To ensure training of its officers and employees and maintenance of resources so as to be readily available for use, in the event of a disaster.
- iii. To undertake capacity building measures and awareness and sensitization of the community
- iv. To ensure that all construction projects under it conform to the standards and specifications laid down.
- v. Each department of the Government in a District shall prepare a disaster management plan for the District. The local authorities need to ensure that relief, rehabilitation and reconstruction activities in the affected area, within the District, are carried out.
- vi. Trust / Organisations managing Places of Worships & Congregation
 - a. Each establishment / organisation identified as —critical infrastructure and key resourcell,

- b. Including places of congregation in a District shall prepare –on-site and –off-site
- c. Disaster management plan. Carry out mitigation, response, relief, rehabilitation and
- d. Reconstruction activities.

Private Sector:

- The private sector should be encouraged to ensure their active participation in the pre-disaster activities in alignment with the overall plan developed by the DDMA or the Collector.
- They should adhere to the relevant rules regarding prevention of disasters, as may be stipulated by relevant local authorities.
- As a part of CSR, undertake DRR projects in consultation with District collector for enhancing District's resilience.

Community Groups and Volunteer Agencies:

- Local community groups and voluntary agencies including NGOs normally help in prevention and mitigation activities under the overall direction and supervision of the DDMA or the Collector.
- They should be encouraged to participate in all training activities as may be organized and should familiarise themselves with their role in disaster management.

Citizens:

It is the duty of every citizen to assist the District Collector or such other person entrusted with or engaged in disaster management whenever demanded generally for the purpose of disaster management.

1.6 Plan for review and updating: Periodicity

The approved plan is to be implemented by the concerned line department. Each department needs to train their personnel so that they have the knowledge, skills and abilities needed to perform the tasks identified in the plan. Activities identified for each department at various stages of disaster should be followed judiciously. At the same time the plan to be reviewed periodically to determine whether the goals, objectives, decisions, actions and timing outlined in the plan led to a successful response. DM Plan requires regular improvement and updating at least once a year. The DDMP, 2022-23 prepared by the DEOC, Nuapada will be upgraded every year and will continue to be done. The DDMA will sit at least twice a year to effect regular improvements or remove bottlenecks in the Disaster Management Plan.

The following aspects need to be considered while reviewing and updating the plan after the following events:

- a) A major incident.
- b) A change in operational resources (e.g., policy, personnel, organizational structures, Management processes, facilities, equipment).
- c) A formal update of planning guidance or standards.
- d) Major exercises.
- e) A change in the District's demographics or hazard or threat profile.

f) The enactment of new or amended laws or ordinances.

The DDMP will be printed and circulated every year by the DEOC, Nuapada to the line departments. The same will also be uploaded on District website and website of OSDMA for different stake holders. Awareness campaigns, capacity building and trainings are organized and such information on disaster preparedness is disseminated to all the stake holders. DEOC collect information on occurrence of disasters as well as render necessary advisory to the information seekers. The responsibility for the coordination of the development and revision of the basic plan, annexes, appendices and implementing instructions is assigned to DEOC under the guidance of District Magistrate/Addl. District Magistrate of the District.

Chapter-2 District Profile

2.1 Brief History

Nuapada district was created on 1st April 1993 by carving out the Nawapara Sub Divisions of undivided Kalahandi district with an area of **3408 Sq. KMs** consisting of **5** Community Development blocks, **5** tehsils, **3** NACs, **131** GPs and **667** revenue villages. It is one of the western located districts in Odisha. It lies between 82° 20' to 82° 53' East longitude and between 20° 0' to 21° 5' North latitude. The geographical area of the district is **2.47%** of the total area of the state. The district shared its boundary by the Baragarh district in north, Kalahandi district in south, Nuapada district in the east and Chhatishgarh state in the west.

2.2 Geography

2.2.1 Location & Geographical Area

The District of Nuapada is situated in the western part of Odisha. The District finds its circumferential limits within 29°09" and 21°05" North Longitude and 82° 41 to 83°42" East Latitude and is situated in the valley of rivers Ang and Tel, which are having important tributaries like Lanth, Sonegarh and Suktel. The western and north western boundary formed by the magnificent range of hills known as Gandhamardan with an average height of 3000 feet which separates the District from Sambalpur and Kalahandi. It is surrounded on the North by Bargarh and Subarnapur, East by Subarnapur and Boudh, South by Kalahandi and West by Balangir District. The state of Madhya Pradesh also remains in the western border. The district has an area of 3852 sq.Kms. and 61.04 lakhs of population as per 2011 census. The district accounts for 2.47 percent of the states territory and shares 1.45 percent of the states population. The density of

population of the district is 158 per sq. Kms.. as against 270 person per sq.km of the state. It has 668 villages (including 12 un-inhabited villages) covering 5 blocks. 5 Tahasils and 1 Subdivisions. As per 2011 census the schedule caste population is 82159 (13.5 %) and schedule tribe population 206327 (33.8 %). The literacy percentage of the district covers 57.3 against 72.9 of the state

2.2.2 Climate & Rain fall:

The district is experiencing a hot and dry climate. The summer is extremely hot and the temperature may go up to 48 degree centigrade jeopardizing the normal functioning of lives. The barren hills and hillocks and the exposed landmass further intensify the problem. Heat wave and acute drinking water shortage are the common features of the summer months. Similarly the winter is also cool and dry.

Nuapada enjoys an average annual rainfall of 1286.4 mm and the majority of the rainfall occurs during the monsoon season i.e. from June to September. Over the years, indiscriminate tree felling and local climate change has resulted a serious negative impact on the normal rainfall of the district. In the last thirty and forty years, the distribution of rainfall has become more erratic and amount of rainfall is continuously declining. This erratic behaviour of monsoon both in terms of time and space has resulted a perennial drought like situation in the district. **(In MM)**

Year	January		February		March		April		May		June	
	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual
2013	12	0	14.6	0	19.7	4	21.8	10.22	31.2	19.4	210.3	231.92
2014	12	0	14.6	0	19.7	28.34	21.8	8.1	31.2	158.56	210.3	138.08
2015	12	0	14.6	0	19.7	2	21.8	92.64	31.2	32.04	210.3	297
2016	12	0	14.6	2.4	19.7	39.84	21.8	1.4	31.2	7.6	210.3	174.8
2017	12	0.8	14.6	0	19.7	0	21.8	0	31.2	1.2	210.3	237.22
2018	12	0	14.6	4.04	19.7	0.08	21.8	26.86	31.2	59.80	210.3	123.82

2019	12	0	14.6	5.68	19.7	14.28	21.8	30.38	31.2	0	210.3	123.62
2020	12	10.50	14.6	39.52	19.7	83.54	21.8	84.46	31.2	55.22	210.3	297.38
2021	12	0	14.6	3.28	19.7	0	21.8	11.60	31.2		210.3	181.34
	July		August		September		October		November		December	
Year	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual
2013	347.1	518.16	327.8	307.56	214.5	197.76	68.9	151.28	15.3	0	3.2	0
2014	347.1	534.14	327.8	366.04	214.5	301.04	68.9	59.92	15.3	0	3.2	0
2015	347.1	278.2	327.8	212.88	214.5	306.48	68.9	2	15.3	0	3.2	4.32
2016	347.1	294.1	327.8	190.52	214.5	322.52	68.9	63.88	15.3	0	3.2	0
2017	347.1	171.4	327.8	265.54	214.5	220.48	68.9	114.64	15.3	0	3.2	0
2018	347.1	277.02	327.8	480.20	214.5	145.60	68.9	0	15.3	0	3.2	75.40
2019	347.1	290.92	327.8	355.76	214.5	277.50	68.9	62.36	15.3	6.88	3.2	0
2020	347.1	300.46	327.8	323.14	214.5	122.80	68.9	84.18	15.3	0	3.2	0
2021	347.1	331.56	327.8	157.88	214.5	326.74	68.9	13.08	15.3	12.64	3.2	11.36

2.2.3 Cloudiness

During the south-west monsoon season, skies are generally heavily overcast. In the summer and post-monsoon months there is moderate cloudiness, the afternoons being cloudier than the mornings. In other months the sky is mostly clear or lightly clouded.

2.2.4 Winds

Winds are generally light to moderate. During the south-west monsoon season the winds are mostly from the south-west or west. In the post monsoon and cold seasons winds generally blow from the directions between the north and north-east. In the summer months, the winds are variable in direction.

2.2.5 Special Weather Phenomena

Storms and depressions in the Bay of Bengal, during the monsoon season and in October pass through the District or its neighborhood and

cause widespread heavy rain and strong winds. Thunderstorms mostly in the afternoons occur in the summer season and in October. Rain during the south-west monsoon season is also very often associated with thunder. Even though there has not been large variation from the normal rainfall, almost every year there is scarcity in some area or other on account of irregular distribution of rainfall. Recently this District has experienced cyclonic effect of "PHAILIN", "HUDHUD" AND "FANI" and "Cloud Bursting" in the month of October of the year 2013 and 2014 and in the month of May and August of the year 2021-22 respectively.

Disaster Scenario: In terms of Disaster activity the district is graded as moderate risk zone for wind & cyclone, protected area for flood, very high risk zone for drought, very low damage zone for earthquake & minor accident prone area for accident.

Geography:

District of Nuapada is situated in the Western region of the state having its Head Quarter at Nuapada. Nuapada is located between 21° 31' 53" N Latitude and 84° 43' 2" E Longitude. Nuapada Town is 270 K.Ms. to the east of Sambalpur Town on N.H.-353. National Highway No.353 & Biju Express way passes through the district acts as the main artery of inter-regional trade and other links. Important river of this district are (1) jonk (2) indra (3) udanti (4) sunder

2.3 Topography & Socio-economic condition:

Topographically the entire district is divided into three parts i.e. plateau area, valley area and plain area and the majority of the plateau and valley areas are coming under the Sunabeda reserve forest. Some of the primitive tribes like Paharia, Choukhutia and Bhunjia are the inhabitants of the plateau area. Govt. of Orissa has set up a Choukhutia and Bhunjia Development Agency (CBDA) to bring these primitive tribes into the mainstream without disturbing their ethnic identity. The plain area of the district is somewhat undulating. Majority of the land mass belongs to high

land which is prone to soil erosion and other degradation processes. Continuous drought over the years has deteriorated the socio-economic condition of the people of the district. Agriculture is the primary source of livelihood, which is mainly traditional, and subsistence in nature. More than 70 % of the cultivable area is rain fed and as paddy is the major crop, failure and erratic behaviour of monsoon has had a catastrophic impact on the lives and livelihood of the people. Skewed land distribution (70% of the population has 35% of the land area), unfertile & degraded land, meager irrigation facility, low access to market, credit and insurance are further intensifying the problem. Decrease in the forest coverage and low NTFP yield has also limiting the alternate livelihood opportunities of the people. SC and ST comprise the bulk of the community and are the most vulnerable section.

2.4 River System

The drainage of the district is controlled by the tributaries of the Mahanadi river, like the Tel and Ong rivers. The main tributaries of the Tel are Indra, Udanti, Hatti, Sagada etc. which are perennial and effluent in nature and maintain sluggish flow during peak summer months. The Jonk river is a tributary of the river Mahanadi, flows in the westerly direction and forms the state border in the northwest. The general drainage pattern in the undulating terrain is dendritic to subdendritic. More or less sub-parallel drainage is observed in the western part comprising Chattisgarh group of rocks, near foothill regions. Studies on satellite imageries and hydrogeological surveys have revealed that the drainage pattern in the district is controlled by the fracture system which is developed due to tectonic activity in the area.

2.5 Administrative Setup

The Collector and District Magistrate is the administrative head of the District. For smooth administration, he is assisted by Additional District Magistrates, Sub-Collectors, Block Development Officers, Tahasildars, Deputy Collectors, and other Officers. Nuapada consists of one Sub-Divisions viz. Nuapada, One Sub-Collector is in charge of the Sub-Division. For the convenience of revenue administration, the District is divided into 5 tahasils with one Tahasildar in charge of each tahasil. For development of rural areas consisting of 642 Villages in 131 Gram Panchayats, the District is divided into 5 Community Development Blocks with one Block Development Officer in charge of each Block.

Sl	No. of Sub-Division	No. of Blocks	No. of G.Ps	Villages			No. of Wards	No of RI Circles	Name of the Tehsil
				Inhabited	Habited	Total			
1	2	3	4	5	6	7	8	9	10
1	1	5	131	12	656	668	1589	44	5

Source: Col. 1 to 8: DPO, Nuapada, 2011 || Col.8 to 10: District Record Room, Nuapada

For maintenance of law and order, the District is divided into 11 nos. of police stations In order to look after the developmental activities in the urban areas of the District, one Executive Officer has been kept in charge of each town.

2.6 Demography:

2.6.1 Population, decadal growth and Population Estimation

An official Census 2011 detail of Nuapada, a district of Orissa has been released by Directorate of Census Operations in Orissa. Enumeration of key persons was also done by census officials in Nuapada District of Orissa.

In 2011, Nuapada had population of 6,10,382 of which male and female were 3,01,962 and 3,08,420 respectively. In 2001 census, Nuapada had a population of 530,690 of which males were 2,64,396 and remaining 2,66,294 were females. Nuapada District population constituted 1.45 percent of total Maharashtra population. In 2001 census, this figure for Nuapada District was at 1.44 percent of Maharashtra population.

There was change of 15.02 percent in the population compared to population as per 2001. In the previous census of India 2001, Nuapada District recorded increase of 13.04 percent to its population compared to 1991.

Sl. No.	Year / Block / ULB	Geographical area in Sq. Km. 2001 Census	Number of House holds	Number of villages		
				Inhabited	Un-inhabited	Total
1	2	3	4	5	6	7
	2011	3852 *	152210	656	12	668
	2011 BLOCK					
1	Boden	338.28	21353	87	2	89
2	Khariar	308.95	27956	114	2	116
3	Komna	659.67	33781	165	3	168
4	Nuapada	746.09	32653	166	3	169
5	Sinapalli	416.64	28556	124	2	126
	URBAN					
1	Khariar (NAC)	23.83	3589	-	-	-
2	Khariar Road (NAC)	11.40	4322	-	-	-

2.6.2 Households and Population distribution

Sl. No	Name of the Block	Total Number of HH	Population			Category			
			Male	Female	Total	SC	ST	OBC	GEN
1	Nuapada	26,239	59,635	60,195	1,19,830	13,473	46,996	24507	7709
2.	Komna	27,150	57,906	59,176	1,17,082	16,029	51,297	29266	30489
3.	Khariar	21,846	46,408	46,610	93,018	14,491	25,537	13499	14329
4.	Boden	17,236	35,888	36,168	72,056	9,429	29,274	15728	16866
5.	Sinapalli	23,858	49,309	49,357	98,666	13,091	28,852	15282	16094
6	Khariar (NAC)		7644	7443	15087	3226	1051	-	
7	Khariar Road (NAC)		9526	9441	18967	3587	1155	-	

Sl. No	Name of the Block	<i>Ration card under Circulation</i>				
		No of PHH card	Families member	No of AAY card	Families member	No of Annapurna card
1	Nuapada	27488	97983	4989	14661	107
2	Komna	31790	111372	6596	19877	137
3	Khariar	24440	83325	5019	14609	118
4	Boden	19494	66275	4119	10679	137
5	Sinapalli	26933	91640	4677	12546	143
6	K.H.Road NAC	3038	9812	223	531	11
7	Nuapada NAC	2224	7410	273	849	9

8	Khariar NAC	2273	6943	370	1171	11
	Total	137680	474760	26266	74923	673

Source: Col.1 to 8: DCH, 2011 || Col. 9 & 10: www.foododisha.in

Social Composition

Sl. No.	Year / Block / ULB	Total Population			S C Population		
		Males	Females	Total	Males	Females	Total
1	2	3	4	5	6	7	8
	2011	301962	308420	610382	40742	41417	82159
	2011 BLOCK						
1	Boden	40014	41673	81687	4861	4939	9800
2	Khariar	55145	55539	110684	8536	8418	16954
3	Komna	67560	69804	137364	8860	9101	17961
4	Nuapada	67441	69282	136723	8508	8770	17278
5	Sinapalli	54632	55238	109870	6650	6703	13353
	URBAN						
1	Khariar (NAC)	7644	7443	15087	1546	1680	3226
2	Khariar Road (NAC)	9526	9441	18967	1781	1806	3587

Source: PCA, Census, 2011

Sl. No.	Year / Block / ULB	S T Population		
		Males	Females	Total
1	2	9	10	11
	2011	100469	105858	206327
	2011 BLOCK			
1	Boden	15442	16581	32023
2	Khariar	13499	14329	27828
3	Komna	29266	30489	59755
4	Nuapada	25580	27000	52580
5	Sinapalli	15584	16351	31935
	URBAN			
1	Khariar (NAC)	538	513	1051
2	Khariar Road (NAC)	560	595	1155

Source: PCA, Census, 2011

2.6.3 Religion wise distribution of Population

Sl No	Name of the District	Hindu	Muslim	Christian	Sikh	Buddhist	Jain	Other
1	2	3	4	5	6	7	8	9
1	Nuapada	60109	4952	1778	724	76	905	855

Source: Census, 2011

2.6.4 Age Group

Age structure is one of the most important characteristics of population composition. Almost all population characteristics vary significantly with age. Age statistics form an important component in disaster risk analysis, as most of the analysis is based on age structure of the population.

Age-group	Total			Rural			Urban		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
1	2	3	4	5	6	7	8	9	10
All ages	610382	301962	308420	576328	284792	291536	34054	17170	16884
0-4	62093	31337	30756	59091	29797	29294	3002	1540	1462
5-9	65223	32513	32710	62035	30866	31169	3188	1647	1541
10-14	68215	34270	33945	64948	32585	32363	3267	1685	1582
15-19	53796	26652	27144	50495	24980	25515	3301	1672	1629
20-24	48760	23638	25122	45521	22003	23518	3239	1635	1604
25-29	45988	22870	23118	42999	21360	21639	2989	1510	1479
30-34	41977	20363	21614	39296	19055	20241	2681	1308	1373
35-39	40876	20445	20431	38326	19154	19172	2550	1291	1259
40-44	37156	18571	18585	34873	17411	17462	2283	1160	1123
45-49	32672	16870	15802	30620	15820	14800	2052	1050	1002
50-54	25932	13075	12857	24313	12258	12055	1619	817	802
55-59	21844	10310	11534	20672	9689	10983	1172	621	551
60-64	26875	13034	13841	25765	12508	13257	1110	526	584
65-69	16115	7666	8449	15488	7376	8112	627	290	337
70-74	11194	5204	5990	10689	4984	5705	505	220	285
75-79	4777	1978	2799	4575	1884	2691	202	94	108
80+	5588	2453	3135	5342	2362	2980	246	91	155
stated	1301	713	588	1280	700	580	21	13	8

Source: Census, 2011

2.6.5 Sex Ratio

1	Sex Ratio (Females per 1000 males):	840
2	Sex Ration(0-6 Years):	927

Sl No	Name of District	All Category			SC			ST		
		Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7	8	9	10	11
1	Nuapara	1021	1024	983	1017	1014	1048	1054	1054	1009

Source: Census, 2011

2.7 Literacy

Sl. No.	State vrs District	All Classes			Rural			Urban		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
1	2	3	4	5	6	7	8	9	10	11
State	2011	72.9	81.6	64.0	70.	79.	60.7	85.7	90.	80.4
Nuapada	2011	57.3	70.3	44.8	56.	69.	43.2	79.0	86.	71.3

Source: Census, 2011

2.8 Socio-Economic profile

2.8.1 Land Holding Pattern

1.10 Land Holding Pattern

Sl.No	Block	Marginal Farmers(<1.0Ha)	Small Farmers (1.0to<2.0Ha)	Semi Medium (2.0 to <4.0Ha)	Medium Farmers (4.0 to <10.0Ha)	Large Farmers (10.0Haand above)	Average Size of land Holding
1	Nuapada	18613	6113	2444	452	28	1.22
2	Komna	16618	5240	2095	387	24	1.18
3	Boden	7977	2620	1047	194	12	1.22
4	Khariar	11301	3930	1571	290	18	1.26
5	Sinapali	11965	3931	1571	291	18	1.22
Total	66474	66474	21834	8728	1614	100	6.1

Category	SC	ST	Others	Total	Total Area (Ha)
Marginal (0 to1Ha)	4880	8450		27,245	16,032
Small (1 to 2 Ha)	3025	10,520		25,770	35,974
Small Medium (2 to 4 Ha)	1175	6415		14,395	40,365
Medium (4 to 10 Ha)	240	2115	2490	4,845	28,111
Large (10 to 20 Ha & more)	35	175	380	590	8,364

Source: DDA

2.8.2 Agriculture and Irrigation

	Kharif	Pre Rabi	Rabi	Summer
Up land (Att)	Paddy, Arhar Maize, Groundnut, Vegetable, Coton	Horse gram, Niger, Til	Mustard, Kulatha, Mung, Limseed	-----
Medium land (Berna)	Paddy	Mung/ Biri, Bengal gram	Mung, Onion, Til, Groundnut, Vegetable, Sunflower, Wheat	Onion and Other vegetables

Low land (Bahal)	Paddy, Sugarcane	-----	Wheat, Bengal gram, Maize, Sunflower, Neem-seed	Onion and vegetables	Other
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2.8.3 Consumption of Fertilizer

Though there has been considerable improvement in the use of fertilizers and other inputs, the rate of fertilizer use in the District still remains far behind the state average.

Sl No	Name of the District	Nitrogenous(N) (M.T)	Phosphatic (P)(M.T)	Potasic (K)(M.T)	Total (N+P+K) (M.T)	Total Crop area (in'000 Hect.)	Fertiliser Consumption (Kg/Hect.)
1	Nuapada	6623	3344	1190	11157	290.15	38.45

Source: DDA

2.8.4 Agriculture allied Sectors

Fishery

Sl No	Name of the Block	Name of the Farm	No. of Fish Farms	Area in Ha	No. of Farmers involved
	NA				

Horticulture

Block	Mango Plantation under NHM (Ha.)	Mango Plantation under MGNREGS (Ha.)	Cashew Plantation (Ha.)	Total (Ha.)	No of farmers involved
NA					

2.8.5 Employment and livelihood

Agriculture is the Prime livelihood option of the District. People of the District also adopt various economic activities to sustain their life and livelihood.

2.8.6 Workforce Participation Rate

Census classifies workers as main and marginal workers. Main workers are those who participated in any economically productive activity for not less than six months during the year preceding the date of enumeration, and marginal workers are those who participated in any economically productive activity for less than six months during the reference period.

Sl. No.	Year / Block / ULB	Marginal Workers			Non- workers		
		Males	Females	Total	Males	Females	Total
1	2	9	10	11	12	13	14

2011	51328	102416	153744	133807	171137	304944
2011 BLOCK						
1 Boden	6754	16322	23076	16615	20683	37298
2 Khariar	9760	17807	27567	22816	32568	55384
3 Komna	12877	25505	38382	29577	37272	66849
4 Nuapada	10084	22026	32110	29055	36903	65958
5 Sinapalli	10545	19581	30126	28051	29906	57957
URBAN						
1 Khariar (NAC)	759	471	1230	3650	6190	9840
2 Khariar Road (NAC)	549	704	1253	4043	7615	11658

2.8.7 Workforce Participation Rate - Male/ Female

Gender plays a critical role in workforce distribution due to division of works which are more or less gender specific. Census, 2011 revealed that participation of male workers compared to the female counter part percent.

Sl. No.	Year / Block / ULB	Total Workers.			Main workers.		
		Males	Females	Total	Males	Females	Total
1	2	3	4	5	6	7	8
	2011	168155	137283	305438	116827	34867	151694
	2011 BLOCK						
1	Boden	23399	20990	44389	16645	4668	21313
2	Khariar	32329	22971	55300	22569	5164	27733
3	Komna	37983	32532	70515	25106	7027	32133
4	Nuapada	38386	32379	70765	28302	10353	38655
5	Sinapalli	26581	25332	51913	16036	5751	21787
	URBAN						
1	Khariar (NAC)	3994	1253	5247	3235	782	4017
	2Khariar Road (NAC)	5483	1826	7309	4934	1122	6056

Source: DSHB, Nuapada

2.8.8 Industries and mining

*Classification of Workers (Main and Marginal)
in different Blocks and Urban areas of Nuapada district.*

Sl. No.	Year / Block / ULB	Total Worker	Workers (2011 Census)			
			Cultivator	Agricultural Labour	Worker in Household Industry	Other Worker
1	2	3	4	5	6	7
	2011	305438	94692	149834	8641	52271
	2011 BLOCK					
1	Boden	44389	15489	23847	1411	3642
2	Khariar	55300	13725	26826	2338	12411
3	Komna	70515	26577	34788	1806	7344
4	Nuapada	70765	25039	35253	1168	9305
5	Sinapalli	51913	13244	28190	1395	9084
	URBAN					
1	Khariar (NAC)	5247	123	170	122	4832
2	Khariar Road (NAC)	7309	495	760	401	5653

Source : Census of India.

2.8.9 Education

Education is the prime agency which builds the capacity of a community to withstand in any type of disaster.

Sl. No.		Total	Male	Female
1	Literates	299383	180903	118480
2	Literacy Rate	57.35	70.29	44.76

Sl. No.	Name of the Block	Total No. of Children Enrolled	No. of Children Dropped Out	No. of Children Never Enrolled
1	Boden	12733	88	0
2	Khariar	14967	108	0
3	Khariar NAC	717	0	0
4	Komna	17858	235	0
5	Nuapada	14387	103	0
6	Nuapada NAC	1015	0	0
7	Khariar Road NAC	986	0	0
8	Sinapali	15312	120	0
Total		77975	654	0

Sl. No.	Name of the Block	No. of Primary Schools	No. ME Schools	No. of High Schools	No. of Teachers	Teacher Pupil Ratio	No. of Colleges	No. of ITI/ Polytechnic/ Vocational Training Institutes
1	Nuapada	87	76	22	971	2.82	5	-
2	Komna	108	82	18	1010	3.15	1	-
3	Khariar	55	87	7	817	4.2	1	-
4	Boden	80	55	9	648	3.25	1	-
5	Sinapali	80	77	9	831	3.4	1	-
6	Nuapada NAC	04	04	2	69	3.15	0	-
7	Khariar Road NAC	09	04	2	80	4.25	0	-
8	Khariar NAC	03	06	2	60	3.1	1	--
Total		426	391	71	4486	27.1	10	-

Source: DEO, Nuapada

2.8.10 Health

Health Infrastructure

Source: CDMO, Nuapada

Sl. No.	Block	No. of Health Sub Centers	No. of PHCs	No. of CHCs/DHH	No. of Homeopathic/ Ayurveda Hospitals	No. of Sub Divisional Hospitals	No. of District/ Private Hospitals	No. of MHUs & MHTs	No. of Ambulances	Blood Banks
1	Khariar Road	24	4	1	0	0	1	3	1	1
2	Komna	23	4	2	0	0	0	3	5	0
3	Khariar	18	3	1	0	0	1	3	3	1
4	Sinapali	17	3	1	0	0	0	3	1	0
5	Boden	14	3	1	0	0	0	3	1	0
6	Nuapada	0	0	1	0	0	0	0	2	0
	Total	96	17	7	0	0	2	15	13	2

Human Resource Availability

Sl. No.	Block	No. of Doctors (Including AYUSH Doctors)	No. of Paramedical Staffs	No. of ANMs	No. ASHAs	Others
1	Khariar Road	19	56	33	245	27
2	Komna	20	75	33	287	31
3	Khariar	18	74	33	202	58
4	Sinapali	10	39	23	210	24
5	Boden	12	38	24	177	30
6	DHH, Nuapada	24	94	7	12	313

2.8.11 Housing

Sl. No	Block	Total No. of HH	No. of Homeless HH	Houses			
				Total No.	Katcha Houses	Semi Pucca Houses	Pucca Houses
1	Boden	21950	0	22816	9719	882	12215
2	Khariar	27291	0	24536	12056	651	11829
3	Komna	32816	0	35935	15230	1320	19385
4	Nuapada	30244	0	29184	10992	481	17711
5	Sinapali	28805	0	26621	13523	506	12592
		141106	0	139092	61520	3840	73732

2.8.12 Electrification

During the year 2019-20, villages so far electrified as on 30.03.2020 is 656 which constitutes 100 % to the total villages of the district.

Sl. No.	Name of the District	Total Inhabited Villages (2011 Census)	Village declared Electrified as on 31.03.20	Balance number of Un-electrified Villages 31.03.20	% of Villages Electrified
1	2	3	4	5	6
1	Nuapada	656	656	0	100

Source: DSHB, Nuapada

2.8.13 Drinking water and sanitation

Sl. No.	Year/ Block	No. of Villages/ hamlets	No. of Villages covered with Rural drinking Water Supply Prog.	No. of working Tube Wells	No. of working Sanitary Wells	No. of Piped Water Projects
1	2	3	4	5	6	7
1	Boden	86	86	1645	0	21
2	Khariar	115	115	1596	0	28
3	Komna	161	161	2457	0	39
4	Nuapada	161	161	2539	0	51
5	Sinapali	125	125	1994	0	38

Source: DSHB, Nuapada

2.8.1 Migration

Nuapada is a migration prone District. people from this district migrate to nearby Districts or state and works in bricks knell from August to January.

2.8.15 Food security

Table -1.37 - Food Security (Public Distribution System)

Sl.No.	Block/ ULB	No. Of HHs (As per Census 2011)	HHs covered under NFSA	Total No. Of beneficiaries	Consumption in Qntls		No. Of PDS outlets in the block	Storage Points	
					Rice	Wheat		Nos	Storage Capacity (in Qntls)
1	2	3	4	5	6	7	8	9	10
1	BODEN	21353	23962	78033	4655.2	161.65	16	0	0
2	KHARIAR	27956	29720	97949	5678.11	274.24	28	1	50,000
3	KHARIAR NAC	3589	2770	8594	409.66	92.14	4	0	0
4	KHARIAR ROAD NAC	4322	3346	10575	443.96	135.84	4	1	25,000
5	KOMNA	33781	38446	130778	7466.05	389.35	37	0	0
6	NUAPADA	32653	32699	113002	6206.34	449.16	32	1	50,000
7	NUAPADA NAC	0	2622	8587	391.85	90.9	5	0	0
8	SINAPALI	28556	32062	104894	6121.15	142.2	36	0	0
	TOTAL	152210	165627	552412	31372.32	1735.48	162	3	125000

Source: CSO, Nuapada

2.8.16 Social Security

Sl. No.	Block	No. of Persons covered under Old Age Pension Scheme		No. of Persons covered under Widow Pension	No. of Persons covered under Disability Pension	
		M	F		M	F
1	Nuapada	7424	6513	2930	821	299
2	Komna	13410	5754	3458	940	246
3	Khariar	6251	6535	2822	852	463
4	Boden	6381	5126	2284	1106	460
5	Sinapali	7446	6974	2500	821	389

6	Khariar NAC	493	492	476	105	43
7	Khariar Road NAC	820	550	589	109	22
8	Nuapada NAC	532	524	334	75	46

2.9 Critical infrastructures

Infrastructure includes a number of structures that improve living conditions and commerce, including schools, hospitals, roads, banking systems is essential in any emergency situation. These infrastructures work a support services in the life of people in an area for their around development.

Sl.No	Name of the Block	AnganwadiCentre	Post Offices	CHC	PHC	Dispensary	Seed Storage Centre	Seed Sale centre	Livestock centres
1	Nuapada	331	36	2	4	1	0	2	12
2	Komna	348	16	2	2	0	0	2	11
3	Khariar	264	26	1	3	0	0	2	8
4	Boden	205	12	1	3	0	0	2	6
5	Sinapali	258	17	1	3	1	0	2	8

2.9.1 Anganwadi Centers

1406 AWC are operational in the District from which 1178 AWCs are having their own building. In these AWCs, 73628 pre-school children have enrolled. Besides, 2379 children are found Severely Malnourished and referred. AWCs are also providing support to 11563 pregnant women and lactating mothers.

Sl. No	Name of the Block	Total No of Anganwadi Centres	No of AWC having own pucca building	No of Enrolled Children (0 to 6 yrs)	No of Severely Malnourished children Referred during the Year	No of Pregent/ Lactating Mother
1	2	3	4	5	6	7
1	Nuapada	331	288	19522	469	2796
2	Komna	348	264	16463	343	2650
3	Khariar	264	216	13422	397	2231
4	Boden	205	181	10439	394	1705
5	Sinapali	258	229	13782	376	2181
	Total	1406	1178	73628	2379	11563

2.9.3 Hospitals and Health Centers

Health Infrastructure										
Sl. No.	Block	No. of Health Sub Centers	No. of PHCs	No. of CHCs/DHH	No. of Homeopathic/ Ayurveda Hospitals	No. of Sub Divisional Hospitals	No. of District/ Private Hospitals	No. of MHUs & MHTs	No. of Ambulances	Blood Banks
1	Khariar Road	24	4	1	0	0	1	3	1	1

2	Komna	23	4	2	0	0	0	3	5	0
3	Khariar	18	3	1	0	0	1	3	3	1
4	Sinapali	17	3	1	0	0	0	3	1	0
5	Boden	14	3	1	0	0	0	3	1	0
6	Nuapada	0	0	1	0	0	0	0	2	0
	Total	96	17	7	0	0	2	15	13	2

Human Resource Availability

Sl. No.	Block	No. of Doctors (Including AYUSH Doctors)	No. of Paramedical Staffs	No. of ANMs	No. ASHAs	Others
1	Khariar Road	19	56	33	245	27
2	Komna	20	75	33	287	31
3	Khariar	18	74	33	202	58
4	Sinapali	10	39	23	210	24
5	Boden	12	38	24	177	30
6	DHH, Nuapada	24	94	7	12	313

2.9.4 Veterinary Hospitals

Sl. No.	Block	Vetenary Hospital	No. Of Doctors	Livestock Aid Centre	No. of Livestock Inspector	No. of AI Centres
1	Nuapada	3	3	14	11	17
2	Komna	2	2	13	9	13
3	Khariar	1	3	8	5	9
4	Sinapali	1	2	9	5	9
5	Boden	1	2	7	7	8

		8	12	51	37	56
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2.9.5 Police and Fire Stations

The District had 11 police stations and 05 fire and disaster response service centers in the District. **(Refer Table 13.7 of Volume II)**

2.9.6 Cooperative Societies

A. AGRICULTURAL CREDIT SOCIETIES :	Number	Members	Loans advanced	
			No.	Amount
1 PACS (Primary Agrl. Co-operative Society)	26	53972	16057	9578.78
2 CARD	1	900	0	0.00
3 CCB (Central Co-operative Bank)	0	0	0	0.00
4 Others	5	2553	0	0.00
B. HOUSING COOPERATIVE SOCIETIES :	Number	Members	Loans advanced	
1 Primary House Building Co-operative Societies	0	0	0	
2 Sub Divisional level HBCS	1	316	0	
C. NON-AGRICULTURAL CREDIT SOCIETIES :	Number	Members	Loans advanced	
1 Urban Co-operative Bank	0	0	0	
2 Other Co-operative Bank	0	0	0	
D. CONSUMER COOPERATIVE SOCIETIES :	Number		Members	
1 Whole Sale Consumer Store	1		306	
2 Primary Consumer Co-operative Store	0		0	
3 Employee Consumer Co-operative Store	0		0	
4 Student Consumer Co-operative Store	0		0	
5 Other	0		0	
E. MARKETING COOPERATIVE SOCIETIES :	Number		Members	

1	Regional Co-operative Marketing Societies	1	86		
2	Agency Marketing Societies	0	0		
3	Co-operative Cold Storage	0	0		
4	Co-operative Sugar Factories	0	0		
5	Others	0	0		
F. OTHERS :	No. of Farmers covered	Sum Assured	Premium collected	Claim paid	Bene-ficiaries
1	Crop Insurance	0	132.89	0	10826
		No. of Card holders			
2	Kisan Credit Card		36667		
3	Kalinga Kisan Gold Card		951		

2.9.7 Banks and Post offices

As on March, 2020, there were 64 nos. of All Banks having 1998.36 crore rupees deposit and 870.05 crore rupees credit in the district. The district has banking branches network of 64 out of which 26 (40.63%) in semi-urban area and 38(59.38%) in rural areas. The total number of ATMs in the district stood at 62.

Source: DSHB- 2020, Nuapada

2.9.8 Road and Railway network

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	Bhojpur ghati to Daldali Village	7km	01	1.Bhojpur Ghati 2.Kurumpuri market area	02
2	Bhera chowk to Silda	2kms	03	01	01
	Sirtol to Dhamanpuri Chowk	3 kms	03	05	05

3	Beltukri to Khariar Road	21Kms	03	04	09
4	Gotma Chowk to Jonk river bridge	05kms	06	04	04

Multi Purpose Flood Shelter Cyclone and Flood Shelters

The District has only one Multi purpose flood shelter at Bottopali Village of Sinapali Block. Near by 800 people of 2 GPs and 3 Villages took shelter there during flood/ flash flood situation in their villages. The shelter is equipped with many equipments which is highly required during any unforeseen situation. The shelter is taken care by the Shelter management committee constituted by the eople of local community. Along with this the District also used schools and BNRGSK building as temporary flood shelters.

SI No	Name of the Block	Name of the Village	Name of the Item in the Shelter	Number of Item	Remarks
1	Sinapali	Botopali	Telescopic Tower light (led type)	1	
2			Dustbin 120 liter	4	
3			Dustbin 100 liter	1	

4			Chain show	2	
5			Inflatable Tower Light	1	
6			Handles tools	1	
7			Solar Lantern	2	
8			Handheld megaphone	1	
9			Siren (Electrical)	1	
10			Radio	1	
11			Water Filter	4	
12			Hendel Searching Light	1	
13			Life Boy (Ring Type)	5	
14			Life Jacket (Adult)	5	
15			Fluorescent jacket	50	
16			Safety Shoes	10	

17			Hand Gloves	10	
18			Safety Helmet	10	
19			Rain Suit	10	
20			Foldable Stretcher	2	
21			First Aid Box with Material	1	
22			Free Kitchen Utensils	1	
23			Fair extinguisher 4.5 kh	1	
24			Wheel Chair	2	
25			Steel Almira	1	
26			Steel Reus	1	
27			G.I Trunk	1	
28			Plastic Modeler Chair	10	
29			Wall Supported Extension Ladder	1	

30			Dari	2	
31			Tarpaulin	2	
32			Karna mental Rope	2	
33			Nylone Rope	2	
34			Notice Board with Kitchen net cornering and locking woden	1	

2.9.10 Rain gauge and Automatic Weather Stations

The District has 05 nos. of Rain Recording stations (to record the rainfall on regular basis. The recorded are updated in Odisha Rainfall Monitoring, a web based rainfall monitoring portal of Government of Odisha.

Table 0-1 Rain Recording Station

Sl	Rain Recording Station	Location	Contact No.
1	Nuapada	Block Office premises	6371071142
2	Komna	Block Office premises	9437361819
3	Boden	Block Office premises	9938978799
4	Sinapali	Block Office premises	9437702555
5	Khariar	Block Office premises	9437418105

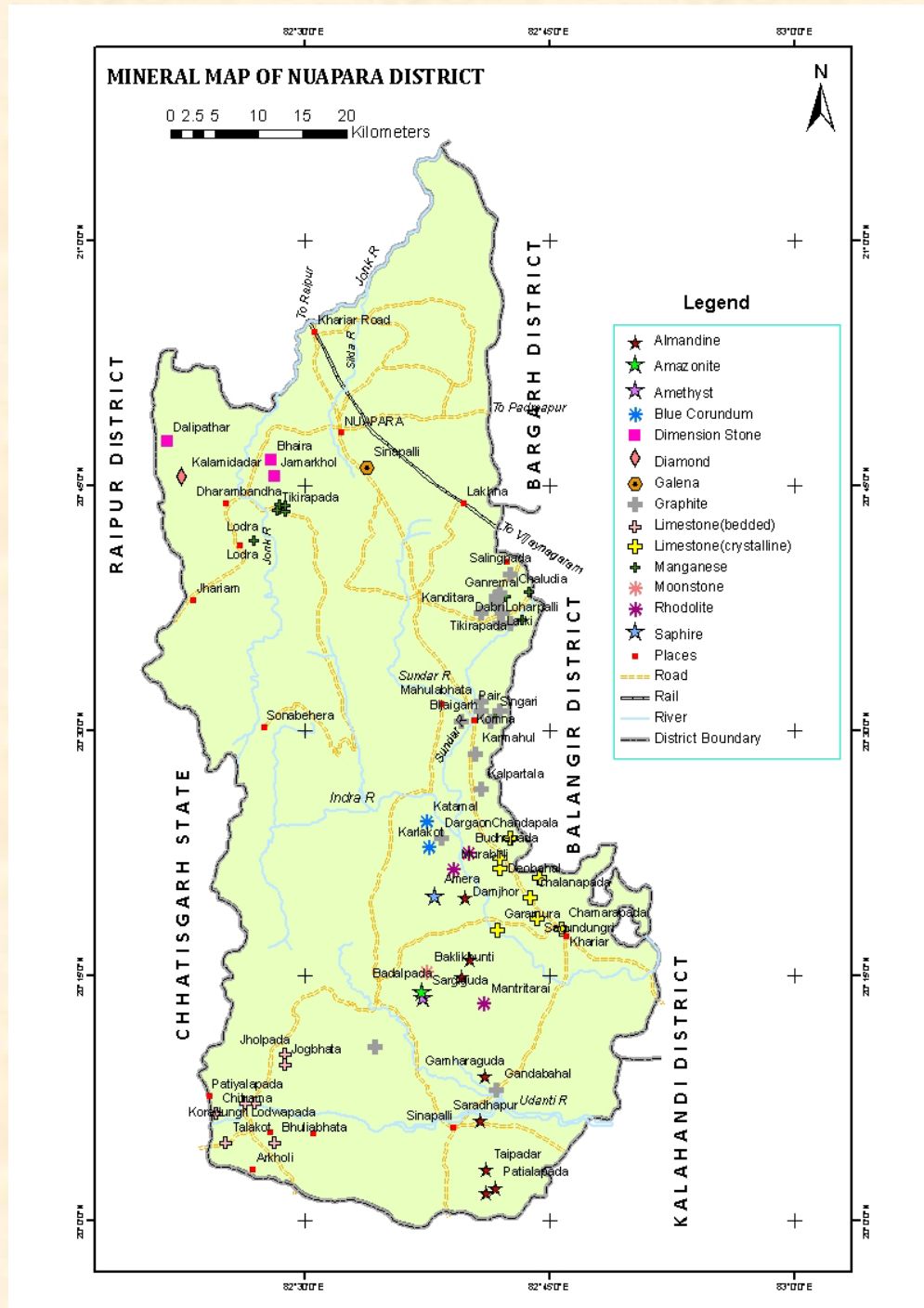
MAPS

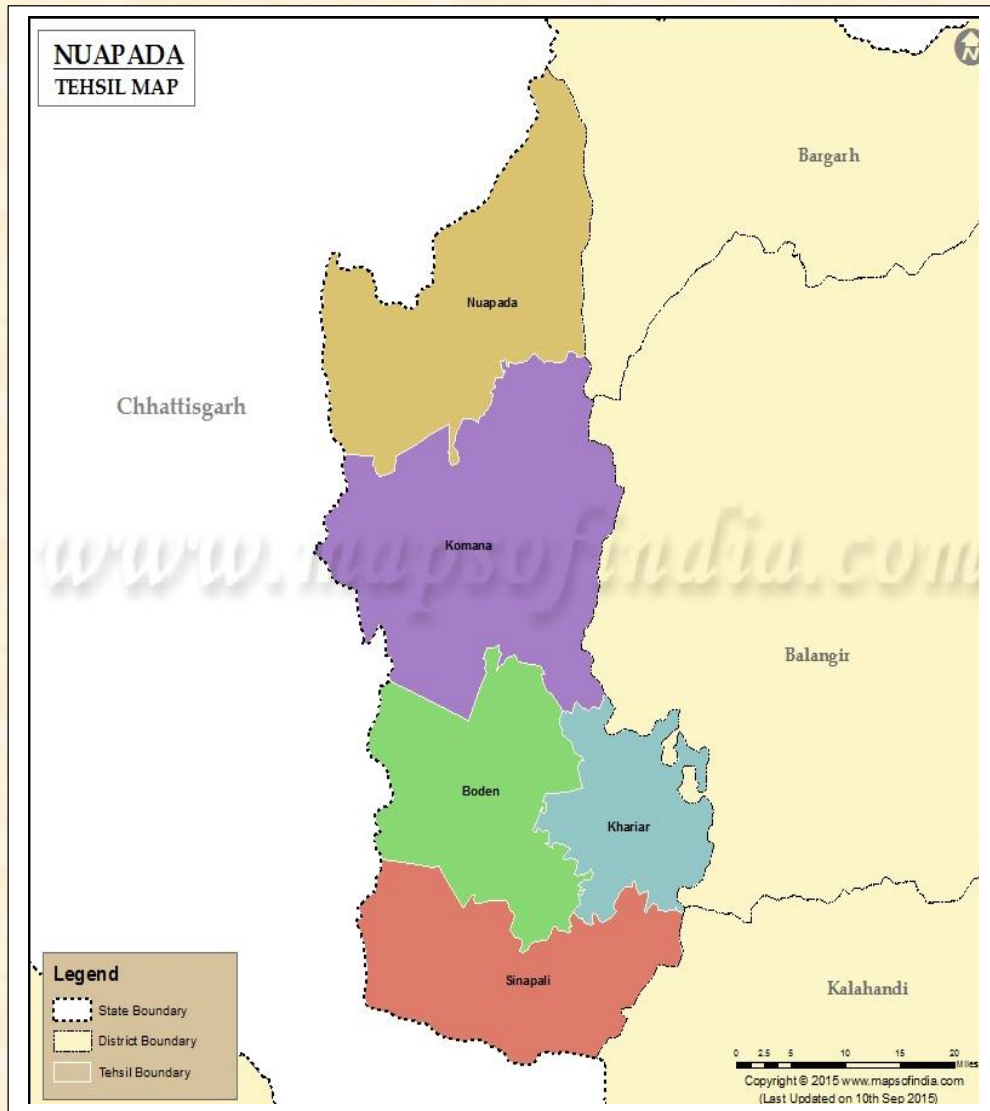


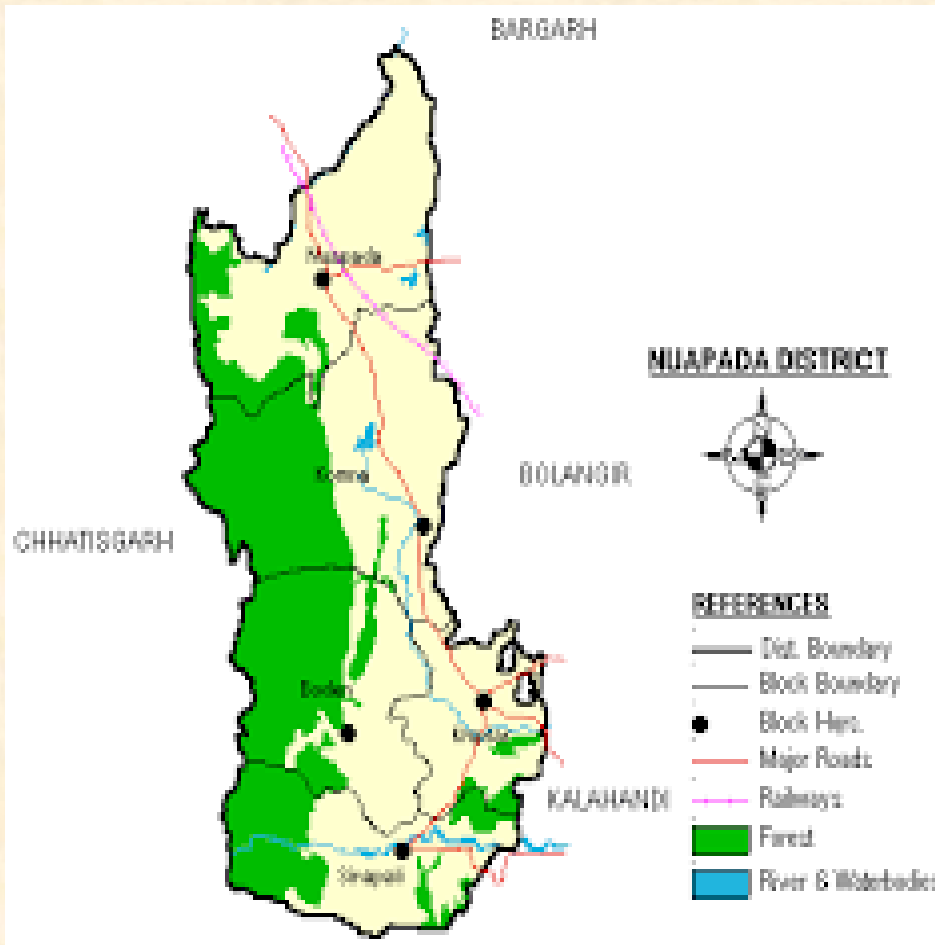
Block Map of Nuapada Source: Map of Nuapada













Chapter 3: Hazard, Vulnerability and Risk Assessment

This chapter largely deals with the disasters that Nuapada District experienced. Based on this, the vulnerability assessment of people and their income sources, infrastructure, crops, livestock resources, drinking water supply, daily necessities, communication and transportation system, public distribution, medical facilities and other elements has been done so that such elements can be safely shifted to, or to be taken care of before any unexpected disaster or during the disasters. This is the most important part of the plan.

3.1 Multi-hazard Profile of the District

Nuapada one of the economically backward district of western Orissa with a geographical area of 3852 sq. km is an integral part of Western Orissa Development Council constituted by Govt. of Orissa and very often reels under severe drought condition. About 93 percent of the population of the district live in rural areas and agriculture is the main stay of the people. The agriculture is mostly rainfed and due to lack of adequate irrigation facilities and recurring severe drought conditions in the district, the agricultural production is very often curtailed. Severe drought occurred in the year 1974, 1996, 2000 and 2002. In the recent past the District has faced drought during 1996,1998, 2000, 2002, 2009, 2010, 2011, 2015, 2017,2018 and Flood / Heavy rain during 2001, 2003 , 2014, 2018 and 2019.

The drainage of the district is controlled by the tributaries of the Mahanadi river, like the Tel and Ong rivers. The main tributaries of the Tel are Indra, Udanti, Hatti, Sagada etc. which are perennial and effluent in nature and maintain sluggish flow during peak summer months. The Jonk river is a tributary of the river Mahanadi, flows in the westerly direction and forms the state border in the northwest. The general drainage pattern in the undulating terrain is dendritic to subdendritic. More or less sub-parallel drainage is observed in the western part

comprising Chattisgarh group of rocks, near foothill regions. Studies on satellite imageries and hydrogeological surveys have revealed that the drainage pattern in the district is controlled by the fracture system which is developed due to tectonic activity in the area. Nawapada district has varied agro-climatic conditions. Though rainfall in the district is moderately high but the irrigation facilities are inadequate. Only 9% of the cultivable area is irrigated. The total cultivable land in the district is 189170 Ha. The Lower Indra is a Medium Irrigation Project, which caters to flow irrigation.

Besides, drought has become a perennial and recurring phenomenon in this region and the major cause of concern is that the frequency of drought is increasing rapidly in the current years so is the magnitude i.e. in every alternate year one can expect a drought like situation with a greater enormity. More than 70 % of the cultivable area is rain fed and as agriculture is the major source of livelihood, failure and erratic behavior of monsoon over consecutive years has had serious adverse impact on the socio-economic condition of the people living in these areas leading to drastic crop and livestock losses, large-scale migration, distress sale of household assets, starvation, malnutrition, acute drinking water shortage, school dropouts, child labour etc. Meager irrigation facilities, sloppy and undulating terrain, severely eroded and unproductive agricultural land, skewed land distribution, subsistence agriculture, depleted ground water resource and less diversified livelihood system has further compounded the problem. The inter play of climatic and non-climatic factors in this region is becoming more and more complex, there by intensifying the impact of drought on the community.

Matrix of Past Disasters in Nuapada district

In between 1974 to 2018 numbers of natural disaster have been reported in the past affecting the lives and livelihood of people of Nuapada district. The district is frequently affected by drought in every alternative year. As agriculture is the mainstay of economy of the district, frequent drought occurrence severely affect the lives and livelihood of the people of the district.

List of Past Disasters

Year	Calamities	Year	Calamities
1974	Drought	2007	Flood
1979	Drought	2008	Flood
1982	Drought & Flood	2009	Partially drought
1987	Drought	2010	Unseasonal Rain
1992	Drought	2011	Drought
1996	Drought	2012	-
1998	Drought	2013	PHAILIN
2000	Drought	2014	Heavy Rain
2001	Pests in Cotton	2015	Drought
2002	Drought	2016	
2004	Drought	2017	Drought
2005	Partially drought	2018	Drought/ Unseasonal Rain/Pest attack
2006	Flood		

3.1 Major Disasters/ Incidents during 2006-2015

This section described the disaster situation of the district during 2006 to 2015. Nuapada district experienced various types of disasters. Though the district is reeling under the grip of drought since long time, it has been recently experiencing other disasters like flash flood, lightning, fire accident and heat wave. Poor drinking water, health and sanitation facilities in the remote villages often leads to the outbreak of epidemics like diarrhea, malaria etc. Various disasters took life of 198 persons during last 10 years. Among all disasters; drought, lightning, fire accidents, sunstroke, flood and epidemic (Malaria and TB) are prominent. A summary table showing types and disaster and their impact is given below.

Table 0-1 Major Disasters/ Incidents during 2006-2015

Sl. No.	Disaster/ Incident	No. of incidents during (2007-2016)	No. of Deaths	Affected Population	Livestock Loss	Houses Damaged	Damage to Infrastructure				Damage and loss of Crop Area (in Hectares)
							School/ AWC Buildings	Hospitals	Road in Km.	Other Critical Infrastructure	
Disasters as approved under SDRF/ NDRF Guidelines.											
1	Flood	2007	0	0	0	0	0	0	0	0	0

		2008 (Flash flood)	0	33646	0	5641	0	0	126.68		6919
		2009	-	-	-	-	-	-	.	-	-
	2010 (Unseasonal Cyclonic rain)		0	56636	0	0	0	0	0	0	30533.32
		2011	0	17300	0	3491					3.4(Sand casted)15 Ben.
		2012 to 2013	0	0	0	0	0	0	0	0	0
		2014(Fl ash flood)	0	497 (families)	-	497	-	-	.	-	-
2	Drought	2007 &08	0	0	0	0	0	0	0	0	0
		2009	0	0	0	0	0	0	0	0	16664.97
		2010	-	-	-	-	-	-	-	-	
		2011	0	83565	-	-	-	-	-	-	61830.12
		2012	0	0	0	0	0	0	0	0	0
		2014	0	0	0	0	0	0	0	0	0

		2015	0	89570	0	0	0				80207.25
		2016	0	0	0	0	0	0	0	0	0
		2017	0	91957	0	0	0	0	0	0	61448.62
		2018	0	89470							59908.80
3	Fire	2007	-	-	-	3	-	-	-	-	-
		2008	-	-	-	5	-	-	-	--	-
		2009	-	-	-	17	-	-	-	-	-
		2010	01	-	-	13	-	-	-	-	-
		2011	-	-	-	02	-	-	-	-	-
		2012	-	-	-	05	-	-	-	--	-
		2013	0	14	-	14	-	-	-	--	-
		2014	0	8	-	8	-	-	-	-	-
		2015	02	02	-	-	-	-	-	-	-
		2016	02	02	-	-	-	-	-	-	-
		2018/19	03	03	0	0	0	0	0	0	0
		2019/20	02	02	0	0	0	0	0	0	0

4	Hail Storm	2007 to 2015	-	-	-	-	-	-	-	-	-
		2016	-	361 (families)	-	361	-	-	-	-	-
5	Cloud Burst	2007 to 2016	-	-	-	-	-	-	-	-	-
6	Pest Attack	2017	-	6250	-	-	-	-	-	-	3090.89-
7	Cold Wave/ Frost	2007 to 2016	-	-	-	-	-	-	-	-	-
8	COVID-19	2020 To 2021	259	22935	0	0	0	0	0	0	0
		01.01.202 2 to 18.04.202 2	6	3863	0	0	00	0	0	0	0
State Specific Disasters as per Notification No.1936 Dt. 01.06.2015											
9	Lightning	2007	6	6	-	-	-	-	-	-	-
		2008	5	5	-	-	-	-	-	-	-
		2009	3	3	-	-	-	-	-	-	-
		2010	4	4	-	-	-	-	-	-	-

		2011	11	11	-	-	-	-	-	-	-
		2012	01	01	-	-	-	-	-	-	-
		2013	05	05	-	-	-	-	-	-	-
		2014	05	05	-	-	-	-	-	-	-
		2015	09	09	-	-	-	-	-	-	-
		2016	10	10	-	-	-	-	-	-	-
		2018/19	03	03	0	0	0	0	0	0	0
		2019/20 20	03	04	0	0	0	0	0	0	0
		2020/20 21	06	06	0	0	0	0	0	0	0
		2021/20 22	03	03	0	0	0	0	0	0	0
10	Heat wave	2012	01	01	-	-	-	-	-	-	-
		2020/20 21	01	01	0	0	0	0	0	0	0
		2021/20 22	0	0	0	0	0	0	0	0	0
11	Whirlwind	2007 to 2015	-	-	-	-	-	-	-	-	-
		2016	01	01							
		2019/20	02	02	0	0	0	0	0	0	

		2020/2021	02	02	0	0	0	0	0	0	
		2021/2022	0	0	0	0	0	0	0	0	0
12	Tornado	-	-	-	-	-	-	-	-	-	-
13	Heavy Rain	0	169	-	-	-	-	-	-	-	-
		2020/2021	01	01	0	0	0	0	0	0	33Hect
		2021/2022									148Hect
14	Boat Accidents (Other than during Flood)	-	-	-	-	-	-	-	-	-	-
15	Drowning (Other than during Flood)	2007to 2014	0	0	-	-	-	-	-	-	-
		2015	02	02	-	-	-	-	-	-	-
		2016	02	02	-	-	-	-	-	-	-
		2018/19	08	08	0	0	0	0	0	0	0
		2019/20	10	10	0	0	0	0	0	0	
		2020/2021	11	11	0	0	0	0	0	0	0
		2021/2022	07	07	0	0	0	0	0	0	0

16	Snake Bite(Other than during Flood)	2007 to 2014	0	0	-	-	-	-	-	-	-
		2015	03	03	-	-	-	-	-	-	-
		2016	06	06	-	-	-	-	-	-	-
		2018/19	12	12	0	0	0	0	0	0	0
		2019/20	08	08	0	0	0	0	0	0	0
		2020/2021	16	16	0	0	0	0	0	0	0
		2021/2022	06	06	0	0	0	0	0	0	0
Other Disasters			-	-	-	-	-	-	-	-	-
17	Animal Menace	2018/19	104	104	-	-	-	-	-	-	-
18	Building Collapse	-	-	-	-	-	-	-	-	-	-
19	Stampede	-	-	-	-	-	-	-	-	-	-
20	Epidemics	-	-	-	-	-	-	-	-	-	-
21	Industrial/ Chemical Accidents	-	-	-	-	-	-	-	-	-	-
22	Road Accidents	35	35	35	-	-	-	-	-	-	-
23	Railway Accidents	-	-	-	-	-	-	-	-	-	-
24	Hooch Incidents	-	-	-	-	-	-	-	-	-	-

25	Communal Riot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	Dam Break/ Spill Way related flood.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	Soil/ Coastal erosion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NB: Year wise details of each disaster occurred during the last 10 years is at Table No14.1 Volume II of DDMP

Table No. 3.2 List of Villages Vulnerable to Different Disasters

Sl. No	Name of the Block/ ULB	Name of the GP	Name of the Village/ Ward	Total No. of HHs	Total Population	Livestock	Cyclone	Tsunami	Flood	If Yes at column 'J' then mention the Causin g Factor	Land Slide	Drought	If Yes at 'M' column then mention the Cultivab le Area in Ha.	Lightning	Industrial / Chemic al Acciden ts	If Yes at Colum n ' P' mentio n the Indust ry name	Drinki ng Water Crisis
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1							Yes	Yes	Yes		Yes	Yes		Yes	Yes		Yes
2							No	No	No		No	No		No	No		No
3																	

DROUGHT AND FLOOD DAMAGED VILLAGES OF NUAPADA DISTRICT

(2010 /2015)

**HEAVY RAIN /
the year 2011**

Sl No	Name of the Block	Total No. of G.P. / NAC	No. of affected G.P./ Municipality		No. of Villages affected		
			Drought, 2010	Flood /Heavy rain 2011	Drough t, 2010	Flood, 2011	Drought, 2015
1.	Nuapada	0	0	28+1	0	153+16	158
2.	Komna	0	0	27	0	134	151
3.	Boden	0	0	0	0	0	87
4	Sinapali	0	0	0	0	0	125
5	Khariar	0	0	0	0	0	113

FLOOD DAMAGE in

No. of Blocks / Municipality / NACs affected	No. of GPs affected	No. of Villages / Wards affected	Total No. of Casualty	Total crop areas affected in AC	Total No. of Houses damaged	Name of rivers/ nallahs/ streams. Etc. which caused damage
2 blocks & one NAC (Kh.Road)	55	287+16	0	3.4	3491	0

Flood Affected Area In The Year 2011

SL NO	Name of Affacted Block	No. of affected GPs	No. of affected Villages	Name of affected ULBs	No. of affected Wards
1	Nuapada	28	153	Khariar Road	16
1	Komna	27	134		
2	Sinapali	0	0		
3	Khariar	0	0	0	0
	Boden	0	0		
	TOTAL	55	287	1	16

DROUGHT/PEST ATTACK – 2009, DROUGHT 2011 AND CROP LOSS DUE TO UNSEASONAL CYCLONIC RAIN-2010, DROUGHT-2015

Name of the District	Name of the Block	DROUG HT 2009	UNSEASONAL CYCLONIC RAIN-2010			DROUGHT 2011			DROUGHT-2015	
		No. of villages affected	No. of villages affected	No. of wards affected	No. of villages affected	No. of wards affected	No. of villages affected	No. of wards affected	No. of villages affected	No. of wards affected
Nuapada	Nuapada	96+4	0	0	108	2	136	27		
	Komna	73	0	0	61	0	151	0		
	Khariar	7	0	0	112	1	112	1		
	Boden	29	0	0	87	0	87	0		
	Sinapali	14	0	0	125	0	125	0		
	Total	219+4	644	12	493	3	611	28		

AFFECTED AREAS:

Drought Vulnerability.

Sl. No.	Name of the Block	Year- 2013				Year – 2014				Year-2015				Year- 2016			
		No. of GPs experienced drought	No. of Villages	Agricultural Crop Area lost (in Hectares)		No. of GPs experienced drought	No. of Villages	Agricultural Crop Area lost (in Hectares)		No. of GPs experienced drought	No. of Villages	Agricultural Crop Area lost (in Hectares)		No. of GPs experienced drought	No. of Villages	Agricultural Crop Area lost (in Hectares)	
				Paddy	Non-Paddy			Paddy	Non-Paddy			Paddy	Non-Paddy			Paddy	Non-Paddy
1	Nuapada	0	0	0	0	0	0	0	0	25	136	17287.5	0	0	0	0	0
2	Komna	0	0	0	0	0	0	0	0	27	151	18217.85	0	0	0	0	0

3	Boden	0	0	0	0	0	0	0	0	14	87	12146.84	0	0	0	0	0
4	Sinapali	0	0	0	0	0	0	0	0	22	125	19887.81	0	0	0	0	0
5	Khariar	0	0	0	0	0	0	0	0	18	112	12667.18	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	106	611	80207.25	0	0	0	0	0

[Information to be given for previous 4 drought years and the relevant blocks are to be mentioned in the table. The detailed list of drought prone Villages is at Table No.3.3 Of Volume II of the DDMP]

A. Major Disasters/ Incidents in the District during 2016:

Sl. No.	Disaster/ Incident	No. of incidents during 2016	No. of Deaths	Affected Population	Lives Lost	Houses Damaged	Damage to Infrastructure				Damage and loss of Crop Area (in Hectares)
							AWC/ School Buildings	Hospitals	Road in Km.	Other Critical Infrastructure	
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Table 3.3- List of Hospitals/ Health Centres Exposed to Cyclone

<i>Sl. No.</i>	<i>Name & Location of the Hospital/ Health Centre</i>	<i>Gram Panchayat Name</i>	<i>Block Name</i>
NA	NA	NA	NA

Table 3.4- List of Schools/ AWC Exposed to Cyclone

<i>Sl. No.</i>	<i>Name & Location of the Hospital/ Health Centre</i>	<i>Gram Panchayat Name</i>	<i>Block Name</i>
NA	NA	NA	NA

<i>Sl. No.</i>	<i>Name & Location of the Hospital/ Health Centre</i>	<i>Gram Panchayat Name</i>	<i>Block Name</i>
NA	NA	NA	NA

Table 3.5- List of Road

Exposed to Cyclone (Storm Surge)

<i>Sl. No.</i>	<i>Road Exposed to Cyclone (Storm Surge)</i>	<i>Road Type</i>	<i>Length in KM</i>	<i>Block Name</i>
NA	NA	NA	NA	NA

Table 3.6 List of Hospitals/ Health Centres Exposed to Tsunami

Table 3.7 List of List of Schools/ AWC Exposed to Tsunami

<i>Sl. N.</i>	<i>Name & Location of the School</i>	<i>Gram panchayat Name</i>	<i>Block Name</i>
NA	NA	NA	NA

Table 3.8 Road Exposed to Tsunami

<i>Sl. No.</i>	<i>Road Exposed to Tsunami (From-To)</i>	<i>Road Type</i>	<i>Length in KM</i>	<i>Block Name</i>
NA	NA	NA	NA	NA

Table 3.9 List of Hospitals/ Health Centres Exposed to Flood

<i>Sl. No.</i>	<i>Name & Location of the Hospital/ Health Centre</i>	<i>No. Of Bed</i>	<i>Gram Panchayat Name</i>	<i>Block Name</i>	<i>Flood Causing Agent</i>
NA	NA		NA	NA	

Table 3.10 List of List of Schools/ AWC Exposed to flood

<i>Sl. No.</i>	<i>Name & Location of the School</i>	<i>Gram Panchayat Name</i>	<i>Block Name</i>	<i>Flood Causing Agent</i>
NA	NA	NA	NA	

Table 3.11 Road Exposed to Flood

<i>Sl. No.</i>	<i>Road Exposed to Tsunami (From-To)</i>	<i>Road Type</i>	<i>Length in KM</i>	<i>Flood Causing Agent</i>	<i>Block Name</i>
NA	NA	NA	NA		NA

Table 3.12 List of Hospitals/ Health Centres Exposed to Land Slide

<i>Sl. No.</i>	<i>Name & Location of the Hospital/ Health Centre</i>	<i>Land Slide Zone/Area/ Location</i>	<i>Block Name</i>
NA	NA		NA

Table 3.13 List of List of Schools/ AWC Exposed to Land Slide

<i>Sl. No.</i>	<i>Name & Location of the School/ AWC building</i>	<i>Land Slide Zone/Area/ Location</i>	<i>Block Name</i>
NA	NA	NA	NA

Table 3.14 List of Hospitals adjacent to major Industrial Establishment/ Chemical Storage Point

<i>Sl. No.</i>	<i>Name & Location of the Industry/ Factory/ Chemical Storage Points</i>	<i>Name & Location of the Hospital/ Health Centre</i>	<i>Gram Panchayat</i>	<i>Block Name</i>
NA	NA	NA	NA	NA

Table 3.15 Schools and AWC adjacent to major Industrial Establishment/ Chemical Storage Point

<i>Sl. No.</i>	<i>Name & Location of the Industry/ Factory/ Chemical Storage Points</i>	<i>Name of the AWC/ School</i>	<i>Gram Panchayat</i>	<i>Block Name</i>
NA	NA	NA	NA	NA

3.15 Population Requiring Special Care

Special care is unique to women, children, and elderly persons for fulfillment of the special needs and requirements especially during disaster. Thus, following category of population required special care during emergency situation in the district.

Table 3.15 Population require special care

Sl. No.	Year / Block	No. of Orphan-ages	No. of inmates	No. of Beneficiaries covered under				
				MBPY	IGNOAP	IGNDP	IGNWP	NFBS
1	2	3	4	5	6	7	8	9
	2018-19	0	0	52053	40120	1330	8929	252
	2019-20	0	0	52250	40120	1330	8929	348
	2019-20 BLOCK							
1	Boden	0	0	8289	5723	250	1324	70
2	Khariar	0	0	10122	6260	268	1451	83
3	Komna	0	0	11382	10481	415	2307	108
4	Nuapada	0	0	9704	8100	331	1817	12
5	Sinapali	0	0	9585	7445	294	1603	52
	URBAN							
1	Khariar(N)	0	0	1334	799	32	157	6
2	Khariar Road(N)	0	0	794	789	25	159	8
3	Nuapada(N)	0	0	1040	526	15	111	7

Sources: Census, 2011

Sl. No.	Block/ULB	No. of HHs headed by Women	No. of HHs headed by PWD	No. of Persons With Disability		No. of Widows	No. of Children		No. of Orphans		No. of Aged Persons (60 and above)		No. of Pregnant and lactating mothers
				M	F		0-6 Years	6-14 Years	M	F	M	F	
2	Nuapada			203	151	3398	776	559					2970
3	Komna			310	143	2273	906	401					3095
4	Khariar			131	87	2141	281	262					2654
5	Sinapali			145	99	1587	559	216					2527
6	Boden			192	92	1501	304	234					1908
	Total			981	572	10900	2826	1672			23,227	26,12	13154

Vulnerability and Risk Assessment related to disasters: Flood

Flood vulnerable areas of the district

Sl. No.	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	2	3	4	5	6	7	8	9	10	11
	Nuapada	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Komna	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

	Khariar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Sinapali	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Boden	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Boat operation

The district had Boat Operating Points (**Ghats**) which functions during rainy season in six blocks of the district.

Boat Operation Points

Sl. No.	Name of the Block	Name of the ghat/ boat operation point	Name of the water body	No. of Panchayat s/ villages connected	Daily to and from movement of people in Nos. (Approx.)	Type of boats operating in Nos.	
						Mechanised	Non-Mechanised
NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA

Agriculture & Flood vulnerability

Name of the Block	Tube well/ Sanitary Well		Rural Piped Water Supply Project	PHD Stand
	Functional	Defunct		

Boden	1695	6	11	18743
Khariar	1570	26	29	23352
Komna	2451	31	48	26891
Nuapada	2527	20	42	27506
Sinapali	1966	28	38	23522
Total	10209	111	168	120014

Table No.11 : Drinking water and Flood Vulnerability:

Name of the Block	Tube well/ Sanitary Well		Rural Piped Water Supply Project	PHD Stand
	Functional	Defunct		
Boden	1695	6	11	18743
Khariar	1570	26	29	23352
Komna	2451	31	48	26891
Nuapada	2527	20	42	27506
Sinapali	1966	28	38	23522
Total	10209	111	168	120014

Electrical Infrastructure

Sl No	Name of the Block/ULB	No of grid Stations	No. of 33/11KV 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 11KV (length in KMs)	
				11KV or Less	11KV <and <60KV	60KV and above					
1	NUAPADA	NUAPADA GRID	3	1448	0	0	695	8688		55.4	
2	KOMNA	KHARIAR GRID	3	1203	0	0	732	9150	10	73.5	
3	KHARIAR		2	812	0	0	577	7212		4.8	
4	BODEN		2	461	0	0	220	2750		49.4	
5	SINAPALI		3	1056	0	0	394	4925		42.8	
6	NUAPADA NAC	NUAPADA GRID	1	77	0	0	14	175		1	
7	KHARIAR ROAD NAC	NUAPADA GRID	1	124	0	0	43	538		12	
8	KHARIAR NAC	KHARIAR GRID	1	88	0	0	26	325		4.5	
		TOTAL	16	5269	0	0	2701	3376	3	10	243.4

Heat Waves

Nuapada is reeling under a blistering heat wave. Increase rate of deforestation and local bricks knell are the major cause of high temperature of the area.. Following tables showed the trend of temperatures and relative humidity in the district. During the last 10 years,

Drinking Water Crisis

In Nuapada, 372 villages are having drinking water crisis during summer season. Besides, 66 villages are affected by fluoride which is one of the prime concerns of the district.

Fire Accident

Accident of fire cases have been emerged in the district during summer. Linear housing pattern and high temperature increases the trend of fire accidents in the district. Among the all blocks, Puintala majority cases were reported in Puintala block.

Events/ Festivals/ Functions organized in the district:

The recurring stampedes at places of mass gathering including religious places and public events are great concern in the district. The district observed/organised few important events where probability of crowd is higher and required integrated and structural approach to avoid any eventuality. Following table showed the major events of the district where special care needs to be taken by appropriate authority.

Event/ Festival/ Function

Sl. No.	Name of the Event/ Festival/ Function	Place (Block & Gram Panchayat)	Duration of the event (in No. of days)	Month (as per English Calendar)	Strength of population gathering (Approx.)	Remarks (other vulnerabilities associated with the place/ event, if any to the mentioned)
1	Shiva Ratri @Patorabandh	Patorabandh	02	February	10000	-
2	Ratha Yatra @ Nuapada	Nuapada Nuapada	03	June	5000	-
3	Ganesh Puja @ Nuapada	Nuapada Nuapada	07	August	30000	-
4	Durga Puja @ Nuapada	Nuapada Nuapada	04	September	70000	-
5	Durga Puja @Kharir Road	Khariar Road	04	September	10000	-
6	Laxmi Puja @ Khariar Road	Khariar Road	04	September	10000	-
7	Kali Puja @ Khariar Road	Khariar Road	04	September	10000	-

Drought

Drought is a recurring and single most insidious phenomenon in Nuapada district of Odisha. The recurrent drought in the district is mostly responsible for its 'chronic backwardness'. Since a significant proportion of cultivated land in Nuapada is under rain fed agriculture, the variability in date of onset of effective monsoon, higher initial and conditional probability of dry weeks are crucial factors for increasing drought vulnerability and risk in the region. The long-term normal rainfall in the district is also gradually declining. On the other hand, the increasing frequency of occurrence of the hazard is one of the major factors behind the rising level of drought

vulnerability in the region, which is mainly due to “wide variability of rainfall from season to season”, not as a result of deficiency of annual rainfall. Moreover, one of the prime reasons for increasing drought frequency and vulnerability in the study region is the neglect of the traditional water harvesting structures and poor development of irrigation facilities. Numbers of villages affected due to drought are 332, 358, 1783, 1765 and 1724 in 2009, 2010, 2011, 2015 ,2017 & 2018 respectively. More than 50% villages of each block have been affected from 2009 to 2018. Drought hits to its maximum (36% of the cultivable area) extend during 2015, in which Patagarh, Puintala and Belpada blocks severely affected. Summary of the drought affected villages/areas is portrayed below.

Drought Vulnerability

Sl. No.	Name of the Block	Year- 2013		Year – 2014		Year-2015		Year- 2016					
		No. of GPs experienced drought	No. of Villages	Agricultural Crop Area lost (in Hectares)	No. of GPs experienced drought	No. of Villages	Agricultural Crop Area lost (in Hectares)	No. of GPs experienced drought	No. of Villages	Agricultural Crop Area lost (in Hectares)			
				Paddy	Non - Paddy					Paddy	Non - Paddy		

1	Nuapada	0	0	0	0	0	0	0	0	25	136	1728 7.5	0	0	0	0
2	Komna	0	0	0	0	0	0	0	0	27	151	1821 7.85	0	0	0	0
3	Boden	0	0	0	0	0	0	0	0	14	87	1214 6.84	0	0	0	0
4	Sinapali	0	0	0	0	0	0	0	0	22	125	1988 7.81	0	0	0	0
5	Khariar	0	0	0	0	0	0	0	0	18	112	1266 7.18	0	0	0	0
	Total	0	0	0	0	0	0	0	0	106	611	8020 7.25	0	0	0	0

Cultivable Areas of the District

Sl. No.	Name of the Block	Average Annual Rain Fall(in mm)	Ground Water Level	Cultivated Area (In Hectares)			
				Paddy		Non- Paddy	
				Rain fed Area	Irrigated area	Rain fed Area	Irrigated area
1	Nuapada	904.4	-	12844	14196	24058	5332
2	Komna	1754	-	15224	8036	21128	5122
3	Boden	916	-	6561	2789	16250	2690
4	Khariar	1430.3		7039	5531	13370	4100
5	Sinapali	1054		6892	4088	15789	2291
	Total	6058.7		48560	34640	90595	19535

Source: DDA, Nuapada

Road Accidents

The district has 20 nos. and 15 nos. of Traffic Congestion Areas Accident Prone Areas respectively in various stretches of State and National highways. Caution points and villages/habitations adjoining to such accident prone areas are summarized below.

Habitations adjacent to accident prone areas

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	Bhojpur ghati to Daldali Village	7km	01	1.Bhojpur Ghati 2.Kurumpuri market area	02
2	Bhera chowk to Silda	2kms	03	01	01
	Sirtol to Dhamanpuri Chowk	3 kms	03	05	05
3	Beltukri to Khariar Road	21Kms	03	04	09
4	Gotma Chowk to Jonk river bridge	05kms	06	04	04

Status of Fire in Nuapada Forest Division

<i>Beat wise last 3 years fire point analysis of Khariar Range.</i>				
Name of the Range	2019	2020	2021	Total
Khariar	153	7	966	1126
Komna	17	0	164	181
Nuapada	59	2	206	267
Sinapali	145	5	328	478
Khariar Road	6	9	57	72

Disaster Risk Reduction (DRR) Plan for Line Departments in Nuapada District for the year 2022.

Sl. No	Line Departments	Planning	Output	Types of Disaster will be address
1	DRDA, Nuapada, BDOs (Department of Panchyati Raj and Drinking Water)	<p>Planning for Disaster Resilient Houses under IAY, PMAY, Biju Pucca Ghar.</p> <p>Every beneficiaries will be involved in the kitchen garden practices</p> <p>Involve in Designing process of public utility</p>	<p>Houses will be sustainable and disaster resilient in all situation. As a result both the Govt. and the dwellers will bear less cost in maintenance. Casualities will be minimized.</p> <p>The beneficiaries will get nutritious vegetables and health indicators will be addressed.</p> <p>Due to proper planning, big Infrastructures will be disaster</p>	<p>Natural Disaster(Flood/Earthquake)</p> <p>Even fire accidents will be checked.</p> <p>Health disorders like, malnutrition will be checked. Quality of life will be enhanced. As a result health sector investment will be minimize.</p>

		buildings with Engineers/ Architects for practicing of disaster resilient	resilient. Both the residents and periphery communities will live in safe environment.	Both Natural and man- made disasters will be avoided.
2	CDAO, Nuapada (Department of Agriculture and Farmers Empowerment)	Creation of awareness among Farmers to adopt Crop Diversion practices for combating against scarcity of agricultural products.	Major crops like paddy, pulses, cereals & millets and vegetable will be produced. People will get harvested food products in all seasons. There will be no gap between supply and demand. Livelihood status will be enhanced and people will come under economic empowerment.	Natural Disaster(Drought/Famine)
3	DDH, Nuapada (Department of Agriculture and Farmers Empowerment)	Plantation of fruit bearing trees in barren and community lands with the help from communities	Sufficient fruit will be produced. There will be no gap between supply and demand. Self reliant in fruits production. Employment will be generated.	Natural Disaster (Drought/Famine)

4	CDVO, Nuapada (Department of Fisheries and Animal Resources Development)	Awareness generation among farmers to adopt Cattle Breed Improvement Programme for increase in Breedable population among domestic animals and fodder cultivation practices	Sufficient milk production will be enhanced. Protein rich food product will be generated. Increase in animal population. Organic manure will be generated.	Manmade Disaster (food scarcity in panic times)
5	Director Fisheries, Nuapada (Department of Fisheries and Animal Resources Development)	Pisciculture activities will be promoted in existing water bodies.	Water bodies, like ponds will be cleaned and maintained. Siltation will be checked. As a result, Rain Water will be stored and community will use the water in summer season, Flood control will be managed through ponds and its outlets.	Natural Disaster (Flood/Drought) Manmade Disaster (Water scarcity)
6	DFO, Nuapada, (Department of Forest & Environment.)	Plantation programme in degraded forest land by involving communities and VSS and Forest fire Management during the	Forest cover will be increased and Ecological balance will be maintained. People will get sufficient forest and NTFP products.	Natural Disasters (Fire/ Flood/ Drought)

		month of (February to April every year)		
7	District Urban Development agency (DUDA), Special Planning Authority (Town planning), and ULBs of Nuapada District. (Department of Housing and Urban Development)	<p>Awareness among urban inhabitants to construct their Homes and Infrastructures as per Town Planning and construction of rooftop water harvesting structures for ground water recharge.</p> <p>Plantation of at least one or two plant in backyard/in front of their home (as per availability of land)</p> <p>Cleaning of natural drainage line by involving the community people, ULBs members and staffs to take sufficient</p>	<p>Due to proper Town planning, the road and street will be hassle free for movements. Prober drainage and sewerage system will be maintained. In Rainy season the excess rain water will freely flow and water will not clogged in street and roads.</p> <p>Greenery will be maintained and environmental pollution will be checked.</p> <p>Due to blockage and unnecessary encroachment over natural drainage line the urban flood situation are arising and alarming. So, all preventative measures will be</p>	Natural Disaster(Flood/Earthquake/Fire /Heat wave/ unseasonal weather)

		<p>preventive measures to check urban flooding.</p> <p>Monitoring of Public utility Infrastructures and identification of its Disaster related vulnerability.</p> <p>Planning of Garden and tree plantation in newly constructed office premises and Residential Colonies.</p> <p>Monitoring of Rooftop ceiling of GI Sheet on the top of Infrastructures will be checked.</p>	<p>ensured to check the urban flood.</p> <p>All types of safety related mechanisms will be ensured. When, a Disaster like situation will be arise then, proper rescue and evacuation will be done.</p> <p>Greenery and Environment will be ensured.</p> <p>Heat wave radiation will be increased and during whirlwind adverse effect to the concerned households and its periphery.</p>	
8	EE, RWSS and Drinking Water, Nuapada (Department of Panchyati Raj	Planning for safe drinking water facilities for every HHs in both urban and rural pockets of the district.	Provision for safe drinking water. Avoid of any kind of water borne diseases like Jaundice.	<p>Water Borne Disaster (Jaundice)</p> <p>Manmade Disaster (Water Scarcity)</p>

	and Drinking Water)	Periodic maintenance and repair of broken pipes to avoid water scarcity and any kind of water borne diseases like Jaundice	Sufficient safe drinking water	
9	SE & EE, Irrigation (MI/LI), Nuapada. (Department of Water Resources)	Planning for irrigation facilities for farmers for cultivation practices in barren land.	Increase in irrigation areas and cropping pattern will be enhanced.	Natural Disaster (Rain/Flood/Famine/Drought)
10	SE and EE, TPWODL, Nuapada Electricity and Energy (Department of Energy)	Cutting of tree branches which are felling on electricity lines in regular interval to avoid any untoward incidents.	Life will be saved during heavy rain and wind. Electricity incidents will be avoided and supply will be ensured	Natural Disaster (Wind/Rain)
12	SP, Nuapada. AFO (Fire Services), ODRAF (Fire, Police, NDRF and ODRAF)	Conduct of Mock Drill exercises at Hospital, Schools, Colleges, cinema halls, shopping complex/Malls, public gathering places like	Safety precaution will be ensured in people gathering places and Institutions.	Natural Disasters (Fire/ Earthquake/Flood etc.)

		Bus Stand, religious places, picnic spots and high raised buildings/Apartments		
13	RTO, Nuapada (Department of Commerce and Transport)	Planning for identification of Black (accident) spots in the district and provision for awareness of safe driving in this accident prone roads. Awareness among wearing of Helmets while driving two wheelers.	Accidental death will be minimized.	Manmade Disaster (like reckless driving)
14	CSO, Nuapada (Department of Food Supplies and Consumer Affairs)	Every eligible family will be come under NFSA and their starvation death will be avoided. Monitoring of Petrol Pumps and LPG Gowdams for ensure of safety related SOPs	Starvation death will be checked and poverty will be reduced. Fire and Gas leakage incidents will be avoided.	Food security and Poverty alleviation. Fire and Gas leakage.
15	Project Director, Watersheds, Nuapada	Plantation in barren land through MGNREGA funds and construction	Soil erosion will be checked and ground water table will be stable.	Natural Disasters (Flood/Drought)

	(Department of Agriculture and Farmers Empowerment)	of contour bounding/ guard wall to prevent soil erosion.		
16	DSWO, Nuapada. (Department of Women and Child Development) Mission Shakti	Involvement of AWWs and women SHGs in different types of awareness programme on dissemination of Disasters related activities.	Disasters related IECs and information will be disseminated to every pockets of Nuapada.	All types of Disaster
17	DEO, Nuapada (Department of School and mass Education)	Ensure children friendly atmosphere and School safety programmes. Dissemination of IEC knowledge on Disasters to children. Arrangement of Mock drills exercises in Schools.	Children and schools authorities will gain knowledge on Disasters and they can save themselves from any kind of Disasters	All Types of Disasters
19	CDMO, Nuapada (Department of	Involvement of Health Officials, ANMs, ASHAs in different types of	Quick Response will be initiated and minimized the causalities.	All Types of Disasters

	Health and Family Welfare)	Disasters related awareness and take their help during any kind of disasters (including pandemic, epidemic) for quick response.		
20	Deputy Labour Commissioner, Nuapada (Department of Labour and Employee State Insurance)	Database on movement of all registered and non-registered migrant labour will be updated and keep in official records for tracking.	Migrants Labour can be evacuated and repatriated during the time of any kind of disasters outside the states	All types of disasters
21	DSSO, Nuapada (Department of Social Security and Empowerment)	Database of old aged persons, senior citizens, PWD and other vulnerable groups. Involving all eligible persons under Social security schemes.	These groups of people are most vulnerable to any type of disasters. So, they can be respond immediately and evacuated during the Disasters situations. Social Security of eligible person will be ensured.	All types of disasters

Chapter 4 Institutional Arrangement

4.1 National Disaster Management Authority (NDMA)

The National Disaster Management Authority (NDMA) was constituted under the Sub-section (1) of Section (3) of National Disaster Management Act 2005. 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 others members not exceeding than nine may be nominated by him. The Chairperson may designate one of the members to be the Vice-Chairperson.

4.1.1 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 forest, finance (expenditure), health, power, rural development, water resources and the Chief of the Integrated Defence Staff of the Chiefs of Staff Committee as members of NEC.

4.2 State Disaster Management Authority (SDMA)

The State Disaster Management Authorities (SDMA) has to be constituted by every state government under the sub-section (1) & (2) of section 14 of Disaster Management Act 2005. Hon'ble Chief Ministers of the state are the Chairpersons (ex-officio) of SDMA and other members not exceeding than 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.

The State Disaster Management Authority shall-:

- a) Lays down policies and plans for disaster management in the State.
- b) Approves the State Plan in accordance with the guidelines laid down by the NDMA,
- c) Coordinates the implementation of the State Plan, recommend provision of funds for mitigation and preparedness measures.
- d) Review the developmental plans of different departments of the State to ensure the integration of prevention, preparedness and mitigation measures.
- e) Lay down guidelines to be followed by the departments of the State Government for the purpose of integration of measures for prevention of disasters and mitigation in their development plans and projects and provide necessary technical assistance there for.
- f) Review the measures being taken for mitigation, capacity building and preparedness by the departments of the Government & issue such guidelines as may be necessary.
- g) Lay down detailed guidelines for providing standards of relief (Not less than the minimum standard of relief in the guidelines of NDMA) to persons affected by disaster in the State.

State Executive Committee (SEC)

The State Executive Committee (SEC) has been constituted by the State Governments under sub-section (1) & (2) of section (20) to assist the State Disaster Management Authority (SDMA) in the performance of its function and to coordinate action in accordance with the guidelines laid down by the SDMA and ensure the compliances of directions issued by the State Government under the DM act. The Chief Secretaries of the States are the Chairman of SEC (ex-officio). Four Secretaries of State Government are the other member's ex-officio. The Chairperson of SEC use powers delegated by SDMAs and state Governments.

The State Executive Committee shall-:

- a) Coordinate and monitor the implementation of the National Policy, National Plan and State Plan.
- b) Examine the vulnerability of different parts of the State to different forms of disaster and specify measures to be taken for their prevention and mitigation.
- c) Lay down guidelines for preparation of disaster management plans by the departments of the Government of the State and the District authorities and monitor the implementation of the plans.
- d) Evaluate preparedness at all government and non-government levels to respond to any threatening disaster situation or disaster and give all directions where necessary for enhancing such preparedness.

Revenue and Disaster Management Department:

The Revenue and Disaster Management Department is responsible for providing immediate relief to the people affected by various calamities like floods, droughts, cyclones, hailstorms, earthquakes, fire accidents, etc. It also takes initiatives for relief, rescue, rehabilitation and restoration work. The Department is headed by the Principal Secretary/Addl. Chief Secretary, Revenue and Disaster Management Department who exercises all administrative and financial powers.

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.

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.

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.

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.

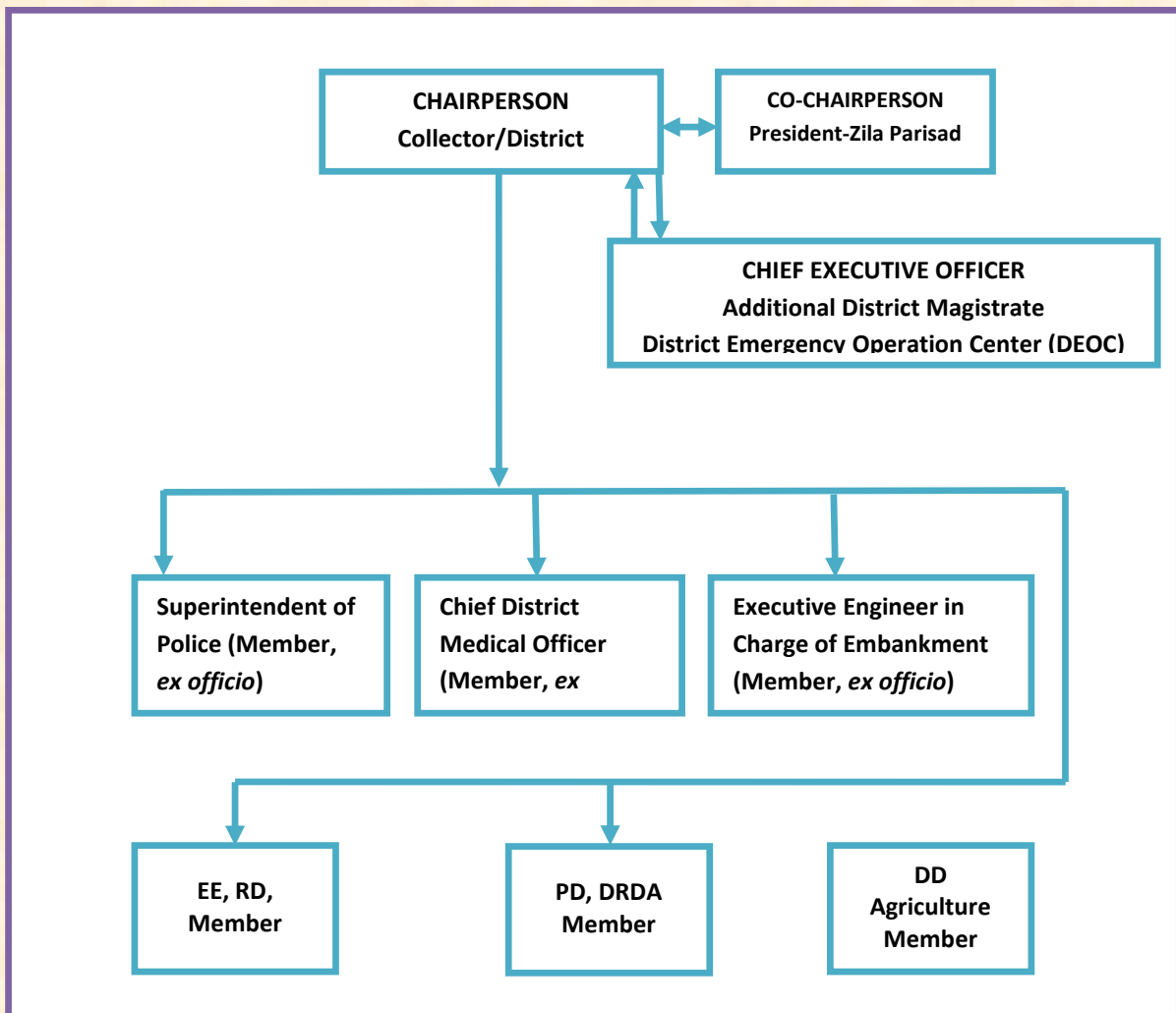
The District Disaster Management Authority (DDMA) consists of the Chairperson and such number of the other members, not exceeding seven, as may be prescribed by the State Government, and unless the rules otherwise provide, it shall consist of the following namely:-

- 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.

- c) 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*
- d) The Chief Executive of the District Authority ,*ex officio*;
- e) The Superintendent of Police, *ex officio*;
- f) The Chief Medical Officer of the district, *ex officio*;
- g) 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.

Organogram of District Disaster Management Authority



The DDMA acts as the district planning; coordinating and implementing body for disaster management and take all measures for the purpose of disaster management in the district in accordance with the guidelines laid down by the NDMA and SDMA.

The District Disaster Management Authority (DDMA) shall-:

- a) Prepare Disaster Management Plan including District Response Plan of the District.
- b) Coordinate and Monitor the implementation of the National DM Policy, State DM Policy, State DM Plan and District DM Plan.
- c) Ensure that vulnerable areas of the districts are identified and prevention and mitigation measures are being undertaken by the departments of the Government both at district level and at local level.
- d) Ensure that guidelines for Prevention and Mitigation measures, Preparedness and Response as lay down by NDMA and SDMA are being followed by all departments of Government both at district and local level.
- e) Monitor the implementation of Disaster Management Plans prepared by the departments of the Government at the district levels.
- f) Lay down guidelines to be followed by different Government departments both at district level and local level for integrating disaster prevention and mitigation measures in their development plans and projects and provides necessary technical assistance therefor;
- g) Review the state of capability for responding to any disaster or threatening disaster like situation in the district and give directions to the relevant departments or authorities at the district level for their up gradation.
- h) Review the preparedness measures and give directions to the concerned departments at the district level for bringing the preparedness measures to the levels required for responding effectively to any disaster.

- i) Organize, coordinate and facilitate specialized training programmes and awareness programmes for different level of officers, employees, voluntary rescue workers and community members for prevention and mitigation of disaster with support of governmental and non-governmental organization and local authorities.
- j) Set up, maintain, review and upgrade mechanism for early warning and dissemination of proper information to public.
- k) Review development plans prepared by the departments of the government at the district level, statutory authorities with a view to make necessary provisions therein for prevention of disaster or mitigation.
- l) Examine construction in any area in the district and ensure standards for prevention of disaster or mitigation laid down for such construction to be followed by the concerned departments and authorities.
- m) Identify buildings and places which could be used as relief centers or camps in the event of any disaster or disaster like situation and make arrangements for water supply and sanitation in such buildings and places.
- n) Establish stockpiles of relief and rescue materials or ensure preparedness to make such materials available at short notice;
- o) Encourage the involvement of Non Government Organization and Voluntary social –welfare institutions working at the grass root level in the district for disaster management.
- p) Ensure communication systems are in order and disaster management drills are carried out periodically.
- q) Perform such other functions as the State Government or State Authority may assign to.

To assist the DDMA the District Disaster Management Teams (DDMT) are constituted vide office order no.1113 dt.07-10-2010 of Collector, Nuapada with distinct roles and responsibilities.

The DDMT is formed under the guidance of DDMA. Various sub teams are formed to perform some sectoral activities for disaster management. The roles and responsibilities of each team are well defined to avoid any form of overlapping or duplicacy during the time of disaster. They will perform their roles and responsibilities under the overall guidance of DDMA. In case of Nuapada the following DMTs have been formed and the members of each team is mentioned hereunder

- **Information Management Team:**

DI & PRO, Nuapada, Station Director- AIR, Nuapada, District Telecom officer, District control Room, Police Control Room

- **Food & Social Security Team:**

PD (DRDA), Sub-Collector, Nuapada/ Patnagarh/ Titilagarh/ All Tahasildar, All BDOs, DSWO, DWO, Civil Supply Officer, District Panchayat Officer, District Labour Officer.

- **Water Management Team:**

EE (Irrigation), EE (MIP), EE (OLIP), AE (Agriculture), EE (RWSS), PD (Watershed).

- **Livelihood Team:**

DDA, Nuapada, DDH Nuapada, and DAOs, Horticulturist, CDVO, Asst. Director (Fishery), DFO (Kendu leaf), PD (Watershed), DSMS, GM-DIC, NGOs.

- **Forest & Environment Team:**

DFO, Nuapada/ NGOs

- **Rescue & Evacuation Team:**

SP, All Sub Collector, Dist. Fire Officer, ODRAF team

- **Emergency Health Management Team:**

CDMO, Red Cross, Representative Private Hospital, CDVO, NGO Coordination Cell

- **Relief Management Team:**

ADM, Sub-Collector, Nuapada/ Patnagarh/ Titilagarh/ All BDOs, All Tahasildars, Addl SP, NGOs/INGOs

- **Infrastructure Management Team:**

EE (R&B), EE (RD), EE (WESCO), APD (Technical), DRDA, EE (NHAI), District Panchayat Officer, NGOs/ INGOs

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:

Structure of District Level Committee on Natural Calamity

Sl No.	Name of the Member	Designation	Position in DLCNC
1	Smt. Swadha Singh Dev	District Magistrate and Collector	Chairperson
2	Sri Basanta kumar Panda	Hon'ble MP, Loksabha	Member
3	Sri Raju Dholkia	Hon'ble MLA, Nuapada	Member
4	Sri Adhiraj Panigrahi	Hon'ble MLA, Khariar	Member
7	Smt. Doli Majhi	Chairman, Zilla Parishad	Member
8	Sri Agasti Pradhan	Addl. District Magistrate	Member
9	Dr. Sovarani Mishra	Chief District Medical Officer	Member
10	Sri p. Panda	Executive Engineer- in charge of Embankment	Member

11	Dr. Trilochan Dhala	Chief District Veterinary Officer	Member
12	Sri Taranisen Naik	Sub-Collector, Nuapada	Member
15	Sri Mohan Ku. Munda	District Emergency Officer	Member Secretary

The functions of the State Disaster Management Authority.

The functions of the committee shall be

- a) To advise on the precautionary measures to be taken in respect of flood, drought and other natural calamities.
- b) To assess the situation arising out of such calamities.
- c) To advise on appropriate relief measures and location of relief works.
- d) To meet as often as required.

4.3 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. The NDRF comprises of 12 units of Central Paramilitary Forces (CPMF) that includes 3 units each from Central Reserve Police Forces (CRPF) and Border Security Forces (BSF) and 2 Unit each from Central Industrial Security Forces (CISF), Indian Tippet Border Police (ITBP) and Sahastra Seema Bal (SSB). Each battalion has 18 self-contained specialists Search and Rescue teams of 45 personnel. The NDRF team includes Chemical, Biological and Radiological Disaster (CBRN) emergency responders, S&A element, engineers, technicians, electricians, dog squads and paramedics. The NDRF battalions are strategically located at 8 different locations in the country based on the vulnerability profile to cut down response time for their deployment. During the threatening proactive deployment of NDRF is being carried out by NDMA in consultation with the State Governments.

Location of National Disaster Response Forces

SI No.	Battalion, Location	State	Man power drawn from	Contact Person	Fax No.	Mobile No.	Unit Control Room No.	E-Mail
1	01 Bn, NDRF, Guwahati	Assam	BSF	Sh. S. K. Shastri	0361-2849080	9401307887	0361-2840284	assam01-ndrf@nic.in
2	02 Bn, NDRF, Kolkata	West Bengal	BSF	Sh. NitishUpadhayay	033-25875032	9434742836	033-25875032	wb02-ndrf@nic.in
3	03 Bn, NDRF, Munduli	Odisha	CISF	Jacob kisporta	0671-2879711	9439103170	0671-2879711	ori03-ndrf@nic.in
4	04 Bn, NDRF, Arakkonam	Tamil Nadu	CISF	Ms.RekhaNambiyar	04177-246594	9442105169	04177-246594	tn04-ndrf@nic.in

5	05 Bn, NDRF, Pune	Maharashtra	CRPF	Sh. AnupamSrivastava	02114-247008	942350676 5	02114- 247000	rb-5th@cisf.gov.in
6	06 Bn, NDRF, Gandhinagar	Gujrat	CRPF	Sh.R.SJoon	079-23201551	942882644 5	079- 2320155 1	guj06-ndrf@nic.in
7	07 Bn, NDRF, Ghaziabad	Uttar Pradesh	ITBP	--	0164 - 2246570		0164- 2246193	pun07-ndrf@nic.in
8	08 Bn, NDRF, Bhatinda	Punjab	ITBP	Sh. P.K.Srivastava	0120 - 276660 12	996861001 4	0120- 2766618	up08-ndrf@nic.in
9	09,Bn,NDRF, Patna	Bihar	BSF	Shri Vijay Sinha	06115-253939	776288444 4	06115- 253939	patna-ndrf@nic.in
10	10 Bn, NDRF, Vijayawada	Andhra Pradesh	CRPF	Sh. Parshant Dar	0863-2293050	738229962 1	0863- 2293050	rb-10th@cisf.gov.in

11	11Bn,NDRF , Varanasi	Uttar Pradesh	SSB	Sh. A.K.Singh	0542 - 250110 1	945551110 7	0542- 2501101	up- 11ndrf@gov.in
12	12 Bn, NDRF, Itanagar	Arunachal Pradesh	SSB	Sh. AngomKiran Chand Singh	03621-242940	948523614 1	0360- 2277106	bn12.ndrf@gov. in

4.4 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 Odisha. 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. Besides, 10 new units of ODRAF have been proposed to set up at different locations like Sambalpur, Boudh, Kalahandi, Nawarangpur, Gajapati, Berhampur, Puri, Khorda, Kendrapada and Jajpur

Table 0-1 Location of Odisha Disaster Rapid Action Force

Unit	Contact Details of designated Officer	Mobile/ Phone No.	Email ID
Cuttack (OSAP 6 th Battalion)	Shri Lingaraj Parida, OPS Commandant	98610-39267 (M) 0671-2442148 (O) 0671- 2442442 (R)	comdt6thbn.orpol@nic.in
	I/C ODRAF: Dy Sub Sk.R.Tulla Writer: K.B.Panda	94385 -03808 (M) 94385-82460 (M)	

Jharsuguda (OSAP 2 nd Battalion)	Md. Zaheed, OPS Commandant	94371-76264 (M) 06645-270096 (O) 06645-270038 (R)	comdt2ndbn.orpol@nic.in
	I/C ODRAF: Dy Sub C.Rana Writer: T.B.Gurung	88953-70538 (M) 90404-13176 (M)	
Koraput (OSAP 3 rd Battalion)	Shri B.M.Rao, OPS Commandant	94372-15519 (M) 06852-251344 (O) 06852-151335 (R)	comdt3rdbn.orpol@nic.in
	I/C ODRAF: Dy. Sub R.Ch.Hati Writer: R.K.Naik	99384-06905 (M) 94390-66456 (M)	
Rourkela (OSAP 4 th Battalion)	Shri K.Gauda, OPS Commandant	94373-58292 (M) 0661-2600434 (O) 0661-2600980 (R)	comdt4thbn.orpol@nic.in
	I/C ODRAF Dy Sub. A.Behera Writer Bijaya Sahoo	94374-19436 (M) 94384-25112 (M)	

OSAP 5th Battalion, Baripada	Shri Awinash Kumar, IPS Commandant	94381-53308	comdt5thbn.orphol@nic.in
	I/C ODRAF AC J.R.Nayak Writer T. K.Mohant	94372- 03557 94380-54976	
OSAP 7th Battalion, Bhubaneswar	Shri Biren Ku. Sasmal, OPS 1 Commandant	94370-81266	comdt7thbn.orphol@nic.in
	I/C ODRAF ACP D.K.Dehuri Writer Sadananda Jena	94371-85548 98615-78306	
OSAP 8th Battalion, Chatrapur	Shri B.N.Mishra Commandant	94370-87055	comdt8thbn.orphol@nic.in
	I/C ODRAF SI(A) C.R.Bisoi Writer L.Bijaya Kumar	82800-33508 94373-22432	
APR Balasore District	Shri Nithi Sekhar,IPS SP, Balasore	94381-53309 Spbls.orphol@nic.in	spbls.orphol@nic.in
	I/C ODRAF Sgt.P.K.Ransingh Writer M. Behera	94393-79619 94380-49083	
APR Nuapada	Shri Kusalkar Nitin	88950-46814	spbgr.orphol@nic.in

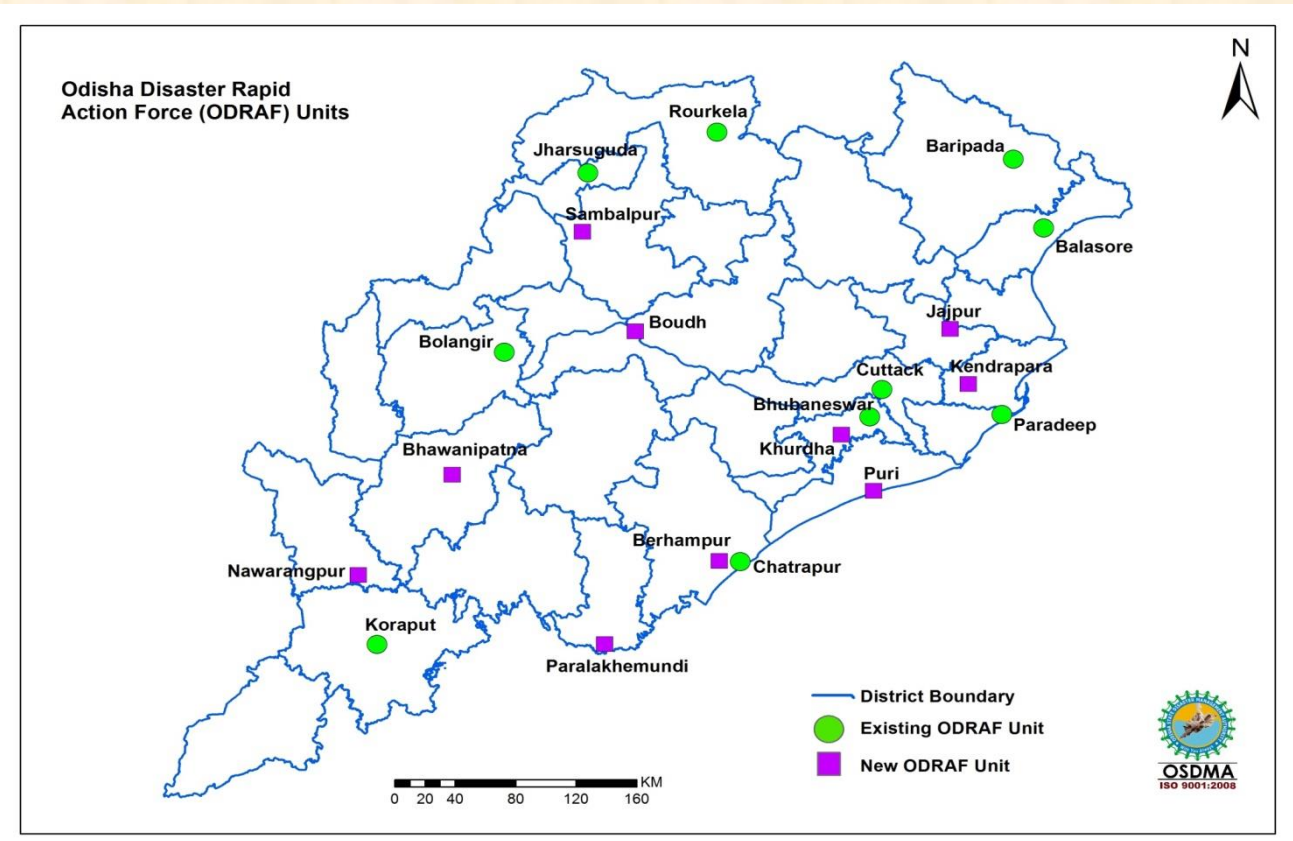
District	SP, Nuapada	Spbgr.orphol@nic.in	
	I/C ODRAF AC Sri Kumud Seth	94374-74571 99379-99404	
APR, Jagatsinghpur District	Shri J.N.Pankaj,IPS SP, Jagatsinghpur	94371-02022-23 Spjisp.orphol@nic.in	spjisp.orphol@nic.in
	I/C ODRAFDSI P.K.Routray Writer P.K.Bhuyan	94384-36188 83388-15172	

Location of New Odisha Disaster Rapid Action Force with contact details

Unit	In Charge	Telephone/ Mobile	Email
Dhenkenal (OSAP 1st Bn)	Shri Bijaya Prakash Babu, OPS Deputy Commandant	9438509006 (M) 06762- 226229 (O) 06762226291 (CR) Fax: 06762226291	comdt1stbn.orphol@nic.in
Koraput (1st India Reserve Bn.)	Shri P. Manmoth Rao, OPS Commandant	9437463489 (M) 06852-252167 (O) 06852-211320 (CR)	comdt1stirbn.orphol@nic.in
Gunupur (2nd India Reserve Bn.)	Shri Bibhuti Pattnaik, OPS Commandant	9437090541 (M) 0658-725110 (O) 0685- 725110 (CR)	comdt2ndirbn.orphol@nic.in
Jajpur (3rd India Reserve Bn.)	Shri S.N.Jemadar, OPS Commandant	9437355225 (M) 0672-6244602 (O)	comdt3rdirbn.orphol@nic.in

		0672- 6244610 (CR) Fax: 0672- 6244610	
Deogarh (4th India Reserve Bn.)	Shri Baikuntha Bihari Rout, OPS Commandant	9438800008 (M) 0664-3242130 (O)	comdt4thirbn. orpol@nic.in
Boudh (5th India Reserve Bn.)	Shri Jamesh Kumar Indrasingh, OPS Commandant	9437232275 (M) 9437232275 (M)	comdt5thirbn. orpol@nic.in
Khurda (6th India Reserve Bn.)	Shri Naba Kishor Das, OPS Commandant	8895856633 (M)	comdt6thirbn. orpol@nic.in
Koraput (7th Spl. India Reserve Bn.)	Shri S.N.Bastia Commandant	8895066309 (M) 06852-259112 (CR) Fax:06852-229007	comdt7thsplirb n.orpol@nic.in
Phulbani (8th Spl. India Reserve Bn.)	Shri A.K.tripathy, OPS Commandant	9437200980 (M) 0684-2253017 (O)	comdt8thsplirb n.orpol@nic.in

Location of ODRAF Units



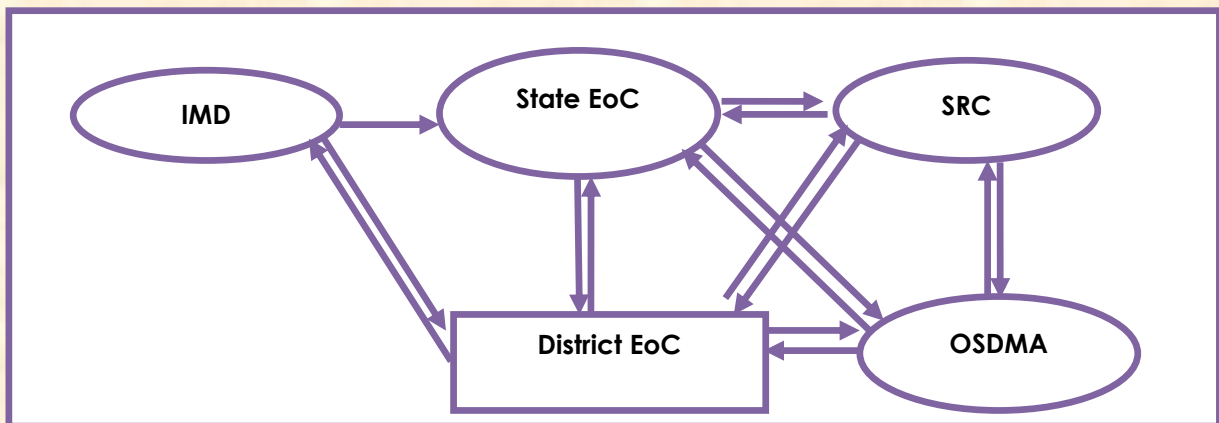
4.5 Other Disaster Response Teams in the district

Nuapada has other disaster response team who assist in various stages of disasters. They are DCG, LCG, NCC, NSS, NYK, Home Guard, Red Cross and NGOs/VOs

4.6 Emergency Communication System

4.6.1 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 0-1 Information flow chart from SEOC to Districts

4.6.2 District Emergency Operation Centers (DEOC)

The District Emergency Operation Centre (DEOC) is functioning at District Emergency Section Collectorate, Nuapada. The DEOC is headed by the Collector and District Magistrate, Nuapada. District Emergency Officer (DEO) functions as the officer-in-charge and looks after the day to day operation of DEOC under the guidance of Addl. District Magistrate, Nuapada. DEO is assisted by a District Project Officer (DPO) and Disaster Risk Reduction (DRR) Consultant and other ministerial staff. 1077 disaster helpline number is active in the district. The helpline is under the supervision of DEO, Nuapada. During any natural disaster it functions round the clock (24x7) for the purpose of receiving warnings and other information and in normal times it works in official hours from 10.00 am to 5 pm. It also receives all messages /instructions from the state control room and passes them on to the officer in -charge, who, if required, directs them further to sub-divisional control room and block control room. The control rooms at the sub divisional, block headquarters receive all

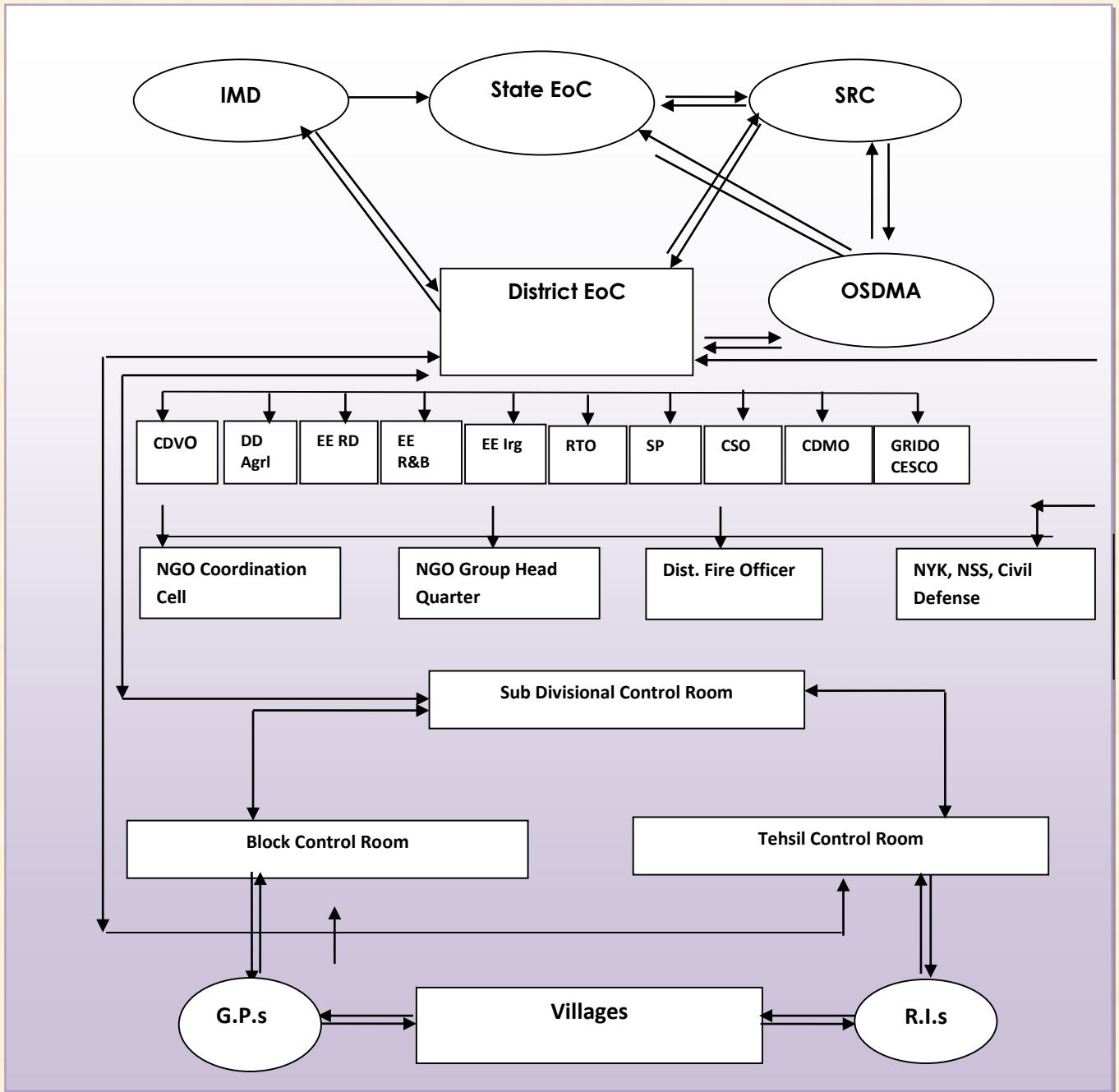
information regarding any emergency situation in their respective areas from the DEOC and also convey any information pertaining to filed status to the DEOC and other officials /non official organizations as the case may be. All the information so collected is transmitted by the DEOC to SEOC daily through appropriate channel in the performa prescribed by the state government time to time.

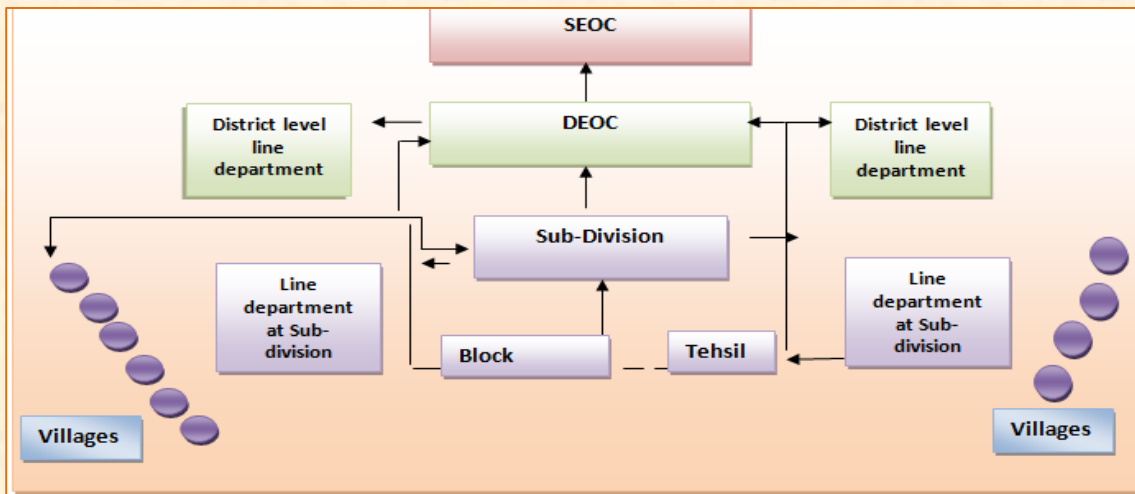
Equipment provided to DEoC and their operational status

SI No.	Equipments	Unit	Present Status	
			Operational	Non-Operational
1	Desktop Computer	2	2	0
2	Laser Printer	2	2	0
3	UPS	2	2	0
4	Scanner	1	1	0
5	Fax	0	0	0
6	Ink Jet Printer	0	0	0
7	Multi Utility Machine (Printer, Scanner, Fax, copy)	1	1	0
8	Laptop	0	0	0
10	LCD Projector	1	1	0
11	Photocopier	0	0	0
12	GPS Unit	1	1	0
13	Satellite Phone	1	1	0
14	VHF Sets	1	0	1
15	VHF Mobile Station	0	0	0
16	Walkie-Talkie (VHF hand Set)	0	0	0
17	Portable Diesel Generator	0	0	0

18	Inverter with Battery	1	1	0
19	Inflatable Tower Light	1	1	0
20	Power Saw	2	2	0
21	Life Jacket	4	4	0
22	Life Buoy	4	4	0
23	Aluminum Ladder	1	1	0
24	Fire Extinguisher	2	2	0
25	Siren	1	0	1
26	Megaphone	1	0	1
27	Colour TV/Stand	1	1	0
28	Mobile Phone	1	1	0
29	Display Board	1	1	0
30	White Broad	1	1	0
31	Computer Table/Chair	2	2	0
32	Rack	4	4	0
33	Book Case	1	1	0
34	GI Trunk	1	1	0
35	Commando Search Light	1	0	1
36	Steel Almirah	3	3	0

Information flow chart from DEoC to Villages with early warning

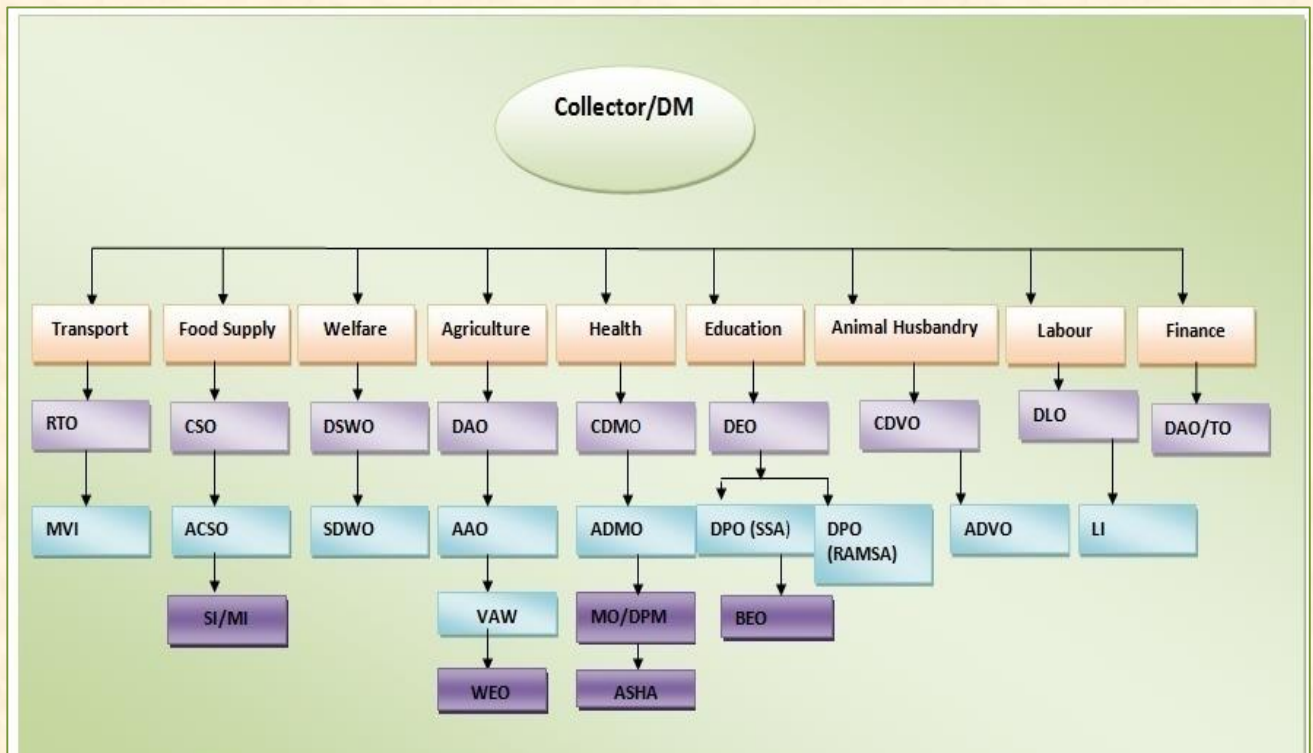




4.6.3 Block Emergency Operation Center (BEoC)

Block Emergency Operation Centers operate at Block and Tahasil level work round the clock during summer and rainy season to tackle the heat waves and flood situation (June to October) at block/tehsil level These emergency centers are headed by the concerned the head of the office. BDOs are assisted by Extension Officers. Similarly Tahasildar are supported by Revenue Inspectors and other staff. Such Emergency Operation Centers follow the Standard Operating Procedure (SoP) prescribed by the Govt. from time to time.

Coordination structure at the District level and down the line



GO-NGO Coordination before and after disaster in the district

The DM Act 2005 recognises that sometimes the development patterns that do not recognize disaster risk and vulnerability in the specific geographic areas may induce disasters. The proactive approach in the DM Act 2005 to address disaster risk and vulnerability through pre-disaster preparedness and mitigation activities also envisions accountability and multi stakeholder participation, including coordination of the activities of the NGOs at various levels. Sections 30 (2) (xix) of the Act mandate the DDMA for collaboration with stakeholder agencies including NGOs for the purpose of improving the effectiveness of DM. As on date, role of NGOs/CBOs has not been explore in Nuapada. Hence, a district level NGO Coordination Cell to be set up with the following points.

Action Points in Go-NGO Coordination

Area	Action Points	Responsibility
Geographic spread of NGOs	Develop a database of NGOs at all levels working on disaster management focusing on geographic outreach and thematic capacities of the organisations.	DDMAs with the help of NGOs
Volume of support provided by NGOs	Compile statistics on quantum of support provided by NGOs at all levels, both international and national.	DDMA
Coordination	Establishing inter agency mechanisms for coordination and networking activities (information and knowledge management, training and capacity building, collaborative advocacy, quality and accountability) at all levels.	DDMA
Accessibility	Establish protocols for cooperation and ensure access to the affected areas with support from government agencies at respective levels like NDRF and SDRF that have good logistics base to reach inaccessible areas.	DDMA, NGOs, CBOs

Hazard and vulnerability based planning	Conduct community centric hazard and vulnerability analysis at all levels, and develop disaster management plans in accordance.	DDMA, NGOs
Community participation	Ensure community participation in assessment, planning, implementation and monitoring of activities at all levels	DDMA, NGOs, CBOs
Mainstreaming of Disability Issues in DM	Support the most vulnerable groups through mitigation activities as well as disaster preparedness and response, with a particular focus on the special needs of the Persons with Disabilities (PWDs).	DDMA, NGOs)
Gender Mainstreaming	Make women's as well as men's concerns and experiences an integral dimension in the design, implementation, monitoring and evaluation of policies and programs such that inequalities between men and women are not perpetuated through the routine operations of DM.	DDMA
on most vulnerable rather than only on epicenter.	Focus National level: Advocate with all actors to reach out to gap areas State level: Coordinate among actors to identify gap Areas District and Local level: Ensure targeting with equity and outreach to all excluded areas.	District NGO Task Forces in DM)

Rural-urban diversity	Develop the capacities of NGOs or specialised civil society agencies at all levels to manage urban as well as rural disasters and accordingly make investments.	DDMAs
Adherence to standards	National level: Develop minimum standards for India State level: Develop minimum standards for the state District and Local level: Develop capacities for adherence to minimum standards through collective and coordinated efforts of all stakeholders	DDMA, NGOs, CBOs
Transparency and accountability	Develop an agreed framework of accountability for all levels and mechanisms to bring in transparency.	DDMA
Do No Harm	Advocacy at all levels on Do No Harm through disaster response and development interventions.	District NGO Task Forces in DM
Exit strategy	Ensure that the NGO programmes have an exit strategy to link with long term recovery/rehab/development programs of other NGOs or the government	District NGO Task Forces in DM

Role of Corporate Sector in the district relating to Disaster Management

Historically, the corporate sector has been supporting disaster relief and rehabilitation activities. However, the involvement of corporate entities in disaster risk reduction activities is not significant in Nuapada district. PPP between the Government and private sector would also be encouraged to leverage the strengths of the latter in disaster management. The DDMA would need to network with the corporate entities to strengthen and formalise their role in the DM process for ensuring safety of the communities. The role of corporate sector for awareness generation and local capacity building would also be important and efforts would be made to involve corporate sector in this effort. Besides, the media plays a critical role in information and knowledge dissemination in all phases of DM. The versatile potential of both electronic and print media needs to be fully utilised. Effective partnership with the media will be worked out in the field of community awareness, early warning and dissemination, and education regarding various disasters. The use of vernacular media would be harnessed for community education, awareness and preparedness at the local level. The DIPRO in consultation with the DDMA would take appropriate steps in this direction.

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

Private Ambulance Services are available in the district which operates in a Public Private Partnership mode. Five numbers of private firms are operating ambulance services in the district to provide emergence transportation services to the people at a price decided by the district administration from time to time. Details of Private Emergency Ambulance Service available in the districts are given below.

Contact Details of Officials in respect of Nuapada District

Sl. No	Designation	First Name	Office Phone	Mobile No.
1	Collector, Nuapada	Sri Hemanta Ku. Sai, IAS	6678225463	8895985872
2	SP.,Nuapada	Sri Pratyush Diwakar	6678225478	9438916860
3	ADM, Nuapada	Sri Agasty Pradhan	6678225352	8260151858
4	Sub-Collector, Nuapada	Sri Tram Chandra Khedia		
5	District Emergency Officer	Sri Mohan Kumar Munda	9438687231	8917583936
6	DFO(T), Khariar	Sri Sushil Ku. Tripathy	9437074637	9437074637
7	PD, DRDA, Nuapada	Sri.Nabin Kumar Patel	8249381835	9437405581
8	DFO, (KL), Khariar	Sri Prabhanjan Pradhan	9437350301	9437350301
9	DFO, (WL), Nuapada	Sri BBK Biswasi	9437966372	9437966372
10	PD, DRDA, Nuapada	Smt Madhuchanda Sahu	7684014064	7684014064
11	APD,RH, Nuapada	Sri Bidesh Ghosh	9937748377	9937748377
12	APD,Credit, Nuapada	Sri Nihar Sahu	9078331233	9078331233
13	APD, Finanace, Nuapada	Sri Amrit Pradhan	9776470355	9776470355
14	APD, (Tech.), Nuapada	Sri Sukanta Rout	9437383565	9437383565
15	CDMO, Nuapada	Dr.Sobharani Mishra	9439989988	9439989988
16	Chief District Agriculture Officer, Nuapada	Sri Antardami mandal	9437074098	9437074098
17	Deputy Project Director ATMA,NPD	Sri.Sudhansu Shekhar Sahu	9439264695	9439264695
18	Executive Engineer,RD ,Nuapada	Sri Siba Jyoti Sahu	9437255332	9437255332
19	Executive Engineer,Irrigation, Nuapada	Sri Harischandra Patel	7064316303	7064316303
20	Executive Engineer,R & B, Khariar	Sri Kishore Panda	9437136900	9437136900
21	Executive Engineer,RWSS, Nuapada	Sri Bibhu Panda	8280408058	8280408058
22	Executive Engineer,WESCO, Nuapada	Sri Sambit Nanda	6678232259	9437125497
23	Asst. Fire Officer,Nuapada	Sri Suresh Barik	9778317507	9778317507
24	Asst. Fire Officer,Komna	Sri P Patra	7682957422	7682957422
25	Asst. Fire Officer.Khariar Road	Sri Ajit Goud	9439259905	9439259905

26	Asst. Fire Officer.Sinapali (Station Officer)	Manas Ranjan Pradhan	7538957536	7538957536
27	CDVO, Nuapada	Dr. Sachidananda Panda	9437178698	9437178698
28	Deputy Collector, Revenue	Anand Kumar Das	9437736377	9437736377
29	Asst. Collector,Nizarat	Sri Mohan Kumar Munda	9438687231	8917583936
30	Asst. Collector,Gen & Misc.	Sri Chandan Satpathy	9437708558	9437708558
31	Asst. Collector,Election	Miss Lopamudra Samal	8456833342	8456833342
32	Asst. Collector,Establishment	Miss Lopamudra Samal	8456833342	8456833342
33	District Education Officer,Nuapada	Smt Phulamani Murmu	8280252826	8280252826
34	DPC,RTE, Sarva Sikshya abhiyan	Smt Phulamani Murmu	8280252826	8280252826
35	Assst. Director, Horticulture	Sri Hasda	7735157569	7735157569
36	DSSO Small, Nuapada	Sri Bibekananda Mahananda	9937557723	9937557723
37	DSO,Nuapada	Sri Ajay Pattnaik	9437217611	9437217611
38	DIPRO, Nuapada	Sri Ajay Pattnaik	9437217611	9437217611
39	DD, Planning	Sri Bhaskar Jena	7854870440	8763365523
40	DIC,Nuapada/Khariar Road	Pradip Ray	9938490711	9938490711
41	LDM, Nuapada	Sri Tike Kumbhar	9437019476	9437019476
42	DSWO, Nuapada	Smt. Asteria Kerketta	9438833461	9438833461
43	DCPO, Nuapada	Sri Chandan Satpathy	9437708558	9437708558
44	DWO, nuapada	Sri Nandi Kishore Tandi	9437236331	9437236331
45	RTO, Nuapada	Sri Mana shing	9437498591	9437498591
46	Tahasildar, Nuapada	Sri Debendra Rout	8018173321	8327763987
47	Tahasildar, Komna	Sri Purna Nanda Patel	9937028116	9937028116
48	Tahasildar, Khariar	Smt.Sindhusuta Patra	9439209231	9439209231
49	Tahasildar, Boden	Dr Rajesh Kumar Meher	8018460840	8018460840
50	Tahasildar, Sinapali	Sri Lokhnath Sabar	9777436607	9777436607
51	BDO, Nuapada	Sri Subhedar Pradhan	6371071142	6371071142
52	BDO, Komna	Sri Susant Kumar Rana	9437361819	9437361819
53	BDO, Khariar	Sri Narayan Sahu	9437418105	9437418105
54	BDO, Boden	Sri Purna Bhoi	9938978799	9938978799
55	BDO, Sinapali	Sri Sadashiv Nayak	9437702555	9437702555
56	District Project Officer,OSDMA	Geetanjali Sa	8895092100	8895092100
57	District Employment officer,	Mr. D Palei	7987268713	7987268713

58	Superintendent of Excise	Sri Siddheswar Besra	9437226501	9437226501
59	DIO,Nuapada	Shri Shubham Kumar	9582733378	9582733378
60	DSSO,Nuapada	Sri Bholanath Nayak	8917372265	8917372265
61	Executive Engineer.Jonk	Sri Harischandra Patel	7064316303	7064316303
62	District Fisheries Officer	Sri S K Rath	9437625091	9437625091
63	BEO,Boden	Sri indramani Panigrahi	9668637655	9668637655
64	BEO,Sinapali		8658239965	8658239965
65	BEO,Nuapada	Sri Mahanand	8018742274	8018742274
66	BEO,Komna	Sri Resham Lal Naik	9178542791	9178542791
67	BEO,Khariar	Sri Jagdish Prasad Khamari	8658239965	8658239965
68	SPL.Officer CBDA	Sri	9438322125	9438322125
69	CSO,Nuapada	Sri Prabhakar Patra	8917403600	8917403600
70	District Child Protection Officer	Sri Chandan Satpathy	9437708558	9437708558
71	Asst.Deputy Director Horticulture	Sri Sudesh Choudhary	8455923169	8455923169
72	Dist. Treasury Officer, I/C	Sri Mahaling	9439753451	9439753451
73	P.D, Watershed	Sri Mahitosh Dash	9437580088	9437580088
74	A.P.D, Watershed	Sri Prasanna Das	7815089239	7815089239
74	Secretary, RMC	Sri Vivekananda Mahanand	9937557723	9937557723
75	Dist. Employment Officer	Sri Binod Prasad Lakra	9938317877	9938317877
76	ADH, Khariar	Sri Sudesh Ku Choudhary	8455923169	8455923169
77	ARCS, Nuapada	Sri Bhikari Ch Seth	9439092627	9439092627
78	GM, DIC	Sri Narayan Mallick	9437470970	9437470970
79	LDM, Nuapada	Sri Tikelal Kumbhar	9437019476	9437019476
80	Dist. Coordinator, NYK	Sri Asish Ku Thakur	8763849686	8763849686
81	SDO, R&B	Sri K. Kandhapani	9438089375	9438089375
82	Coordinator, HRMS	Sri Rajendra Sahu	9777222005	9777222005
83	Manager, DeGS	Sri Birendra Dandsena	9777892882	9777892882
84	JTO (Telecom)	Sri Rahul Sinha	9437383193	9437383193
85	P.A to A.D.M	Sri Anil Kumar Das	9938089787	9938089787
86	Principal, KV, Nuapada	Smt. Anita Saha	8328885452	8328885452
87	NAC Nuapada	Sri bhuwankumar Satpati	9437240623	9437240623
88	NAC Khariar Road	Karno Suna	8249205943	8249205943
89	NAC Khariar	Chinmaya Acharya	9439394007	9439394007

90	IIC NUAPADA	Sri Nirmal Ch. Panigrahi	9178255111	9937457491
91	NIC,NUAPADA	DIO Shubham Kumar	9582733378	9582733378

Chapter-5- Prevention & Mitigation Measures

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

A better Disaster Management with minimum vulnerability is possible only by means of preparedness and mitigation measures. Experiences shows maximum the disaster preparedness leads to minimum vulnerability. Neither a disaster can be prevented nor diverted to any other place. The only possible thing is to minimize the effect of any kind of Disaster. Hence, various structural and non-structural measures will be taken up in the District to minimise the effects of various types of disaster.

5.2 Structural Measures

It is immensely pivotal for the planning community to respond towards disaster management positively. Urban disaster management is intimately connected to the wholesome process of urban development and therefore needs a sincere incorporation in the development planning itself. The industrial relocation/location, unauthorized-regularization issue, slumming, over densification and continuous influx of population to Delhi are some of the open concerns and that besides a planning challenge it is a concern for disaster management. The district shall take steps for structural mitigation of disaster management.

The departments that are associated with development of residential and commercial plots shall strict the NOC norms. The Building codes shall

be strictly enforced in the district. Only seismically oriented engineers, contractors and masons shall be given certificates for multi-story constructions and real estates. Simultaneously retrofitting is to be promoted with the expert advice. The possible two structural measures for disaster protection are Retrofitting of the existing building and Earth Quake Resistant new construction.

1. Retrofitting

Retrofitting for an existing Buildings/ Apartments, Retrofitting or Seismic Strengthening is the only solution to make it disaster resistant. In the district, all lifeline buildings such as major Hospitals, Schools with large space for storage, Infrastructures of District Administration and other vital installations may be retrofitted in the first phase. In the second phase all other significant buildings shall be given priority for seismic strengthening. Before carrying retrofitting, a district level technical committee shall be constituted and approached for assessing the structure and to suggest the type of retrofitting required.

2. Earth Quake Resistant Construction

All the constructions required high investment (above 10 lakhs) shall be carried out under quality inspection programme prepared and implemented under the guidance by a district level technical committee nominated by DDMA. The committee shall look in to this aspect and ensure that such prerequisites are completed and observed by the concerned agencies and construction engineers.

Besides, following categories of structural measures will be taken up in consultation with the concerned line departments.

- **Construction of River Embankment**
- **Agriculture and Drought proofing**
- **Critical Road and Bridges**
- **Water Supply and Sanitation**

5. 3 Non-structural Measures:

The non-structural mitigation is basically framed in such a way that the whole population of the district will be sensitized on disaster management and their capacity is developed to cope up with a hazardous situation. Nuapada has specific plan for non-structural mitigation measures which is an on-going process in various spheres of life.

1. **Sensitization/Awareness Campaigns:** The District Administration will reach out to the local residents and general public of the district with various level sensitization programmes. Sensitization programmes will be conducted for schools, hospitals, colleges, communities etc. Awareness on multi hazards and dos and don'ts to solve it are most import and basic for a human being to save him/herself. Disaster strikes everywhere everyone irrespective of caste, creed, color, people, and gender. The basic information shall be given in forms of booklets reading materials, audio-visual material etc. The broad objectives of such programmes will be as follows:

- a) To bring awareness about disasters among the inmates of all institutions and residents of all communities in Nuapada.
- b) To pave way for strict enforcement of building rules in construction departments and contractors.
- c) Preparation of Building Evacuation Plans and training the general public on basics of self- defence thereby building capacities of school authorities and saving lives in the event of an Earthquake or Fire accidents or any other disaster.
- d) To sensitize officers from the District Administration, ODRAF, Hospital, Fire Service and all other parallel agencies like DUDA and ULBs.

Different methods and techniques shall be utilized to spread awareness on disaster in the district. Some sample techniques and methods are listed below:

- Capacity Building and awareness

- Distribution of posters and other Information Education and Communication (IEC) materials people
- Do and Don't do
- Street plays, documentaries and films on the subject
- Use of electronic media, especially cable channels
- Quiz, painting and debate competitions at school level

Proposed Sensitization Programme

Sl. No.	Name of the Department/ Office	Activity/ Project	Starting Date	Date of completion	Cost	Funding source
1	Health	Awareness on Heat Waves and Endemic disease	15 th March	30 th March	30,000	H&FW
2	Revenue	Awareness of officials on SDRF and NDRF norms	15 th March	30 th March	As per norms	DDMA, Nuapada
3	Education	Awareness of BEOs on School Safety Measures	1 st Sept	30 th Sept	30,000	DDMA
4	Agriculture	Awareness of farmers on drought preparedness and mitigation	1 st Sept	30 th Sept	1,00,000	Agriculture Deptt.

		measures				
5	Veterinary	Awareness of officials and farmers on Disaster Mitigation measures in livestock sector	1 st May	15 th May	2,00,000	ARD Dept.
6	Forest	Awareness on forest fire at both Divisional and Sub-Divisional level	1 st May	15 th May	150000	Forest Department
7	Urban Local Bodies (ULBs) and Elected Representatives	Capacity building on Flood Management and Urban Plantation	15 th May	30 th May	50000	DUDA and ULBs

2. Disaster Management Planning

It is a known fact that drought, flood, road accident, heat waves, fire, lighting are a major concern for the district as fire incidents have risen steeply in the last couple of decades. The first responder of any disaster anywhere is none other than the local people who are the victims too. Once a disaster has been occurred, many agencies like NGOs, Military and Para Military Agencies as well as the Government Agencies approach the area. But it takes time to start rescue and relief operations by these

agencies due to poor accessibility and approachability to the disaster site and ignorance to the geographical situation of the affected area. Taking all these in to stoke, the district shall organize various planning exercises with the local bodies.

The strategy of planning will be as follows:

- The territory of each block can be taken as management unit for planning
- Every play school/school/college (Government/Private) in the district, irrespective of size, shall be a management unit
- Every Hospital with more than 10 bed shall have Disaster Management Plans
- All Cinema Halls, Shopping Centres/Malls, Religious Function Centers like, Kalyan Mandap etc. where gatherings are possible, will have Disaster Management plans.
- Every Government Offices/Public Utilities Infrastructures will have separate Disaster Management plan
- All industries in the district, irrespective of size and nature.

During 2022-23 the following planning would be taken up under thus non-structural measures.

Proposed Disaster Management Plan

Sl. No	Name of the Department/ Office	Activity/ Project	Starting Date	Date of Completion	Cost	Funding source
1	Health	Hospital Fire Safety Plan	June	July	1,00,000	DDMA
2	Education	School Safety Plan	July	Aug	1,00,000	DDMA
4	Home	Plan for Mass Gathering and Public Gathering	July	Aug	10,000	DDMA
5	Home	Plan for Cinema Halls, Shopping Centres/Malls	Aug	Sept	20,000	Concerned Cinema Halls, Shopping Centres/Malls
6	All Deptt.	Departmental Disaster Management Plan	Sept	Nov	20,000	DDMA
7	All Deptt.	Community Disaster Management Plan	May	June	5,00,000	DDMA

The primary objectives of the initiative shall be:

- To create awareness on disasters and disaster management among institution, officials and general public.
- To prepare Disaster Management plan for each management unit with Hazard and Resource Maps.
- To form Disaster Management Committees (DMC) and Task Forces within the management unit, to manage disasters and train them specifically.
- To exercise Mock Drills in each Community in a regular interval of time including evacuation exercises. Each logical unit shall collect the template/modal plan document from the DEOC at the district administration and after preparation a copy of the same shall be submitted to the DEOC and the other shall be with the management unit. This plan document shall be updated at least bi annually and the update information shall be given to the DEOC in writing. The district DEOC shall help the management unit in conducting the planning exercises as and when they request the same.

5.3 Integration Disaster Risk Reduction (DRR) Activities in various Govt. Schemes.

Possible DRR measures can be taken up under various Govt. schemes are reflected below

Table 0-1 Possible activities for DRR

Sl. No.	Scheme	Possible activities for DRR
1	MGNREGS	Drought, Flood protection and Plantation measures

2	IAY, PMAY, Biju Pucca Ghar	Designing and Construction of fire proof and earthquake resilient house in vulnerable pockets.
3	GGY	Strengthen relief lines and drainage, restoration of power distribution station,
4	Finance Commission Assistance	<ol style="list-style-type: none"> 1. Building capacity in the administrative machinery for better handling of disaster risk response and for preparation of District Disaster Management Plans (DMPs) as envisaged in the Disaster Management Act (2005). 2. Relief requirements of a severe calamity could not be met from state resources. 3. Special budgetary allocation on disaster preparedness and mitigation measures.
5	NHM and Health	Preventative measures taken for control of Epidemics and immunization to communities specially children and old aged persons etc.
6	PMKSY	Provision irrigation facilities to all agricultural farm land and initiation of flood control measures, repair and maintenance of embankment of water bodies like ponds and Rivers.
7	JALNIDHI	Drought mitigation measures through creation of captive irrigation sources through shallow tube wells, bore wells, dug wells and river lift projects
8	NFSM (Rice)	<ol style="list-style-type: none"> 1. Integration with the district plan and fixed targets for each identified pockets of the district. 2. Promotion and extension of improved technologies i.e. seed, Integrated Nutrient Management including micronutrients, soil amendments, Integrated Pest Management

		(IPM) and resource conservation technologies along with capacity building of farmers; 3. Supply of diesel pump sets during drought
9	RKVY	1. Preparation of agriculture plans for the districts and the States based on agro-climatic conditions, availability of technology and natural resources; 2. Development of structures for to mitigate various disaster related to agricultural, horticultural and veterinary
10	Biju KBK	Building Rural infrastructure on Bijli, Sadak Pani (e.g., critical roads and bridges, village electrification, minor irrigation projects, tanks, watershed and afforestation.
11	MPLAD/MLALAD	Construction of Guard wall for checking of flood Management and soil erosion
12	Western Odisha Development Council (WODC)	Construction critical road communication, Minor Irrigation, construction of Check Dams, new and cleaning of Water Harvesting Structures, installation of LIPs, Rural Water supply schemes in vulnerable pockets etc.
13	National Afforestation Programme through FDA,s	Plantation in degraded and barren lands, promotion of Afforestation through community forestry programme , control & prevention of forest fire and digging of trench & forest fire lines and structural measures like construction of small Check Dams to control soil erosion.

14	Minikit Programme, Enrichment of Crop residue and Departmental Fodder farms	Promotion of perennial roots & slips for fodder development during drought.
15	Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY): / Biju Gram Jyoti Yojana (BGJY)	To provide availability of Electricity for all people to un-electrified villages in the Nuapada District.
16	Odisha Power Sector Improvement Projects	Projects like Disaster Response Centre, Disaster Resilient Power System , District Headquarter Projects for reliable and un-interrupted power supply to the consumers during natural shocks

Chapter-6: Capacity Building Measure

6.1 Approach

Developing of DDMP without Capacity Building or creating awareness amongst stake- holders 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.

6.2 Capacity Building of Govt. Officials, PRIs and ULBs

Representatives and SHGs (Mission Shakti) etc.:

A series of training programmes will be organized for specialized groups like, District DDMTs, Sub Divisional and community level office bearers, Head Masters and Principals, Doctors and Engineers, Architects, Urban Planners, Builders & Contractors and Masson etc. All walks of officials will be trained. This can even be on construction of buildings and other structures earth quake resistant.

- District will identify sensitization as one of the best tools to create awareness programme and preparation of Community Based Disaster Management planning. In this respect the DDMA will organize a series of programmes for the community people, school and NGOs.
- There are organizations like Civil Defence, NYK, NCC, NSS etc. which have thousands of volunteers from each nook and corners of the district. The district will train their volunteers and the wardens of these bodies in the district, thus people from various corners will be trained and sensitized in disaster management and this can make a magnifying result.
- For better sustainability of disaster management, the DDMA will think of training Civil Defence & Home Guard, NYK, NCC and NSS volunteers at the cost of the district administration and they shall be given certificate of training, identity cards as disaster managers.
- Training programmes will be organized with NGOs/CBOs in the district or they shall be funded for organizing such programmes. Corporate sponsors/Banks shall be contacted to hold such massive training programmes.

Districts to first utilize the funds available under different schemes at the district level, for capacity building activities. Besides, funds are also available under State Disaster Response Fund (SDRF). District Administration to prepare the Capacity Building plan for the district and send the same with detailed budget to SDMA for necessary funding.

Proposed Training programme

Sl.	Name of the Course/ Training Programme	Participants	Duration of the Training Programme	Month of Organization	To be Organized by
1	Training programme on Heat Wave Preparedness	All BDOs/ EE RWS &S, CDMO, CDVO,EOs (ULBs), BDOs, Tahasildars and NGOs, etc. (60 Numbers)	1 day	Feb	DDMA/ Collector
2	Training programme on Heat Wave, snake bite, lightning, drowning casualty management	Doctors and Paramedical Staff/ ANMs and Apada Mitras (100 Numbers)	2 day	Feb	CDMO
3	Post Disaster damage assessment	AAOs of all Blocks, EOs (ULBs), RIs of Tahsils and line departments (150 Numbers)	2 day	Sept	DDMA/SRC
4	Public health in emergencies- safe drinking water and sanitation	All BDOs, ULB and district level officials of PHED/ RWS & S Dept. (50 Numbers)	1 day	March	CDMO / EE, RWSS

5	Training of teachers on school safety including DM plan and conduct of Mock Drills	BEO / ABEO / BRCC(60 Numbers)	1 day	Oct	DEO
6	Block level training programmes on role of PRIs in disaster risk management / VDMP (in two blocks)	Sarapanchas, ZP& PS members (50 each in two blocks 100)	1 day	June	BDO
7	Role of Media in Disaster Risk Management	Media Personal (150 members)	1 day	Nov	DIPRO
8	Convergence and Livelihood Security: Post Disaster Strategies	Officials of the Line Dept. (100 members)	1 days	Sept	PD, DRDA/DDA/DDMA
9	Mainstreaming DRR and CCA in Development Planning	All BDOs, EOs(ULBs), DUDA, Special Planning Authority (Town Planning)Head of line departments (50 members)	1 Days	Jan and June (Every Year)	DDP/DDMA
10	Training for selected community members and NGO representatives of TWO blocks on preparation of VDMP	Selected members from the GP/village at block level (70 each in two blocks 140)	2 days	June	DDMA

	Training and Mock drill of VDMC member				
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6.3 Table top Exercise:

Collector-cum-Chairman, DDMA, Nuapada will organise a table top exercise involving all district and block level key officials to assess the emergency response plans for various disasters during April/May.

6.4 District/ Block level Mock Drills:

Periodic mock drills will be organized involving district and block level officials/ institutions to assess the capacity and preparedness to face certain disasters. Issues faces during Mock Drill and recommendation will be incorporated in updating of DDMP. DDMP, 2022-23 recommends following mock drill during 2022-23.

Proposed Mock Drills

Sl.	Type of Mock Drill	Officials/ Institutions to be involved	Month/ Date
1	Fire Accident	Fire Service, Schools. Colleges, NSS, NCC, NYK, Child Care Institutions (CCIs), ODRAF	May
2	Public Gathering/ Cinema Halls/High Raised Buildings & Apartments and malls.	Police and fire Services.	September
3	Flood	ODRAF	May

6.5 Disaster Management Education (School Safety and School Disaster Preparedness):

All educational Institutions (Both Govt. and Private) which are functioning in the districts may include organizing awareness generation programmes in schools and colleges and conducting basic mock drills for fire and other disasters. For the purpose, DDMP, 2022-23 proposed the following programme under Disaster management Education (School Safety and School Disaster Preparedness).

Proposed 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/ firast aid etc.	100	Sept-Oct	Major Colleges and High Schools at Sub-Divisional level
2	Preparation of School Disaster Management plan	100	July-Aug	Major Colleges and High Schools at Sub-Divisional level
3	District level Quiz/ painting/ debate competitions	Based on the nomination received from the BEOs/DEO	Sept	District level

6.6 Community Capacity Building and Community Based Disaster Management:

The district has identified 1764 inhabited villages including 71 inaccessible pockets. During 2019-20, VDMC will be constituted and strengthen in 500

villages (20%). Nature of capacity building programme will be prioritised depending the type and intensity of disaster. Villages with multi-hazard vulnerability towards drought, flood, heat waves, and fire incidents has been selected in the first phase on phase manner. Utmost care has been given to include persons having prior experience as a member of the VDMC. Blocks wise numbers of villages and members to be covered under 2022-23 is as follows.

Proposed CBDM

Sl. No.	Block Name	No. of vulnerable villages to be covered during 2022-23	No. of VDMC and task force member to be oriented	No. NGOs to be involved in the process	Time line	Remarks
1	Nuapada	34	250	1	1 st week of July	VDMC and rescue team will be constituted and trained
2	Khariar	35	250			
3	Sinapali	45	250	1	1 st week of July	
4	Boden	37	250			
5	Komna	35	250	1	2 nd week of July	
6	Nuapada NAC	34	250			
7	Kariar NAC	41	250			
8	Khariar Road NAC	36	250	1	3 rd week of July	
Total		500	3500	5		

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

The district does not have any cyclone/flood shelter. BNRGSK building and schools of the villages will be used as a flood/cyclone shelters. Thus, School Management Committees and GP functionaries (PRIs, PEO, GRS and GS) shall be entrusted to maintain the identified shelters at village. Task force shall be forms from the village youths.

Task force shall be forms from the village youths.

Chapter – 7

7.1 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.

Greenhouse gases (GHGs) are trace gases in the atmosphere that absorb and emit long wave radiation. They naturally blanket the earth and keep it at about 33° C warmer than it would be without these gases in the atmosphere. The table features the seven most important greenhouse gases as regulated under the Kyoto Protocol. The seven gases each have a different capacity to trap heat in the atmosphere, or a so-called "*global warming potential*" (GWP). They all belong to the group of long-lived greenhouse gases (LLGHGs), because they are chemically stable and persist in the atmosphere over time scales of a decade to centuries or longer, so that their emission has a long-

term influence on climate. Some of the GHGs occur naturally (e.g. CO₂, CH₄ and N₂O) but increases in their atmospheric concentrations over the last 250 years are due largely to human activities. Other greenhouse gases are entirely the result of human activities (e.g. HFCs, PFCs, SF₆ and NF₃).

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%

7.2 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*.

Sl No	Name of the Industry/Plant/Firm	Location	Quantity of CO ₂ emission (PPM)	Ranking as per CO ₂ Emission (in the district)	Other major pollutants emitted (PPM)	Action taken for cutting down emission
NA	NA	NA	NA	NA	NA	NA

7.3 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.

The second most significant anthropogenic GHG is methane (CH₄) which contributes to approximately 18% of total radiative forcing due to LLGHGs. Approximately 40% of methane is emitted into the atmosphere by natural

sources (e.g. wetlands and termites). About 60% comes from human activities (e.g. cattle breeding, rice agriculture, fossil fuel exploitation, landfills and biomass burning). Methane is mostly removed from the atmosphere by chemical reactions, persisting for about 12 years. Thus although methane is an important greenhouse gas, its effect is relatively short-lived.

Sl No	Name of the Block	Major Sources	Annual émission (In PPM)	Ranking as per CH4 Emission (PPM)	Action taken for cutting down émission
NA	NA	NA	NA	NA	NA

7.2 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%).

Nitrous oxide is the third most significant GHG, contributing to about 6% of radiative forcing due to LLGHGs. The primary human sources of N₂O are fertilizer production and use in agriculture and various industrial processes. It is estimated that N₂O stays in the atmosphere for an estimated 114 years. Its impact on climate, over a 100-year period, is 298 times greater than equal emissions of carbon dioxide. It also plays an important role in the destruction of the stratospheric ozone layer which protects us from the harmful ultraviolet rays of the sun.

Sl No	Name of the Block	Fertiliser /Industrial processes	Annual Usage (In tonnes)	Ranking as per N2O Emission (PPM)	Other major pollutants emitted (PPM)	Action taken for cutting down émission
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NA	NA	NA	NA	NA	NA	NA
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7.3 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

Fluorinated gases are a family of man-made gases used in a range of industrial applications. Sources include refrigerants, air-conditioning, solvents, aluminium and magnesium production, etc. Many fluorinated gases have very high global warming potentials (GWPs) relative to other greenhouse gases. That means small atmospheric concentrations can have large effects on global temperatures. They can also have long atmospheric lifetimes, in some cases, lasting thousands of years. Fluorinated gases are removed from the atmosphere only when they are destroyed by sunlight in the far upper atmosphere. In general, fluorinated gases are the most potent and longest lasting type of greenhouse gases emitted by human activities. There are three main categories of fluorinated gases: hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

- Hydrofluorocarbons (HFCs) are the most common group of *F-gases*. They are used in various sectors and applications, such as refrigerants in refrigeration, air-conditioning and heat pump equipment; as blowing agents for foams; as solvents; and in fire extinguishers and aerosol sprays.
- Perfluorocarbons (PFCs) are typically used in the electronics sector (for example for plasma cleaning of silicon wafers) as well as in the cosmetic and pharmaceutical industry. In the past PFCs were also used in fire extinguishers and can still be found in older fire protection systems.

- Sulphur hexafluoride (SF₆) is used mainly as an insulating gas, in high voltage switchgear and in the production of magnesium and aluminium.

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
NA	NA	NA	NA	NA	NA

7.4 Important Green House Gases: chlorofluorocarbons (CFCs)

Chlorofluorocarbons (CFCs) an important Green House Gas contribute about 12% to radiative forcing by long-lived GHGshas 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.

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
NA	NA	NA	NA	NA	NA

Ref.: IPCC (2007). Fourth Assessment Report, Technical Summary – Changes in Human and Natural Drivers of Climate & UNEP (2012). Emissions Gap Report; WMO (2013). Greenhouse Gas Bulletin

7.5 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

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](#)

The global community has committed itself to hold warming below 2°C (compared to pre-industrial temperatures) to prevent dangerous climate change. The 2013 IPCC report on the physical science basis of climate change provides a “budget approach” to this goal, looking at total allowable CO₂ emissions level to meet the 2°C target. The report states that in order to have a greater than two in three chance of keeping *global warming* below 2°C, cumulative emissions of CO₂ cannot exceed 1,000 Gigatonnes of carbon (GtC). As of 2011, more than half this amount, or over 500 GtC, has already been emitted since 1861-1880. When the effects of other greenhouse gases are included, even less CO₂ could be emitted to keep below a 2°C warming.

Current annual emission levels are at 9.5 GtC and are likely to grow every year due to population growth and economic development patterns. If annual emissions continue to grow as in past years (“business as usual” scenario) the carbon budget will be exhausted in the next three decades.

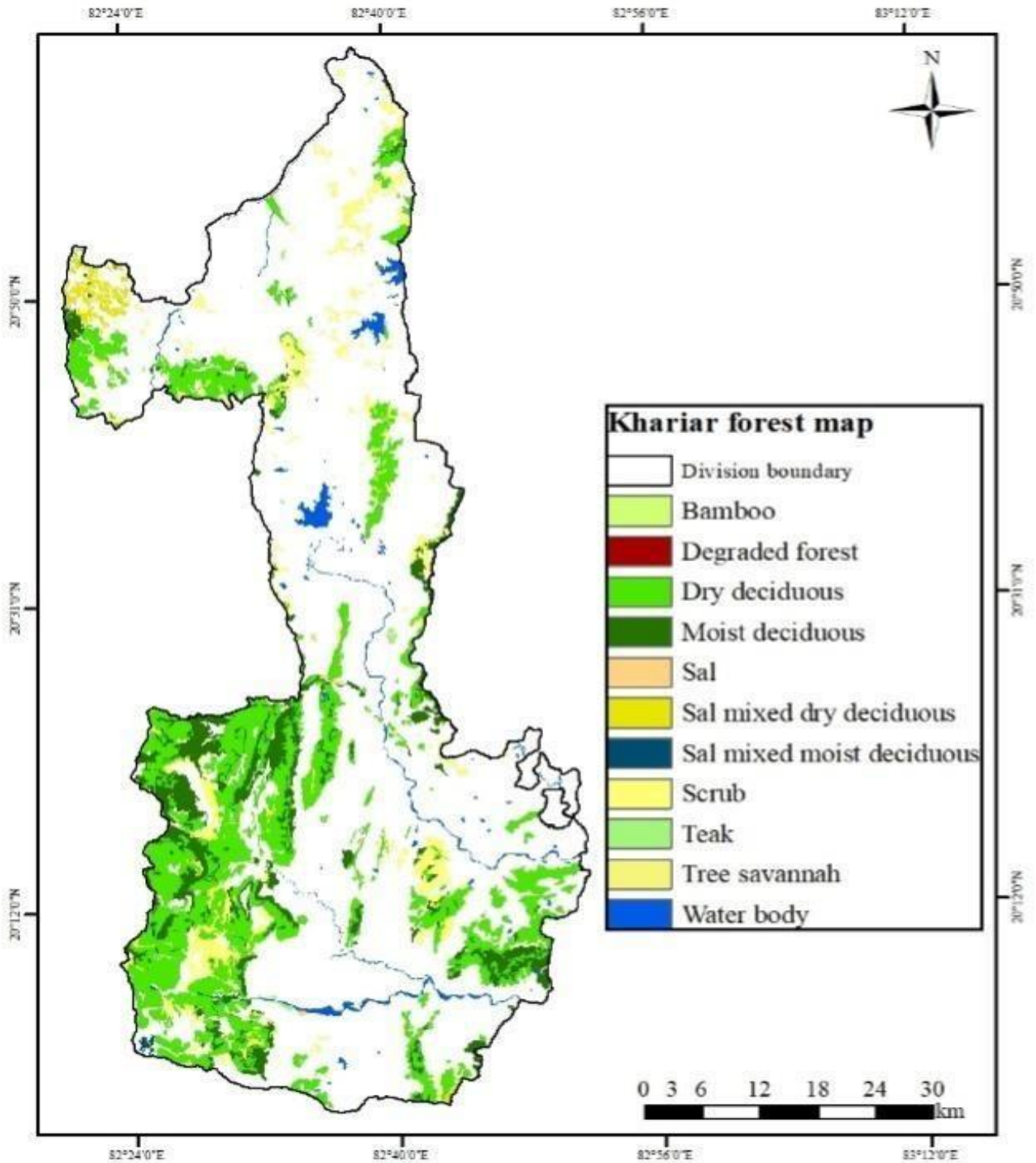
Source: IPCC (2013). Climate Change 2013 – The Physical Science Basis, Summary for Policymakers

Details of forest as a major Carbon sink (District)

The detail statement of different categories of forest area is mentioned below:

District	Division	Geographic area in ha.	RF	PRF	DPF	UDPF	Village forest	Total area in ha.	Percentage
Nuapada	Khariar	3852	86.93	327.01	4.27	532.43	414.473	1907.35	48.43%

KHARIAR DIVISION FOREST MAP



Administrative Set up

This Division comprises of 5 Ranges, 22 Sections and 95 nos. of Beats which are mentioned in tabular format below.

Sl. No.	Range	No. of Sections	No. of Beats	No. of Check Gates
1	Khariar	7	33	1
2	Komna	3	13	0
3	Nuapada	4	11	0
4	Sinapali	6	30	0
5	Khariar Road	2	8	0
	Total	22	95	0

7.7 Sectors with High Mitigation Potential

SI No	Sectors	Mitigation Options
1	Energy	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • More fuel efficient vehicles • Use of alternative energy sources (biofuels, cleaner diesel, etc.) • Better land-use and transport planning

		<ul style="list-style-type: none"> • Shift from individual transport to public transport systems • More efficient driving practices • Non-motorized transport (cycling, walking)
3	Industry	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 • Restoration of cultivated peaty soils and degraded lands • Agro-forestry practices
5	Forestry	<ul style="list-style-type: none"> • Reduced deforestation • Afforestation/reforestation • Forest management • Tree species improvement to increase biomass productivity and carbon sequestration
6	Waste	<ul style="list-style-type: none"> • Landfill methane recovery • Waste incineration with energy recovery • Composting of organic waste • Controlled wastewater treatment • Recycling and waste minimization • Biocovers and biofilters to optimize CH₄ oxidation

Chapter – 8 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	School Level:
<ul style="list-style-type: none"> • Policy for safety audits in all schools • '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) 	<ul style="list-style-type: none"> • Schools must take appropriate safety measures and an emergency response plan that delineates staff responsibilities, 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 Schools (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 approach

- 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				
Sinapali	182	0	16	0	1	10	12	2
Boden	143	0	11	0	0	9	7	2
Khariar	157	12	8	3	0	18	15	3
Komna	226	0	22	0	1	9	14	1
Nuapada	195	26	26	5	1	5	15	9
TOTAL	903	38	83	8	3	51	63	17

8.4 School Safety Advisory Committee (District)

1. Date of Formation 20.5.2017
2. Institutional Architecture

Sl No	Name & Designation	DESIGNATION	Contact No.	Position in the Committee
1	Ms. Swadha Dev Singh	Collector & District Magistrate	8895985872	Chairperson
2		Superintendent of Police		Co-Chairperson
3	Sri Sudam Kisko	District Fire Officer	8658143342	Member
4	Dr. Nand K Tandy	District Welfare Officer	9437236331	Member
5	Asteria Kerketta	District Social Welfare Officer	9438833461	Member
6	Dr. Sovarani Mishra	CDMO	9437207355	Member
7	G. Chandra Naik	Executive Engineer (RWSS/PWD)	8280136439	Member
8	Sri Mohan Ku. Munda	District Emergency Officer	9438687231	Member
9	Sri Arjun Majji	Panchayat Raj Officer	9437292575	Member
12	Sri Rudra, Parada NGO	Member, NGO (Having Exp. In disaster management)	9437119702	Member

14	Smt. Phulamani Murmu	District Project Coordinator, SS	8280252826	Member
15	Smt. Phulamani Murmu	District Education Officer	8280252826	Nodal Officer and Member Convino

8.5 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.]

DETAILS OF SCHOOL SAFETY IN THE DISTRICT

Sl. No.	Activity	Total School
1	Schools having School safety Advisory Committee (Number)	1096
2	Schools having School Disaster Management Plan (Number)	1036
3	Schools having conducted Safety Audits (Structural) (Number)	476
B.	Safety Audits (Non-Structural) (Number)	767
4	Schools having conducted Annual Mock Drills (Number)	527
5	Schools having Fire Extinguisher (Number)	951
6	Schools Adhering to safety norms in storing inflammable & Toxic Material (Number)	1096

7	Schools confirming safety standards as per local building bye-laws (Latest) (Number)	536
8	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)	56
9	Schools where students & teachers undergo regular training on School safety & Disaster Preparedness (Number)	817
10	Schools where disaster management is being taught as part of the curriculum (Number)	1096

Details of Child Care Institutions										
Sl. No	Block/ULB	Name and Address of the Organisation	Boys	Girls	Total nos. of children	Name and contact No. of the Shift-in-charge	Fire Safety Equipment(Fire Extinguisher Alarm)	Staff Training on Fire Safety Equipment	Near by open space for evacuation	Alternative Shelter identified
1	KHARIA R ULB	Kasturaba Balashram At/Po/PS - Khariar, Dist. Nuapada	15	22	37	Smt. Archana Padhi, Mobile No.7978279698	Yes	Yes	Yes	Shifting to other safe CCIs
2	KHARIA R ULB	Naba Prabhat Open Centre Home for children, Khariar At-Gadramunda Po/PS-Khariar, Dist. Nuapada	7	13	20	Priyanka Singh Mob. No.8249683172	Yes	Yes	Yes	Shifting to other safe CCIs

3	KHARIA R ULB	Karunya Balniketa n, Khariar At/Po/PS - Khariar, Dist. Nuapada	20	0	20	John Mathai, Mob. No.73258554 29	Yes	Yes	Yes	Shifting to other safe CCI
4	Nuapada Block	Prachin Bharatiya Bidya Sabha, Gurukul Ashram, Amsena At/Po- Amsena, PS-Jonk, Dist. Nuapada	6	5	11	Swami Bratanand Saraswati Mob. No.94370705 41	Yes	Yes	Yes	Shifting to other safe CCI
TOTAL			4 8	40	88					

GOVERNMENT LEGAL AID PROVISION TO THE DISASTER VICTIMS:

1. Background

Sub clause (e) of Section 12 Legal Services Authorities Act, 1987 makes the victims of disasters who are under circumstances of undeserved want as a result of such disaster eligible for free legal services to file or defend a case. But in a disaster of catastrophic nature whether it is natural or manmade, the victims are often taken unawares and are subjected to face the grim situation of loss of life, becoming homeless, destruction of property or damage to or degradation of environment and subject to human sufferings and damage beyond the coping capacity of the community of the affected area.

Even though it is the duty of the Government and the Administration of the locality to come to the help of the victims of disasters, Legal Services Authorities by virtue of sub-clause (e) of Section 12 can play an effective role by coordinating the activities of the State Administration in

the disaster management by way of strategic interventions in an integrated and sustainable manner, reducing the gravity of the crisis and to build a platform for early recovery and development. The Legal Services Authorities shall endeavour to help the victims and the administration for reducing risk and assisting them to adopt disaster mitigation policies and strategies, reducing the vulnerabilities of the geographical and social situation and strengthening their capacities for managing human made and natural disasters at all levels.

2. Name of the Scheme.

This Scheme shall be called the Scheme for Legal Services to the victims of disasters through Legal Services Authorities.

3. Objective

The objective of the scheme is to provide legal services to the victims of disaster - both manmade and natural - who are under circumstances of undeserved want being victims of mass disaster, ethnic violence, caste atrocities, flood, drought, earth-quake or industrial disasters.

The intervention of Legal Services Authorities should be for coordinating the integrated, strategic and sustainable development measures taken by the Government and Disaster management Authorities for reducing the period of crises and for building a platform for early recovery and development. The thrust of the efforts for by the State Legal Services Authorities shall be for strengthening the capacity of the victims for managing the disaster at all levels and to coordinate with the Government departments and non-governmental organisations and also for providing legal aid to the victims.

4. Strategic Intervention by the State Legal Services Authorities.

The strategy for intervention by the Legal Services Authorities for helping the victims of disasters shall be on the following lines:

1. Ensuring immediate help by Governmental and Non-Governmental Agencies to the victims.
2. Coordinating the activities of different departments of the Government and the NGOs for bringing immediate relief.
3. Supervising the distribution of relief materials.

4. Supervising the construction of temporary shelter or transporting the victims to a safer place.
5. Supervising the reunion of families.
6. Supervising the health care and sanitation of the victims and preventing the spread of epidemics.
7. Supervising the needs of women and children.
8. Ensuring the availability of food, medicine and drinking water.
9. Supervising the reconstruction of damaged dwelling houses.
10. Supervising the restoration of cattle and chattel.
11. Legal Awareness Programmes in the relief camps on the legal rights of the victims.
12. Organising Legal Aid Clinics in the affected areas for assisting in reconstruction of valuable documents.
13. Assisting the victims to get the benefits of the promises and assurances announced by the Government and Ministers.
14. Assisting in the rehabilitation, care and future education of orphaned children.
15. Taking steps for appropriate debt relief measures for the victims.
16. Assisting in the rehabilitation of the old and disabled who lost their supporting families.
17. Assisting in the problems relating to Insurance Policies.
18. Arranging Bank Loans for restarting the lost business and avocations.
19. Arranging for phyciatrist's help / counselling to the victims who are subjected to physiological shock and depression on account of the disaster.

5. Machinery for Legal Services.

The State Legal Services Authorities shall establish a Core group in all districts under the control of the District Legal Services Authorities to spring into action in the event of a disaster, whether manmade or natural.

The Core group shall consist of a senior judicial officer, young lawyers including lady lawyers selected in consultation with the local bar association, Medical Doctors nominated by the local branch of the Indian Medical Association and the NGOs by accredited by the State Legal Services Authority. The Secretary of the District Legal Services Authority shall maintain a Register containing the Telephone numbers and the cell numbers of the members of the Core group.

STRATEGY FOR LEGAL AID TO THE VICTIMS

6. Ensuring immediate help by Governmental and Non-Governmental agencies to the victims.

The nodal agency for responding to a disaster shall be the State and District Disaster Management Authorities set up under the Disaster Management Act, 2006. The State Legal Services Authority should immediately alert the District Legal Services Authority concerned who in turn shall get in touch with the Disaster Management Authority of the State and District and gather the details of the steps taken by the latter.

1. The Core group set up the District Legal Services Authority shall immediately proceed to the area where the disaster has occurred and get involved in the work of relief.
2. The District Legal Services Authority and the Core team shall coordinate the activities of the relief operations by involving themselves and without causing any hindrance to the smooth flow of the relief operations.

7. Coordinating different departments of the government and the NGOs for bringing immediate relief.

The State Legal Services Authority at the apex level shall get in touch with the State Disaster Management Authority / Department to ensure that all the departments of the State Government including health, finance, social welfare and police are involved in the relief operations. The State Legal Services Authorities shall coordinate the implementation of the Plan of Action, if any, prepared by the Disaster Management Authorities.

- (a) The State and District Legal Services Authorities shall obtain a copy of the disaster management plan, if any, prepared by the State Disaster Management Authority / District Disaster Management Authority.
- (b) The State Legal Services Authority / District Legal Services Authority shall as far as practicable follow the aforesaid plan and, if

necessary, make suggestions to the state administration or Disaster Management Authorities for improving the quality of relief operations.

8. Supervising the distribution of relief materials.

In the event of a disaster, the first and foremost step to be taken is to ensure that the victims are provided with adequate support to tide over their undeserved wants. This includes provision of food, safe drinking water and transferring the victims to safe shelters. The District Legal Services Authority in coordination with the Disaster Management Authority and State Government Departments, shall supervise effective and timely supply of relief materials to the victims of the disaster.

9. Supervising the construction of temporary shelters or transporting victims to safer place.

District Legal Services Authority and the Core team shall supervise construction of temporary shelters and transportation of victims to such shelters to other safer places. Any lapses can be reported to the government officer incharge to ensure that the lapses are remedied immediately.

10. Supervising the reunion of families.

A disaster may result in sudden disruption of the cohesive unit of families. Members of the family are likely to get separated on account of the disaster or by reason of the rescue operations or on account of medial emergencies. Separation can occur due to loss of life also.

The Core team shall visualise such probable traumatic situations in the families affected by the disaster and shall take necessary steps for consoling the victims and shall take earnest search for the missing members of the families.

11. Supervising the health care of the victims and preventing the spread of epidemics.

The District Legal Services Authority shall take prompt steps for coordinating with the District Medical Officer for ensuring that the victims of the disaster are given proper medical care. The injured victims shall be given prompt treatment.

- (a) When a large number of affected persons are congregated in relief camps, adequate sanitation has to be ensured. Steps shall be taken

to ensure that the public health authorities are performing cleaning and sanitation of the camps on a regular basis.

- (b) The District Legal Services Authority shall ensure that adequate preventive measures are taken by the health authorities against outbreak of contagious and infectious diseases and water-borne diseases can occur in the relief camps.
- (c) Right to health being a concomitant to the Right to Life guaranteed under Article 21 of the Constitution of India, the disaster victims are entitled to adequate health facilities and the Legal Services Authorities are duty-bound to ensure the same through appropriate measures.

12. Supervising the needs of women and children.

Women and children are beneficiaries of free legal aid under Section 12 of Legal Services Authorities Act. They are the most vulnerable group amongst the victims of any disaster. Safety of women and children in the camps and their valuables like ornaments and personal belongings are to be protected. The District Legal Services Authority shall ensure that the Police takes necessary steps for preventing theft and anti-social activities. Legal Services Authorities shall coordinate with the Police Officers to ensure the safety of women and children.

13. Ensuring the availability of food, drinking-water and medicine.

The need for food, safe drinking water and medicine are basic human needs and hence are attributes of the Right to life under Article 21 of the Constitution of India. Legal Services Authorities can therefore rightfully intervene and coordinate with the State Government, District Administration and Health Authorities to ensure the availability of food, safe drinking-water and medicine to the victims living in the shelters.

14. Supervising the reconstruction of damaged dwelling houses.

Housing is one of the important problems faced by the victims of disasters. Partial or total damage may occur to houses in disasters like earthquake, flood and communal riots. Assurances given by the Ministers and Government officials ex-gratia payment and funds for reconstruction of damaged houses of the victims may go unfulfilled or forgotten due to passage of time. Efforts shall be taken by the Legal Services Authorities to ensure that such promises are fulfilled and the promised funds or other relief measures are disbursed to the victims without delay.

15. Supervising the restoration of cattle and chattel.

Loss of cattle, chattel and household articles are concomitant with all mass disasters. Thieves, looters and anti-socials have a field day during riots and ethnic violence and also during the havocs like flood, drought, pestilence and earth-quake. The District Legal Services Authority in coordination with the Police or Armed Forces shall ensure that the valuables belonging to the victims are not looted or stolen houses. Similarly, steps shall be taken to protect livestocks and chattel also. The Legal Services Authorities shall coordinate with the animal-husbandry department of the government to save the livestock.

16. Legal Awareness Programmes in the relief camps on the legal rights of the victims.

Once the victims are relieved from the immediate shock and impact of the disaster, the Legal Services Authority may chose a convenient time and place near the reliefcamps for imparting legal awareness to the victims. Women lawyers may be entrusted with the job of conducting informal legal awareness programme, mainly related to the rights of the disasters victims to avail of the relief measures from the authorities. The legal remedies available and the mode in which the benefits of the offers and schemes announced by the government are to be availed of also may be included as topics. Legal Awareness Programmes shall not be conducted in a ceremonial manner. Inaugural function and other formalities shall be totally avoided. The ambience of disaster and the mood of grief stricken victims should be fully taken in to account by the resource persons and the steps for legal awareness shall be taken in such a manner as to go along with the measures for consolation and redressal of the grievances of the victims. Visits by women lawyers to the camps andhomes of the victim will be desirable.

17. Organising Legal Aid Clinics in the affected areas for assisting in the reconstruction of valuable documents.

It is likely that the victims of disaster have lost their valuable documents like titled deeds, ration cards, identity cards, school and college certificates, certificate of date and birth, passport, driving licence etc. The District Legal Services Authority shall organise legal aid clinics in the affected areas and assist the victims to get duplicate certificate and documents by taking up the matter with the authorities' concerned. Arrangements for issuing Death Certificates of the deceased victims also shall be made.

18. Taking care of the rehabilitation and the future care and education of the orphaned children.

Orphaned children are the living monuments of disasters. Loss of childhood, paternal affection are likely to haunt them for the rest of their lives. At times, the orphaned children may get affected with psychiatric problems also.

The Legal Services Authority shall seek the help of voluntary organisations large business houses and Corporates for the educational needs and accommodation of such children till they attain the age of maturity. In appropriate cases, the Legal Services Authority may assist such children to be taken care of under provisions of the Juvenile Justice (care and protection) Act.

19. Taking steps for appropriate debt relief measures for the victims.

Rehabilitation of disaster victims will be a gigantic challenge for any administration. The adequate funds should be made available to the victims who lost everything in their life for rebuilding their avocation, buying agricultural implements and other implements required for their avocations in which they were engaged prior to the disaster. Victims belonging to fisherman community may require huge amounts for buying nets, boats and outboard engines. Such measures of rehabilitation may require the assistance of government departments concerned. The State Legal Services Authority shall coordinate with Public Sector Banks, Social Welfare Department and other departments concerned for helping the victims to re-start their avocations. In appropriate cases, provisions in the laws relating to debt relief shall be invoked.

20. Rehabilitation of the old and disabled who lost their supporting families.

Persons with disabilities as defined in Clause (e) of Section 2 of Disabilities (Equal Opportunity) Protection of Rights and Full Participation Act, 1995 are entitled to free legal aid under Section 12 of the Legal Services Authorities Act. Senior citizens are entitled to certain benefits under the provisions of Maintenance and Welfare of Parents and Senior Citizen Act. The senior citizens and disabled persons who lost their support on account of disasters shall be identified and appropriate legal aid shall be given to them.

21. Problems relating to Insurance Policies.

The Legal Services Authorities shall take up the insurance claims of the disaster victims with the Insurance Companies for settlement of such claims. Negotiations may be undertaken with the Insurance Company officials for a settlement favourable to the victims. In appropriate cases the service of Insurance Ombudsman also may be availed of.

22. Arranging Bank Loans for restarting the lost business and avocations.

The victims who suffered substantial loss of their business and implements used in their avocations shall be helped by adopting proper restorative measures. For this purpose, efforts shall be made to make available financial assistance of nationalised banks and other public sector financial institutions. The Legal Services Authorities shall persuade the officials of such financial institutions to raise to the occasion for helping the victims.

23. Arranging for the services psychologists / psychiatrists help for counselling the victims suffering from psychological shock and depression on account of the disaster.

Mental shock and the related psychiatric manifestations are usually seen associated with the traumatic effects of disasters on the victims and their family members. Sudden loss of human life and the horrifying experiences of the trauma of the disasters can result in mental shock and psychiatric problems not only to the victims but also to their family members. The District Legal Services Authority shall in coordination with the District Medical Officer make necessary arrangements for the services of psychiatrists and psychologists.

The District Authority shall ensure the presence of the members of the Core group at the relief camps everyday till the victims are rehabilitated.

24. District Legal Services Authority shall collect reports from the Core Group.

District Legal Services Authority shall collect daily reports from the Core group working at the location of the disaster. Copies of such reports shall be sent to the State Legal Services Authority. The State Legal Services Authority shall consolidate the reports and send a comprehensive report to the National Legal Services Authority and copies thereof shall also be sent to the District Management Authorities of the State and District. Copies of the report shall be placed before the Patron-in-Chief of the State Authorities and also in the meeting of the State Authority. If any difficulty arises in giving effect to this Scheme, the State Legal Services Authority and District Legal Services Authority or the Core group may seek guidance from the Executive Chairman of the State Authority

CHAPTER – 9 INCLUSIVE DISASTER RISK REDUCTION

8.1 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. Common experience reveals that persons with disabilities are more likely to be left behind or abandoned during evacuation in disasters and conflicts due to a lack of preparation and planning, as well as inaccessible facilities and services and transportation systems.

Most shelters and refugee camps are not accessible and people with disabilities are many times even turned away from shelters and refugees camps due to a perception that they need “complex medical” services. 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.

8.2 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 Millennium Development Goals have the potential to make life better for billions of people in the world’s poorest countries. However, disability is currently not included in indicators and targets to help evaluate and monitor the achievement of the MDGs.

Furthermore, persons with disabilities are often excluded from international and national poverty reduction strategies. Environmental dangers and natural disasters can lead to the onset of many types of disabilities, and inaccessible environments prevent persons with disabilities from taking part in economic and social activities. Human and environmental recovery is vital for the achievement of MDG Goal 7, “Ensure Environmental Sustainability”.

The MDGs cannot be achieved without the inclusion of all persons in society, including persons with disabilities. The Rights of persons with Disabilities act (RPWDA) 2016 of India and UNCPRD form the overarching legal framework which identify and protect disability rights in India. The RPWDA mandates the participation of persons with disabilities in the disaster risk management process.

In the Act DRM is articulated in the article 8 which stipulates that person with disabilities shall have equal protection and safety in situations of risk, armed conflict, humanitarian emergencies and natural disasters. The Act refers to the Disaster Management Act 2005 Clause (e) Section 2 for the safety and prevention of persons with disabilities

The District Disaster Management Authorities (DDMA) under Section 25 are specially mentioned to maintain the record of details of persons with disabilities in the district and inform such persons of any such situations of risk so as to enhance disaster preparedness. The authorities are to consult the state Commissioners in accordance with the accessibility requirements of Persons with Disabilities. The rights of Persons with Disabilities Act 2017 elaborate an implementable strategy specifically in accessibility of infrastructure, transport & communication technology which are important aspects in the context of disaster risk reduction

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

8.3 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. Rehabilitation and reconstruction efforts must not only be inclusive and responsive to the needs of all people, including persons with disabilities, but should include the participation of persons with disabilities, to ensure that their needs and rights are respected. Women with disabilities are a particularly vulnerable group whose needs should be included at all stages of recovery and reconstruction efforts.

Actors involved in Disability inclusive Disaster Risk Reduction (DiDRR) include Government at the different levels, national to local including cities and communities at local level, the UN System, Academic Institutions, Disabled People's Organizations Private actors, Armed Forces, Civil Society, Media, local community's Local emergency response organisations.

8.4 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.

8.5 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).

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 ****

Persons Requiring Special Care

Sl. No	Block/ULB	No. of HHs headed by Women	No. of HHs headed by PWD	No. of Persons With Disability		No. of Widows	No. of Children		No. of Orphans		No. of Aged Persons (60 and above)		No. of Pregnant and lactating mothers
				M	F		0-6 Years	6-14 Years	M	F	M	F	
2	Nuapada			203	151	3398	776	559					2970
3	Komna			310	143	2273	906	401					3095
4	Khariar			131	87	2141	281	262					2654
5	Sinapali			145	99	1587	559	216					2527
6	Boden			192	92	1501	304	234					1908
	Total			981	572	10900	2826	1672			23,227	26,124	13154

Source: DSWO

Chapter-10

FOREST FIRE MANAGEMENT ACTION PLAN FOR NUAPADA DISTRICT (2022-23).

INTRODUCTION

About the Forest Division:

Khariar Forest Division was created vide Govt. Order No. 36434/1F – ID/110 /590 dt. 21.10.1959. Subsequently, Sunabeda (Wildlife) Division was carved out of this division vide Govt. Order No. 10772-8F (W) 40/88 –FFAH dt.10.5.1988 of the erstwhile Forest, Fisheries and Animal Husbandry Department Govt. of Orissa. In the wake of re-organization of the Orissa Forest Department vide Notification No. F (A) – 99/2003/13220/F&E dated. 8.8.2003, the erstwhile Padmapur Range of the division was merged with newly created Bargarh Forest Division. The total geographical area of Nuapada Revenue District is 3852 Sq.km, the total forest area is 1907.35 sq. km. which comprised 48.43% of total geographical area of the district. Out of 1907.35 Sq. Km forest area, the area belongs to Khariar Territorial division are 1397.80Sq Km. and 509.55 Sq. Km belongs to the Sunabeda Wildlife Division. Both the forest divisions cover the area of one revenue sub-division namely Nuapada. Nuapada is the District Head Quarter and it is also the headquarters of Sunabeda Wildlife Division. The Khariar Forest Division is located 70 Km away from the District Head Quarters towards Western direction at Khariar. The Map of Khariar Forest Division is furnished at Para No.2.6.5 of the Chapter- II.

Geographical Location: The geographical situation of Khariar Forest Division lies between 20⁰ 0' to 21⁰ 5' North latitude and 82⁰ 20' to 82⁰ 53' east longitude of Greenwich. The boundaries of the Forest Division touch as follow;

North: Mahasamundh district of Chhattisgarh state.

East: Titilagarh and Patnagarh sub-division of Bolangir district and Padmapur Sub-division of Bargarh District.

West & Southwest: Gariabandh district of Chhattisgarh State & Sunabeda Wildlife Division & Dharamgarh civil sub-division of Kalahandi

South: Kalahandi North Forest Division of Balangir District.

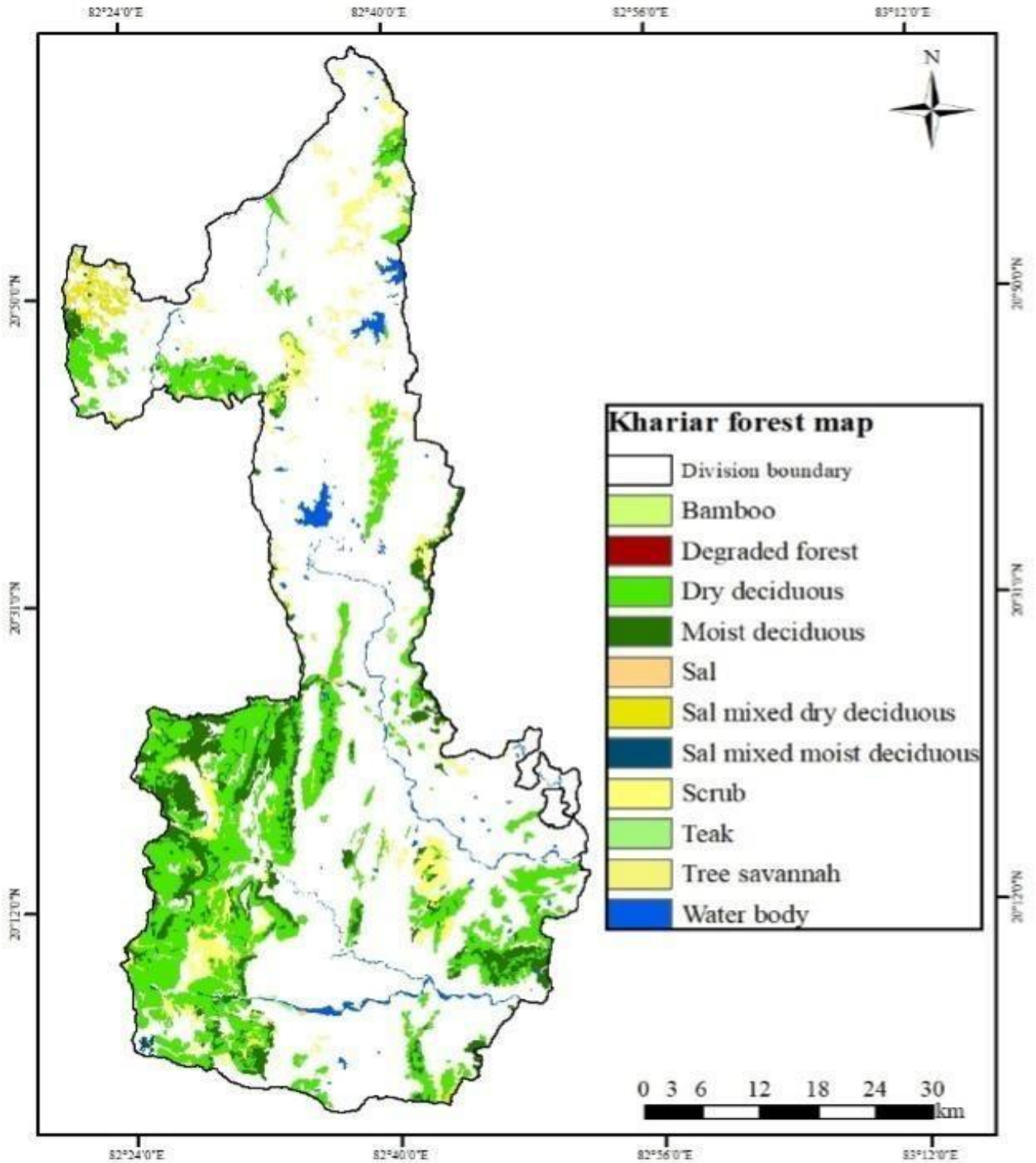
Administrative Details: The geographical area of Nuapada District is 3,852 Sq. K.M. of which the forest area, as identified by the District Level Committee in 1997, is 1907.35 Sq. K.M. in the district (Including the area of Sunabeda Wildlife Division). There are 5 Nos. of C.D. blocks in Nuapada district such as Nuapada, Komna, Khariar, Borden & Sinapali and 6 Nos. of P.S. such as Nuapada, Khariar Road, Komna, Boden, Sinapalli and Khariar. There are two NACs in the district one at Khariar and another at Khariar Road. The important towns are Khariar and Khariar Road and of course Nuapada, the district headquarters which is developing at faster pace.

The headquarters of the division is located at Khariar. The erstwhile division comprises 5 Ranges. They are Khariar, Sinapalli, Nuapada, Komna and Padampur. The number of Ranges, Sections and Beats of Khariar Forest Division.

The detail statement of different categories of forest area is mentioned below:

District	Division	Geographic area in ha.	RF	PRF	DPF	UDPF	Village forest	Total area in ha.	Percentage
Nuapada	Khariar	3852	86.93	327.01	4.27	532.43	414.473	1907.35	48.43%

KHARIAR DIVISION FOREST MAP



Administrative Set up

This Division comprises of 5 Ranges, 22 Sections and 95 nos. of Beats which are mentioned in tabular format below.

Sl. No.	Range	No. of Sections	No. of Beats	No. of Check Gates
1	Khariar	7	33	1
2	Komna	3	13	0
3	Nuapada	4	11	0
4	Sinapali	6	30	0
5	Khariar Road	2	8	0
	Total	22	95	0

Statement showing the name of Range / Section / Beats / CNG of Khariar Forest Division.

NAME OF THE RANGE	NAME OF SECTION	NAME OF BEAT
1	2	3
1.Khariar Range		
	Khariar	1. Lachhipur Beat
		2. Birighat Beat
		3. Khariar South Beat
		4. Khariar North Beat
		5. Lanji Beat
		6. Mantratari Beat
	Sanmaheswar	1. Dharamsagar Beat
		2. Jholpathar Beat
		3. Rohenpadar Beat
		4. Sanmaheswar Beat
	Ranimunda	1. Ranimunda Beat
		2. KampaniGuma Beat
		3. Dohelpada Beat
		4. Khairbhadi Beat

	Boden	1.Salepada Beat
		2.Uparpita Beat
		3.Kusumkhunta Beat
		4.Jambahali Beat
		5.Babebir Beat
		6.Baglore Beat
	Junapani	1.Junapani Beat
		2.Palenbasa Beat
		3.Rokal Beat
		4.Duajhar Beat
	Patdaraha	1.Dhobei Beat
		2.Sargidihi Beat
		3.Katfer Beat
		4.Khudupani Beat
		5.Patdaraha Nort
		6.Patdaraha South
	Karlakote	1.Karlakote
		2.Mahulpada
		3.Khaira

NAME OF THE RANGE	NAME OF SECTION	NAME OF BEAT
1	2	3
2.Komna	1.Komna	1.Komna
		2.Pendrawan
		3.Pandelbahali
		4.Kamkeda
		5.Gandamer
	2.Tarbod	1.Tarbod
		2.Kurumpuri
		3.Sialati
		4.Barkot
	3.Rajana	1.Chhata
		2.Rajana
		3.Jharnamal
		4.Chhuipani
3.Nuapada Range	1. Nuapada	1. Nuapada
		2.Tanwat
		3.Ghatipada

	2.Amanara	1. Amanara
		2. Kendubahada
		3. Bhera
	3. Dharambandha	1. Dharambandha
		2. Sethjampani
		3. Pandripani
	4. Lakhna	1.Lakhna
		2.Anlajuba
4.SINAPALI RANGE	1.Sinapali	1.Sinapali
		2.Mahagaon
		3.Kaseipani
		4.Niljee
		5.Singjhar
	2.Darlipada	1.Darlipada
		2.Portipada
		3.Kendumunda
		4.Khairpadar
	3.Nangalbod	1.Nangalbod
		2.Tankamal
		3.Phulchi
		4.Talakote
		5.Chitarama
	4.Ghatmal	1.Ghatmal
		2.Pandripani
		3.Gendulpani
		4.Gobindpur
		5.Timanpur
		6.Baijalpur
	5.Liad	1.Liad
		2.Badhunjore
		3.Kopia
		4.Gandabahali
	6.Patialpada	1.Patialpada
		2.Bharuamunda
		3.Hatibandha
		4.Pithapada
		5.Dhingiamunda
		6.Karlapani
5.KHARIAR ROAD	1.Khariar Road	1.Khariar Road
		2.Haldi
		3.Boirbhadi
		4.Biromal
	2.Beltukuri	1.Beltukuri
		2.Masankunda

		3.Parkod
		4.Amodi

Presence of Other Stakeholders:

Stakeholders play a vital role in managing any kind of disastrous situation, various stakeholders were analyzed during interaction among field staffs, a module for the participation of the stakeholders will be prepared in which each beat guard will nominate representative stakeholders from the suggested stakeholders like PRI members, VSS members, Representatives from Panchayati-Raj, Revenue, Tribal department, Agriculture department, Soil conservation department, Youth clubs, Other Civil Society, NGOs especially the partner NGO of AJY for a better coordinated effort to reduce the forest fire points.

SITUATION ANALYSIS

Forest fire alerts in the last 3 years:

Beat wise forest fire map of last 3 years are being prepared with the QGIS mapping software, considering the occurrences of forest fire in the beats, where the no of occurrences is greater than 15 points in a fire season. According to the intensity of forest fire occurrence in the particular beat area during last 3 years' different zones are also being created i.e. High sensitive zone to moderate zones. As the total no of beats are 95, Range wise one beat map is enclosed having highest fire point herewith to analyze the zones. Further diagrammatic analysis has also been prepared for all 5 Ranges by taking the Beat as unit to analyze the no of forest fire points occurred in last three years.

1. Khariar Range.

<i>Beat wise last 3 years fire point analysis of Khariar Range.</i>					
Sl No	Name of the Beats	2019	2020	2021	Total
1	Lachhipur Beat	0	0	1	1
2	Birighat Beat	0	0	13	13
3	Khariar South Beat	0	0	12	12
4	Khariar North Beat	0	0	1	1
5	Lanji Beat	0	0	14	14
6	Mantratari Beat	0	0	30	30
7	Dharamsagar Beat	1	0	19	20
8	Jholpathar Beat	0	0	1	1
9	Rohenpadar Beat	0	0	1	1
10	Sanmaheswar Beat	0	0	21	21
11	Ranimunda Beat	4	0	78	82
12	Kampaniguma Beat	8	0	27	35
13	Dohelpada Beat	0	0	24	24
14	Khairbhadi Beat	2	0	19	21
15	Salepada Beat	0	0	7	7
16	Uparpita Beat	0	0	1	1

17	Kusumkhunta Beat	0	0	22	22
18	Jambahali Beat	2	0	39	41
19	Babebir Beat	0	0	6	6
20	Baglore Beat	2	0	58	60
21	Junapani Beat	5	0	48	53
22	Palenbasa Beat	2	0	76	78
23	Rokal Beat	0	0	8	8
24	Duajhar Beat	0	0	16	16
25	Dhobei Beat	10	0	55	65
26	Sargidihi Beat	10	0	59	69
27	Katfer Beat	36	0	75	111
28	Khudupani Beat	21	6	20	47
29	Patdaraha Nort	21	1	81	103
30	Patdaraha South	26	0	39	65
31	Karlakote	1	0	34	35
32	Mahulpada	2	0	46	48
33	Khaira	0	0	15	15
	Total	153	7	966	1126

On analysis of last 3 years' fire points, Katfer Beat has 111 nos. of fire points out of total 1126 nos. of fire points of Khariar Range.

2. Komna Range

Beat wise last 3 years fire point analysis of Komna Range.					
Sl No	Name of the Beats	2019	2020	2021	Total
1	Komna	0	0	5	5
2	Pendrawan	0	0	6	6
3	Pandelbahali	0	0	0	0
4	Kamkeda	7	0	27	34
5	Gandamer	1	0	7	8
6	Tarbod	0	0	9	9
7	Kurumpuri	0	0	3	3
8	Sialati	0	0	0	0
9	Barkot	0	0	0	0
10	Chhata	0	0	1	1
11	Rajana	0	0	10	10
12	Jharnamal	1	0	53	54
13	Chhuipani	8	0	43	51
	Grand Total	17	0	164	181

On analysis of last 3 years fire points, Jharnamal Beat has 54 nos of fire points out of total 181 nos of fire points of Komna Range.

3. Nuapada Range.

Beat wise last 3 years fire point analysis of Nuapada Range.						
Sl No	Name of the Beats	2019	2020	2021	OTHERS	Total
1	Ghatipada	5	1	18	0	24
2	Tanwat	12	1	27	0	40
3	Nuapada	12	0	50	2	64
4	Lakhna	11	0	19	0	30
5	Anlajuba	0	0	3	0	03
6	Amanara	13	0	35	0	48
7	Kendubahada	1	0	6	0	7
8	Bhera	4	0	20	6	30
9	Dharambandha	0	0	9	0	9
10	Sethjampani	1	0	6	0	7
11	Pandripani	0	0	5	0	5
	Grand Total	59	2	198	8	267

On analysis of last 3 years fire points, Amanara Beat has 48 nos of fire points out of total 267 nos of fire points of Nuapada Range.

4. Sinapali Range

Beat wise last 3 years fire point analysis of Sinapali Range.						
Sl No	Name of the Beats	2019	2020	2021	OTHERS	Total
1	Sinapali			6		6
2	Mahagaon	1		6		7
3	Kaseipani	3		2		5
4	Singjhar			17		17
5	Niljee					
6	Darlipada	5		9		14
7	Portipada			9		9
8	Kendumunda			12		12
9	Khairpadar			6		6
10	Nangalbod	2		18		20
11	Tankamal	7		11		18
12	Phulchi	2		2		4
13	Talakote	2		6		8
14	Chitarama	31		15		46
15	Ghatmal	18		24		42
16	Pandripani	3		12		15

17	Gendulpani	16	2	11		29
18	Gobindpur			3		3
19	Timanpur					
20	Baijalpur	13		30		43
21	Liad	6		23		29
22	Badhunjore	7		4		11
23	Kopia	5	1	34		40
24	Gandabahali	3		11		14
25	Patialpada	6	2	34		42
26	Bharuamunda	2		7		9
27	Pithapada	4		5		9
28	Hatibandha	9		10		19
29	Dhingiamunda					
30	Karlapani			1		1
	Grand Total	145	5	328		478

On analysis of last 3 years fire points, Chitarama Beat has 46 nos of fire points out of total 478 nos of fire points of Sinapali Range.

5. Khariar Road Range

Beat wise last 3 years fire point analysis of Khariar Road Range.						
Sl No	Name of the Beats	2019	2020	2021	OTHERS	Total
1	Khariar Road	0	8	10	0	18
2	Haldi	0	0	8	0	8
3	Boirbhadi	0	0	5	0	5
4	Biromal	0	0	5	0	5
5	Beltukuri	4	1	20	0	25
6	Masankunda	2	0	6	0	8
7	Amodi	0	0	3	0	3
8	Parkod	0	0	0	0	0
	Grand Total	6	9	57	0	72

On analysis of last 3 years fire points, Beltukri Beat has 25 nos of fire points out of total 72 nos of fire points of Khariar Road Range.

Anticipated forest fire villages/spots in 2022:

To find out the anticipated forest fire villages in 2022, last 3 years' fire points has been analyzed with the help of Q-Gis mapping software. The total points in the beat area are being located on different forest blocks, accordingly the forest blocks has been categorized as per intensity.

The Beat Guards have identified the possible villages which are the prone to forest fire. They are also identifying the possible causes of fire; accordingly, the meeting regime and the other preventive measures are chalked out in the preventive part. The role of several officers in the forest department has been assigned in line with forest fire management SOP, for monitoring and effective implementation of the plan.

ANALYSIS ON FOREST BLOCK WISE LAST THREE YEARS FIRE OCCURRENCES OF KOMNA RANGE BY FOCUSING THE FOREST BLOCK FRINGE VILLAGES .						
SL NO	NAME OF THE FOREST BLOCK.	2019	2020	2021	TOTAL	NAME OF THE PERIFERY VILLAGES
1	Tandel 'A'	0	0	7	7	Pendrawan, Bahabal, Jhakripada, Bilenjor, Bahalmunda, Karamahul
2	Tandel 'B'	0	0	3	3	Bharuamunda, Komna, Biswanathpur, Singari
3	Tandel 'c'	7	0	27	34	Poinr, Jagarnathpali, Anupgarh, Tikrapada, Dungripali, Kamdeda, Patpani, Salebhata, Lohondopali, Mahulbhata, Thutibar, Ganiapada, Kalimati
4	Bijakhaman	0	0	0	0	Bilenjor, Pandelbahali, Konabira, Birunpadar, Komna
5	Bijakhaman Ext.	0	0	0	0	Bahalmunda
6	Ranidungri	1	0	8	9	Babupali, Mahulbhata, Bharumunda, Jatgarh, Babeghati, Soripda, Khaliapada
7	Lankeswari	0	0	2	2	Dhumabhata, Budhikomna, Pandrapathar, Gandamer, Bharuamunda, Ganiari, Musapali, Naikpada, Sihinamunda,
8	Danojhola	0	0	0	0	Danojhola, Musapali
9	Barkote	0	0	0	0	Barkote, Thongo, Michhapali, Salepada, Bishibahal, Litibahal.
10	Barkote Ext.	0	0	0	0	Bishibahal, Litibahal
12	Chhata	0	0	9	9	Goijor, Agren, Mallickmunda, Kutenpada, Karadongripada, Chhata, Barandapat
13	gurudongar	3	0	24	27	Khaliamunda, Sirli, Nagpada, Malbhatapada, Chhuipani, Bhuipani
14	Jhagrahi	0	0	0	0	Jhagrahi, Litibahal, Malimunda, Dhorlamunda

15	Patidongar	0	0	0	0	Deodharha, Dhaurabhata, Malpada
16	Patdarha	6	0	39	45	Chhuipani, Bhuipani
17	Bajini	0	0	29	29	Boda, Jharnamal, Sirli, Khaliamunda, Nagpada, Masnipada, Putkulpada
18	Palsipani A	0	0	0	0	Palsipani
19	Palsipani B	0	0	0	0	Palsipani
20	Rajana Kachhar	0	0	1	1	Kunjalapada, Deodharha, Jharnamal
	GRAND TOTAL	17	0	149	166	

ANALYSIS ON FOREST BLOCK WISE LAST THREE YEARS FIRE OCCURRENCES OF NUAPADA RANGE BY FOCUSING THE FOREST BLOCK FRINGE VILLAGES .						
SL NO	NAME OF THE FOREST BLOCK.	2019	2020	2021	TOTAL	NAME OF THE PERIFERY VILLAGES
1	Ghati PRF	5	2	32	39	Dhamanpuri, Lukupali, Khoksa, Mahuabhata, Salebhata, Sialati, Sunarital, Khajurbahal, Samarsingh, Ghatipada, Kusdahana, Gobra, Sinapali
2	Kanabhainra PRF	1	0	9	10	Hanspuri, Patparpali, Saliha, Jhalbahal, Junani, Godfula,
3	Kendubahada PRF	3	0	13	16	Patalghutkuri, Bhainsadarah, Jamusalebhata, CHhotkendubahada, Kendubahada, Sirigidi, Gidhinipani, Brahamani, Sanbahali, Khaprapada, Amanara, Rajunagar, Koten, Moharadihi, Forfod
4	Lodra PRF	8	0	35	43	Patora, Bhera, Patharpunji, panchampur, Karchul, Chiapajhar, Maulibhata, Ratipali, Jhilmila, Dianmunda, Tanwat
5	Mendhatal PRF	6	0	6	12	Katapda, Mendhatal, Silva, Chacharajharan, Dangorpada, Salepada,
6	Musrangi PRF	3	0	17	20	Koten, Dalipakhna, Pasamara, Sethjampani, Kukuratal, Amanara, Daldali, Musrangi

7	Kechhupani PF	3	0	13	16	Sethjampani, Kalmidadar, Pandripani, Chulabhat, Supli, Siliaribahara, Kodopali,
8	Anlajuba	0	0	3	3	Teijhar, Anlajuba, Goopur, Kotenchuan, Jamdhara, Darlimunda, Sunsunia, Saipala, Khairani
9	V.F, Non Forest Area , DPF&UDPR	30	0	79	109	Tenganabada, Slalati, CHelnedi, Pagarpani, Khaliapani, Chhindpani, Lakhna,
	GRAND TOTAL	59	2	207	268	

ANALYSIS ON FOREST BLOCK WISE LAST THREE YEARS FIRE OCCURRENCES OF SINAPALI RANGE BY FOCUSING THE FOREST BLOCK FRINGE VILLAGES .						
SL NO	NAME OF THE FOREST BLOCK.	2019	2020	2021	TOTAL	NAME OF THE PERIFERY VILLAGES
1	Adipita PRF	14		42	56	Ranimunda, Dhingiamunda, Maheswar, Armela, Kusumkunta, Baijalpur, Dumberbahal, Jogbhata, Tileipalma, Pandripani, Gadijore, Mandalpakhan
2	Chaura PRF	21	1	69	91	Liad, Badhunjore, Jogibahal, Sitlikhalia, Chaura, Jhankarguda, Makhapadar, Malpada, Jangliapadar, Mundapala, Kopia
3	Chereipani PRF	16	1	42	59	Patialpada, Nuaguda, Haldikhhol, Kaseipani, Karlapani, Mahagaon, Padarbhata,
4	Koilakhala PRF	19		67	86	Tankamal, Talakote, Sindursil, Nangalbod, Phulchi, Bhuliabhata, Dabada, Dongargaon, Nuamalpada, Darlipada, Khandapada, Khairpadar, Thipakhhol, Siallati, Jampani, Bhatapani
5	Nageswar 'A' PRF	1	1	17	19	Sandibahali, Nuapada, Gayalpani, Pithapada,
6	Nageswar 'B' PRF	9		7	16	Gayalpani, kenduguda, Kokpadar, Litiguda, Hatibandha
7	Patdarah PRF	65	2	52	119	Chitarama, Gendulpani, Ghatmal, Dhangrital, Bodabahalipada, Kandanjharia, Jholapada, Badmola
8	Gohirapadar PRF			4	4	Jharbandh,
9	Kanduldongri PRF			3	3	Jogibahal, Gandabahali, Mundapala
10	Kathibadi 'A' PRF			1	1	Kathibadi, Sardhapur,
11	Kendumunda 'A' PRF			4	4	Kurlubhata, Dhingiamunda

12	Kendumunda 'B' PRF			2	2	Dongrikhol, Kendumunda,
13	Nageswar 'C' PRF			1	1	Patialpada, Badhunpani, Sandibahali, Arsapada
14	Narayandongri 'C' PRF			7	7	Nagjhar, Makarguda, Kandamunda, Jharbandh
15	Narayandongri 'A' PRF			5	5	Tileimal, Jharbandh
16	Narayandongri 'B' PRF			5	5	
	GRAND TOTAL	145	5	328	478	

ANALYSIS ON FOREST BLOCK WISE LAST THREE YEARS FIRE OCCURRENCES KHARIAR ROAD RANGE BY FOCUSING THE FOREST BLOCK FRINGE VILLAGES.						
SL NO	NAME OF THE FOREST BLOCK.	2019	2020	2021	TOTAL	NAME OF THE PERIFERY VILLAGES
1	Amodi	0	0	0	0	Kurumunda, Bhutkapada, Amodi, Tanda & Bhaleswar
2	Basini A	0	0	1	1	Bandhapada, Tamkidadar
3	Basini B	0	0	6	6	Saraipali, Dadargaon
4	Singhpur	0	0	2	2	Singhpur
5	Masankunda A	1	0	2	3	Chhura, Kandadhapa, Kadomeri, Masankunda
6	Masankunda B	0	0	5	5	Masankunda, Chhura, Ranidarha, Chhinchua, Bhanpur
7	Jampani	0	0	4	4	Jampani, Biromal, Boirbhai, Chichiripani, Saraipada, Katapada, Chhuri, Chhindpani, Khaliapani, Tetengpada
8	Haldi	0	0	0	0	Haldi, Bhainsmundi, Bhajipala
9	Village Forest	0	0	8	8	

10	Outside of forest	5	9	29	43	Paddy feild
GRAND TOTAL		6	9	57	72	

Fire Prevention and Mitigation Plan, Khariar (T) Forest Division, Dist-Nuapada

Forest Cover Distribution in Khariar Forest Division shows that dense and medium dense deciduous forests are located in the West and South - West portion of the Division as shown in the map below.

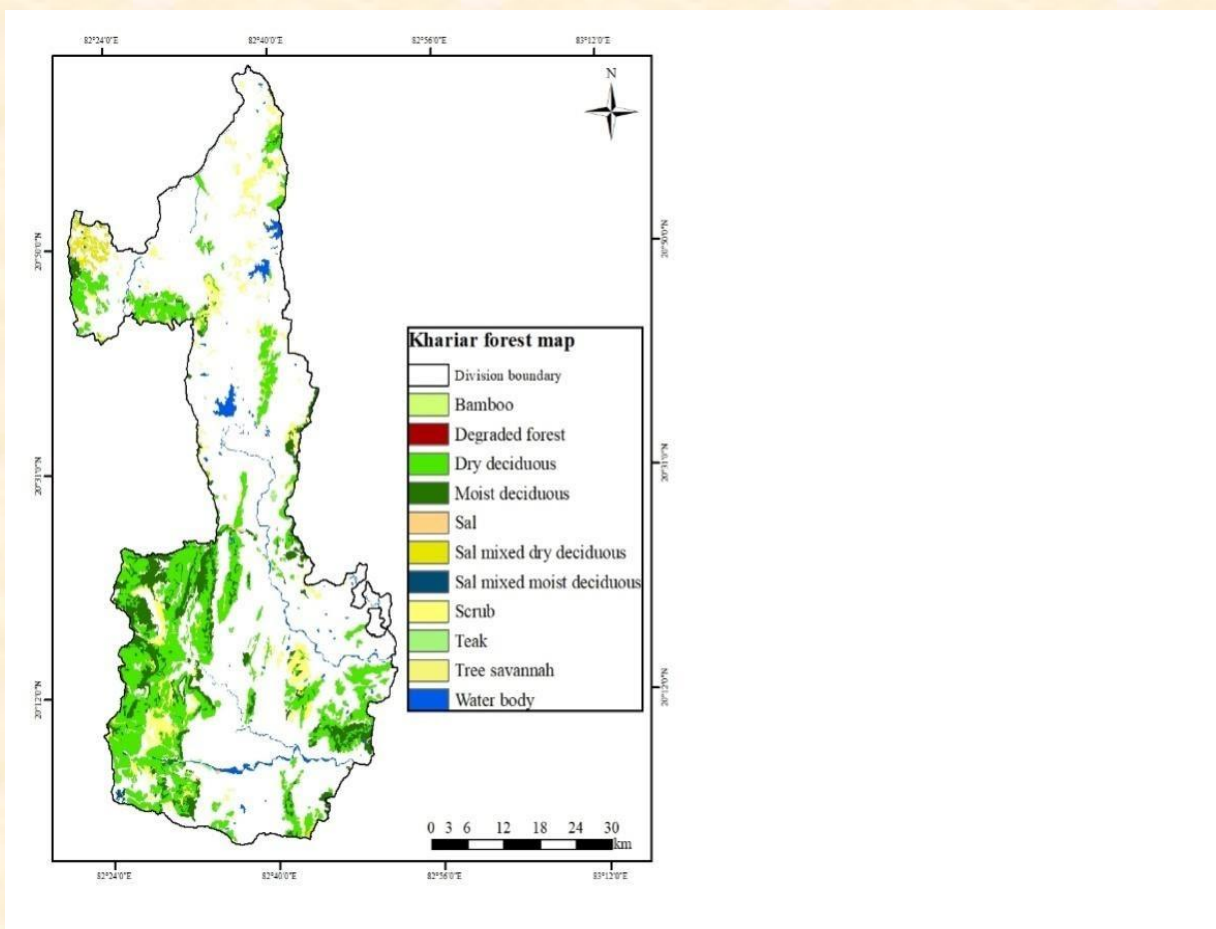


Figure 1: Forest Cover Map of Khariar Forest Division

Various research models have indicated different vulnerability to fire incidence in short and long term in the division.

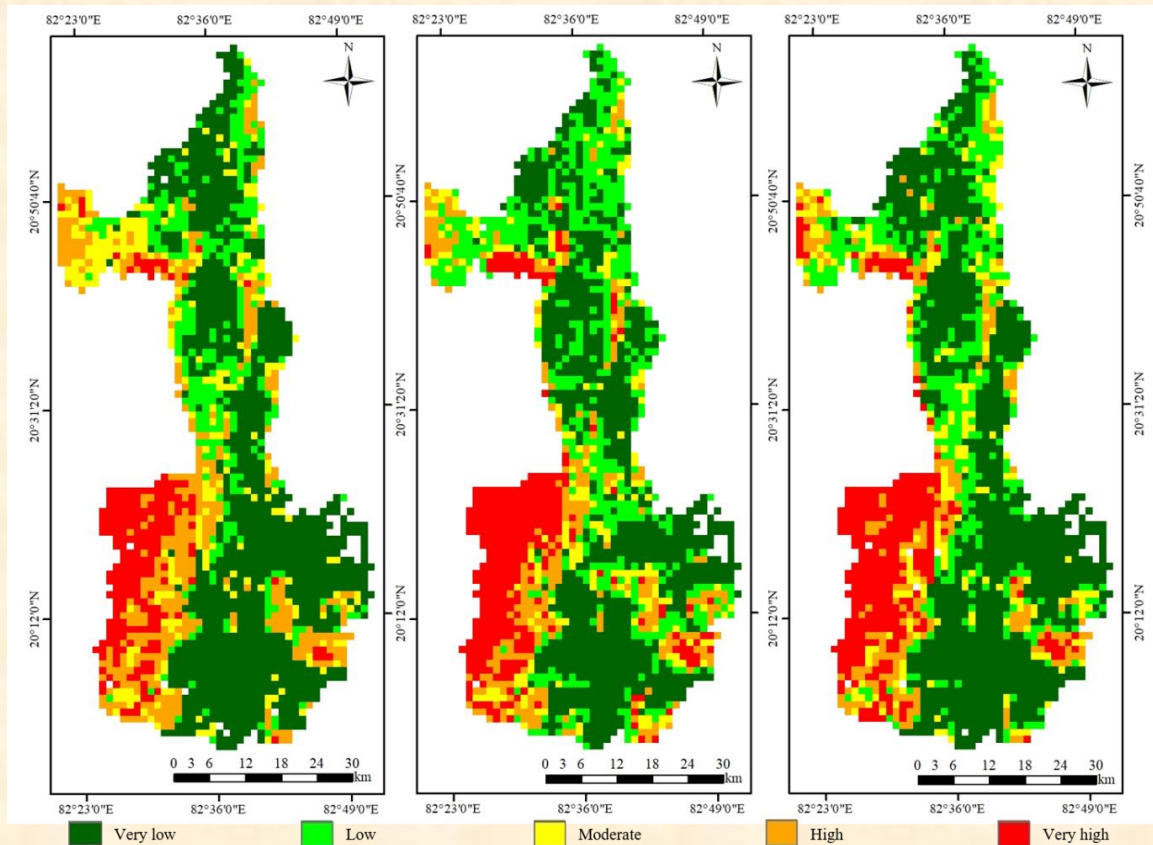


Figure 2: Fire vulnerability assessment map produced using data mining models (a) CART (b) BRT (c) MARS

Model validation

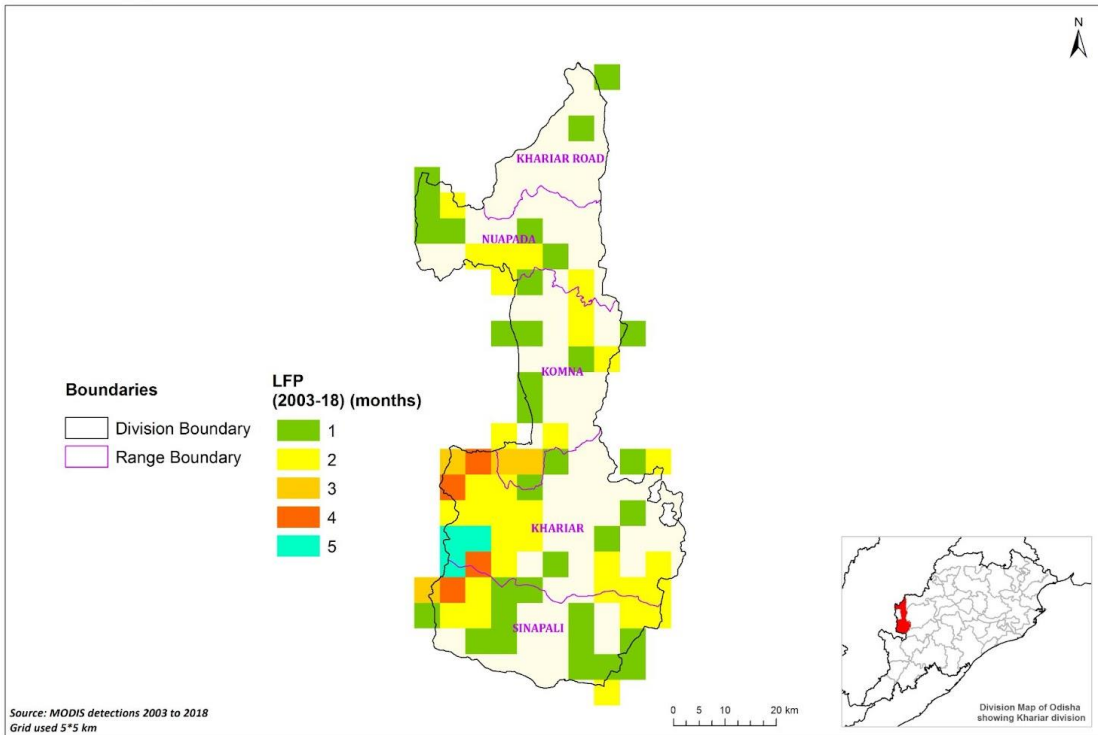
Validation of modeling output provides better interpretation of results in defining associated vulnerability of forest fire in the study (Pourtaghiet *al.*, 2016). The accuracy of model prediction rate with site specific vulnerability of forest fire is shown in (Figure 4). The AUC value of the BRT model is 0.866 with prediction accuracy of 86.6%. The AUC value is 0.821 and 0.796 for the MARS and CART model respectively. The AUC line of BRT has a maximum area covered under the curve. BRT models having higher AUC value than other models described better accuracy of model in prediction of vulnerability of study site. Prediction value >80% accuracy shows the model has performed well in prediction of forest fire vulnerability. It also proves that data mining models are able to explain the vulnerability along with the site specific conditions prevailing.

Length of fire period (in months) and fire incidence frequency also varies significantly across the divisions as shown in the below maps.



Length of Fire Period Map of Khariar Forest Division, Odisha

nrsc

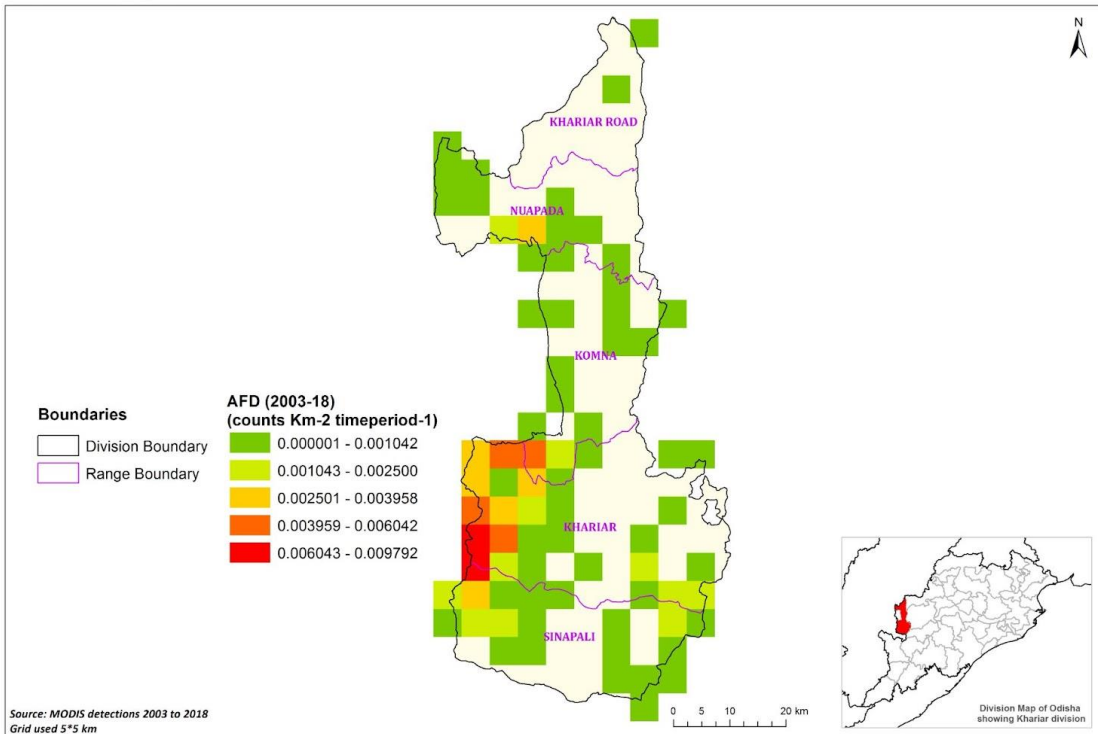


For Official Use



Average Fire Density Map of Khariar Forest Division, Odisha

nrsc



For Official Use

Keeping in view above mentioned physical and geographical characteristics as well as existing social and management practices, following steps are proposed to be taken for Prevention of Fire and Fire Management in Khariar Forest Division -

1. **Creation and maintenance of Fire lines** of 3 meter width and 500 KM in length in all compartments as per their vulnerability -

This operation will start from early January and be completed by February, 2022 i. e. Just before the onset of fire season. Further maintenance will be done in the month of march, 2022 by removing dry leaves from the firelines using leaf blowers.

2. **Fire Awareness in VSS and villages** lying within 1 km and 2 km of fire prone forest Block Boundaries.

Out of 13000 hectares area allotted to 244 numbers of active VSS, only 210 hectare was affected by Fire Season 2021 which indicates success of VSS involvement in fire control and mitigation plan. However, a survey in Khariar Division has shown that more than one-third respondents believe that forest fires are beneficial due to various reasons.

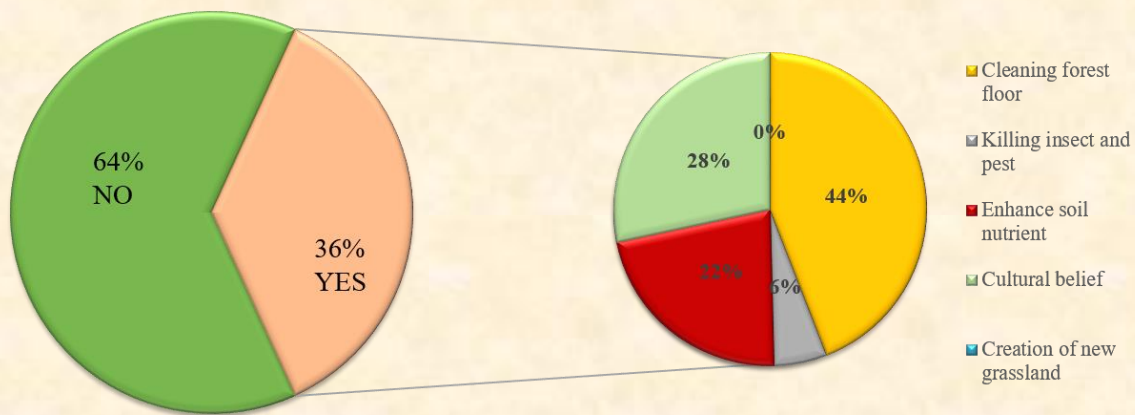


Figure: Percentage of respondents supporting various benefits of forest fire

- a. Forest Staff, P-NGO Team Leaders and Developmental Officers will be actively engaged in all VSSs covered under AJY. Miking and Pamphlets Distribution will also be done in a targeted manner.

List of Forest Fringe Villages in Nuapada District

Range	Forest Fringe Villages from		
	0-1 KM	1-2 KM	2-3 KM
Khariar	141	63	36
Komna	80	22	20
Khariar Road	12	8	16
Nuapada	69	13	6
Sinapali	71	37	3
Total	373	143	81

Villages near Fire Prone Compartments will be provided awareness at least 2 times in fire season along with their direct involvement in fireline creation and control burning.

- b. **Engaging Pallas in awareness messaging** - It will be done from 1 February to 1st April as it has proved a very effective method to inform people about fire hazards.
 - c. Along with awareness programs, a resource person will be engaged to provide training to villagers on alternate sources to enhance soil nutrients and control burning of the forest floor from December Month onwards.
3. **Control Burning below Mahua Trees** in the month of February and March - A database of GPS coordinates of Mahua trees in fire prone compartments will be used to control burn the leaf and litter below mahua tree to pre-empt fire hazards due to NTFP collection.
4. **Graded Engagement of Forest Fire Squad with Fire Blowers:** Deployment of the fire squad and vehicles will be in accordance with actual requirements based on local climatic conditions and vulnerability. Sufficient fire-blowers will be provided to squads along with equipment such as head torches and gumboots.
5. **Plantation Fire lines:**
All plantations will be secured by fireline creation in the months of January and February.
6. **Setting up a control room** in the Division Office for timely communication of Fire incidences in the division.
7. **Coordination with other Departments:**
If more than 50 fire points are detected more than 2 days in sequence, the fire-response team and ODRF team will be called upon to assist the forest department.

Incentives to Villagers:

Providing incentives in kind for public use have helped people to become more responsive to fire control.

Financial requirement to combat the forest fire for the fire season 2022.			
Sl No	Item of works	Unit	Allotment required
1	Hiring charges of fire fighting vehicle	2 vehicles per range For 5 ranges @2 vehicles/Range = 10 Vehicles @1800/day x 90 days = 16,20,000/-	1620000
2	Maintenance and cost of POL for towards vehicle		250000
3	Engagement of fire fighting squads (in nos.) each of 10 persons on daily wage for 90 days @ Rs. 315/-	2 squads per Range (each squad should contain 10 persons) For 5 Ranges 10 Squads 100 x 315 x 90days	2835000
4	Logistic to the fire protection squad		500000
5	Incentivizing villages / communities for protection against forest fire under participatory forest management approach	20 villages per each range @ Rs.5000/- /village 100 xRs.5000 =	500000
6	Awareness campaigns	50 campaigns per range 250 camapigns x Rs.1000 /camaign	250000
7	Creation of fireline in shape of trench depth 2' x 3' for 700 km	100 kms per Range 500 Kms x Rs.3927.38/Km	1913690
8	Maintenance of Fire line	100 kms per Range 500 Kms x Rs.1555/Km	777500
9	Amount towards purchase of oral dehydration sachets	1000 sachets per Range 5000 Sachets x Rs. 5/-	25000
10	Awareness campaign through street dance in public places	20 Camaigns per Range 100 camaigns x Rs. 5000	500000
11	Fire fighting equipments including blower		300000
12	Fuel for old fire blowers purchased from CAMPA		350000
13	Adoption of Ring Strip method of Control Burning	Rs. 100000 per Range	500000
14	Training and capacity building on fire fighting method for frontline staff		50000
15	Imprest money 5% of the sanction amount to be kept with designated officer for emergency situation due to forest fire		518560

16	Monitoring & review of the measures taken for prevention and control of forest fire 2% of the sanction amount		207424
17	Short term research / survey on forest fire related issues 3 % of the sanction amount		311136
	Total		11408310

STRATEGIES FOR MITIGATING THE CHALLENGES OF FOREST FIRE – 2022

As a prelude for a target action in the matter, unanimously it was decided to take up critical data analysis of the forest fire occurrence during last five to ten years in the district and to find out the target Beats, Reserve Forest, fringe villages for focused monitoring. A detail data analysis taking into account the intensity and magnitude of forest fire occurrence, the observation is hereby made and re-produced in the subsequent pages.

ACTION PLAN FOR THE YEAR 2022 FIRE HAZARD MITIGATION

Basing on the situation analysis mentioned above, the Fire spots have been identified as very severe, severe, medium, light, and insignificant. The critical beats and forest villages having very severe and severe category will be focused during 2022 and accordingly present action plan is prepared for taking preventive and mitigation measures as suggested below.

Awareness Programme (to be done from November, 2021 to March,2022)

- Coordination Meeting with the local BDO, Tahasildar, Kendu leaf staff, OFDC Ltd. Staff, Fire staff, Revenue Officials, PRI members & Govt. Officials of different G.Ps of all seven ranges will be conducted to make the Panchayat Forest Fire Free (3Fpanchayat).
- Organizing mock drill training for forester, forest guard and VSS members with assistance of fire service personnel for effective fire control.
- Awareness Meeting will be conducted & Oath taking will be done in all villages to prevent forest fire. All SHGs of a village will be mobilized to protect the forest from fire.
- Awareness Rally/ folk dance etc will be organized in different vulnerable villages for prevention of forest fire.

- Forest Fire Ratha (Chariot) will move in all fire prone areas of this division and will sensitize the people not to set fire and also educate the people regarding penal provision for setting fire in the forest.
- Banners & Posters will be fixed at different conspicuous places to aware the people. Dos and Don'ts on forest fire will be displayed in Odia and tribal vernacular language in all villages/ inside forest/all public places.
- The local foresters and forest guards shall participate in Phadi committee meeting and counsel/ warn the villagers not to set fire in the forest for kenduleaves.

Maintenance & Creation of Fire Line (January,2022 to March2022)

- Fire lines at a width of 10ft over 1200 RKM will be created in all existing footpaths, roads, boundary of forest block passing through the forest.
- Fire line at width of 10ft will be created around all plantation sites.
- Zigzag fire line over 1000 RKM will be created inside natural forest through blower.
- Removal of all debris, leaf litters and other inflammable materials from the forest floor will be taken up where SSO work has been undertaken.

Establishment of camp at strategic location (February,2022 toMay2022)

- I. The site for setting up camps will be selected and machans/ make shift house will be constructed within first fortnight of February.
- II. 60 Nos. of camps will be established in the severely vulnerable areas from 15th February to 31st May 2022. In each camp 03 Nos. persons will be deployed. They will conduct regular patrolling inside the forest area and keep surveillance on the movement of public/poachers into theforest.

Patrolling duty during fire season (15th February, 2022 to 31st May2022)

1. Repairing of forest road and inspection path inside the forest

area before the month of January for intensive patrolling before fire season.

2. Regular intensive patrolling (by four wheeler, by two wheeler, by foot) will be conducted by the forest staff and squad to prevent any occurrence of forest fire.
3. Surveillance on poachers will be reinforced during fire season.

Other activities

- I. Action for filling of vacant position in fire risks forest beats will be taken during January.
- II. Procurement of firefighting equipment and tools will be made within January 2022 to strengthen the base level field functionaries. During 2022 one well-conditioned fire blower will be provided to each beat. In case of beats having multiple forest blocks, 02 Nos. of fire blowers shall be provided.
- III. Fire fighting squad will be selected by the Range Officers within January who are having experience in extinguishing forest fire during previous years.
- IV. Arrangement of labour and hired vehicle is to be completed within January 2022.
- V. The staff will be well acquainted with the area, map, topography, routes, water source and fire risk area of his jurisdiction.
- VI. The mobile phones of all staff and squad will be recharged and shall be registered in OFMS/FSI portal.
- VII. Provision of incentive will be made to the VSS/villages /Panchayat which will be forest fire free during 2022.
- VIII. Provision of reward will be made to the staff/ squad/ public who effectively controls forest fire or provide information about the offender of forest fire.
- IX. The VHF stations and walkie talkie are to be made functional for quick transmission of fire alert particularly in mobile phone in accessible area.

MITIGATIVE MEASURES

- (i) A whatsapp group has been proposed to be formed in Nuapada Forest Division in which DFO, All ACFs, ROs, Frs and FGs and Divisional Control Room are members. Soon after receipt of message from FSI/ state headquarters the said message is immediately passed on by the Division Control Room in this whatsapp group along with location map depicted on the topo sheet. The staff/squad after receipt to the message immediately rush to the spot with blower, other fire fighting tools and douse the fire. In 2022 the same procedure will be followed.
- (ii) This year mobile phones of forest guards of all vulnerable beats will be registered in FSI so that they will receive fire alert immediately from FSI directly and take steps to control the fire. Support of Odisha Fire service will be taken wherever required.
- (iii) The staff will conduct enquiry into each fire affected forest area, assess the loss, verify the action taken by them to control fire and submit report.
- (iv) The staff will take expeditious steps to initiate legal action against culprits with due procedure and adequate evidence. Police support will be taken whenever required.
- (v) During 2022 one well-conditioned fire blower will be provided to each beat. In case of beats having multiple forest blocks, 02 Nos. of fire blowers shall be provided
- (vi) After extinguish the fire, the fire points will be uploaded in OFMS portal.

FUNCTIONING OF 24X7 CONTROL ROOM

- I. 24 X7 fire prevention control room at division headquarters will be opened from February 2022 to June 2022.
- II. 06 Nos. staff will be deployed in 24 hours with 8 hours duty for 02 Nos. of staff in each shift.
- III. Sub-Divisional Level Rapid Fire Response Team (RFRT) will be constituted with staffs from Range Office, Fire Wing, Panchayat Wing, District Disaster Management Unit to work on 24 x 7 basis to be stationed at Sub-Division Range office i.e. Nuapada, Patnagarh & Titilagarh with separate infrastructure like Fire Fighting Equipment, Vehicles etc. The Team will rush to the spot in possible fire occurrence reported before the fire going wild in nature and take all out effort to extinguish.
- IV. A whatsapp group will be formed in Nuapada Forest Division in which DFO, All ACFs, ROs, Frs and FGs and Divisional Control Room are members. Soon after receipt of message from FSI/ state headquarters the said message is immediately passed on by the Division Control Room in this whatsapp group along with location map depicted on the topo sheet. The staff /squad after receipt of the message immediately rush to the spot with blower, other fire fighting tools and douse the fire. In 2022 the same procedure will be followed.
- V. A register is maintained in the control room in which GPS coordinates of fire points, area affected, action taken by staff are recorded.

Similarly control room at all range office of the Division will be opened during 2022 fire season. Forester (Enforcement) and DEO of each range will operate the control room. Soon after receipt of the fire alert from division office the same will be communicated to all FGs for mitigative action. RO of concerned range will monitor the control room in exigencies and ensure complete extinguish of fire by field staff / squad and upload the fire point in OFMS portal.

BUDGETORY ALLOCATION PROPOSED FOR THE FIRE ACTION PLAN

Sl. No.	Head of Account	Amount in Rs.
1	2	3
	101-3330-Forest Fire Prevention & Management (FPM)	
01	Awareness Campaign about forest fire among VSS Members of Surrounding Villages/ Temporary Staff engaged for fire protection (Rath, Rally, banner, poster, meeting) (150 villages X Rs. 6000 per Villages)	900000.00
02	Pre Fire Season Workshop for coordination among the line departments and elected bodies and NGO (2 nos. X Rs. 10000/-)	20000.00
03	Fire blower 22 Nos.@Rs. 60,000/- each	1320000.00
04	Fuel and Maintenance of 98 old blower &22 new blower @Rs. 10000/- each	1200000.00
05	Engagement of Fire Fighting Squad 11 Sqd. X 10 person X 150 days X Rs. 315/- per Squad	5197500.00
06	Incentive to villages/ communities for protection against forest fire under participatory forest management approach through 75 nos. of sensitizing camp @ Rs. 2000/- per village/ community)	150000.00
07	Purchase of Oral Dehydration Sachets & Glucose	20000.00
08	Training & Capacity Building on Fire Fighting Methods for Frontline Staff (2 no. X Rs. 15000/-)	30000.00
09	Monitoring & Review of the measures taken for prevention & control of forest fire	35000.00
10	Fire Fighting equipment (Shoe, torch, water bottle, cap, napkin) @ Rs.3000/- per person for 110 persons	330000.00
11	Hiring of vehicle @1500 per day X 150 daysX11 unit	2475000.00
12	Purchase of First Aid Kit	55000.00
13	Imprest money i.e., RO@Rs. 20000/- X 11 Nos.= Rs. 220000 & DFO@Rs. 200000/-	420000.00
	TOTAL	12152500.00
	CAMPA APO 2022-23	
01	Creation and Maintenance of Fire line (1200 RKM) (1200 X Rs. 315 X 10)	3780000.00

02	Engagement of 3 Separate vehicle for 3 Sub-Divisional Level Rapid Response Team @ Rs. 45000 / month / veyhicle for 5 months = 45000 x 3 x 5	675000.00
	TOTAL	4455000.00
	Addl. Fund required from other sources	
01	Fire line creation (through blower) 600KM @ 1000/-	600000.00
02	Camp at vulnerable site 30 Nos.X3 persons X 150 daysX315/-	4252500.00
03	Imprest money i.e., Forest Guard 50 Nos vulnerable Beats approx X Rs. 5000	250000.00
	TOTAL	5102500.00
	GRAND TOTAL	21710000.00

CONVERGENCE

DRDA will be mobilized to sanction project relating to "Improvement of forest" in MGNREGA components like fire line creation will be incorporated. The PRIs and SHGs members will be motivated to counsel the communities/villagers to refrain from setting fire and extinguish the fire wherever occurs nearby their village. District Administration, Nuapada have a specialist like, Disaster Risk Reduction (DRR) Consultant, OSDMA who will be requested to coordinate among all departments & impart capacity building to all line departments to assist forest department in extinguishing forest fire.

SUPPORT OF OTHER LINE DEPARTMENT

Support of fire service will be taken whenever required. District Fire Officer has assured to extend cooperation in this regard with proper planning with DRR Consultant. The Forester/FG/Seasonal staff of Kenduleaf wing will be motivated to extinguish fire along with territorial staff. The field functionaries of OFDC Ltd will be requested to extend cooperation to our staff.

THRUST AREA OF MONITORING

The monitoring of all fire prevention & mitigation activities will be done by the DFO & ACFs of this Division. In view of the huge wildfire observed during the last fire season 2021, it is felt necessary to bestow special thrust on the following points to mitigate the wild fire in rapid response mode.

- From the available data of last three years vulnerable Forest Block in order of fire occurrence is to be identified from FSI Modis data and mapped in the Plan.

- Special awareness programme among the villagers of vulnerable pocket, through meetings, motivation, folklore show will be taken up to make them aware of the hazards of wildfire on human and wildlife.
- Person engaged for watch and ward under different AR and ANR plantations of various scheme like CAMPA, AJY will be especially engaged for fire protection with accountability to be deal with their wages.
- Fire Response Whatsapp group in Range Level involving all stake holders from Range Office Staffs, Panchayat Office Staffs, Local Fire wing, VSS President and Active Members will be created for quick messaging of fire occurrence.
- Dist Level Fire response Whatsapp group will be created for quick sharing of fire point received from FSI Modis Satellite data.
- Sub-Divisional Level Rapid Fire Response Team (RFRT) will be constituted with staffs from Range Office, Fire Wing, Panchayat Wing, District Disaster Management Unit to work on 24 x 7 basis to be stationed at Sub-Division Range office i.e. Nuapada, Patnagarh & Titilagarh with separate infrastructure like Fire Fighting Equipment, Vehicles etc. The Team will rush to the spot in possible fire occurrence reported before the fire going wild in nature and take all out effort to extinguish.
- Capacity Building Training at Range Level to deal with wildfire will be taken up at least 2 Training before onset of fire season and during the fire season in each Range.
- Capacity buildings of Gram Sathi engaged under MGNREGS for motivation of villagers regarding protection of forest from fire
- Control Room net works with 24 x 7 basis will be operational zed from January to June and the phone number of the Division and Range control room will be made public.
- They will ensure conduct of awareness meetings, awareness chariot, rallies etc before outset of fire season.
- They will ensure high propaganda in public places though banner & poster & in media, social media through advertisement.
- Control burning around the mohua tree in ring method will be ensured before fire season.(from February to April every year)

- All the fire lines along the Division boundary/District Boundary are to be traced before onset of fire season.
- Control burning of all inflammable leaf litters will be completed along the road side, foot path etc before fire season.
- Fire fighting squad will be selected by RO & will be trained beforehand.
- Purchase of blower and other fire fighting tools will be procured before fire season and availability of those tools with the fire fighting squad will be ensured. All old blowers will be repaired & to be made functional.
- The site for temporary camps inside the forests are to be selected beforehand and the staff/ squad are to be positioned well in advance with provision of all logistics
- Hiring process of all vehicles will be completed within January and those will be put to service from February onwards.
- Rampant patrolling of all staff will be ensured.
- Presence of all staff of their headquarters will be ensured. Leave of staff during fire season will be cancelled.
- Surveillance on poachers will be strengthened.
- Communication of fire alert in real time basis is to be ensured.
- Extinguishing of fire and uploading of fire point in OFMS will be properly monitored.

EXPECTED ACHIEVEMENT AGAINST APPREHENDED FIRE HAZARD

Besides a strict adherence to the Standard Operating Procedure (SOP) designed for Fire Season- 2022, the preventive and mitigation measure enveloped in the Action Plan will be adhered to in 2022 fire season. With the wholehearted Endeavour of all staff of this Division the fire incidence can be prevented/controlled to maximum extent and a calculative move can be taken against the apprehended nature's fury in the shape of Forest Fire during 2022 fire season.

Chapter -11

CHEMICAL (INDUSTRIAL), NUCLEAR AND REDIOLOGICAL DISASTER

The growth of chemical industries has led to an increase in the risk of occurrence of incidents associated with hazardous chemicals (HAZCHEM). A chemical industry that incorporates the best principles of safety, can largely prevent such incidents. Common causes for chemical accidents are deficiencies in safety management systems and human errors, or they may occur as a consequence of natural calamities or sabotage activities. Chemical accidents result in fire, explosion and/or toxic release.

The nature of chemical agents and their concentration during exposure ultimately decides the toxicity and damaging effects on living organisms in the form of symptoms and signs like irreversible pain, suffering, and death. Meteorological conditions such as wind speed, wind direction, height of inversion layer, stability class, etc., also play an important role by affecting the dispersion pattern of toxic gas clouds. The Bhopal Gas tragedy of 1984—the worst chemical disaster in history, where over 2000 people died due to the accidental release of the toxic gas Methyl Isocyanate, is still fresh in our memories. Such accidents are significant in terms of injuries, pain, suffering, loss of lives, damage to property and environment. A small accident occurring at the local level may be a prior warning signal for an impending disaster. Chemical disasters, though low in frequency, have the potential to cause significant immediate or long-term damage.

A critical analysis of the lessons learnt from major chemical accidents exhibited various deficiencies. Laxity towards safety measures, no conformation to techno-legal regimes and a low level of public consultation are a few such shortcomings. The scenario called for concerted and sustained efforts for effective risk reduction strategies and capacity development under a national authority to decrease the occurrence of such incidents and lessen their impact. Although tremendous efforts have been made to minimise such accidents and to improve emergency preparedness

at all levels, substantial efforts are still required to predict the occurrence of disasters, assess the damage potential, issue warnings, and to take other precautionary measures to mitigate their effects. Another pressing need is to properly assess the potential of chemical emergencies and develop tools for emergency planning and response to minimise the damage in case of any eventuality.

Odisha is also an Industrial State and many Large, Medium and Small-Scale Industries are operating in the state. Many large industries are operating in the districts like Jagatsinghpur, Angul, Jharsuguda, Sambalpur and Rayagada and many medium and small industries are operating in other districts of the State. The District administration of the industrial district must be prepared to face any kind of Chemical (Industrial) disasters and always be prepared with the Off-site Emergency Plan of the District. The Off-site emergency plan needs to be updated on regular frequency.

Thus, it is highly essentials to take all the preparedness measures and minimize the risk of any Chemical (Industrial) disasters in the industrial districts of the State. The following information are required to be fulfilled and be updated every year in the District Disaster Management Plan of the District.

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.

11.1 Factories or Storage Unit Details of the District

Table-11.1

Organisation Name	Type (Large/ Medium /Small/ Micro)	Manufacturing Process & Capacity	Address	Lat/ Long	Site Operator Head Name	Site Operator Head Designation	Site Operator Head Email	Site Operator Head Mobile Number
NA	NA	NA	NA	NA	NA	NA	NA	NA

11.2 Hazardous Chemical Storage Details

Table-11.2

Hazardous Chemical Storage Points Details											
Organisation Name	Hazardous Chemicals/ Substances Name	Hazardous Chemicals Type (Flammable/ Reactive/ Explosive/ Toxic)	Hazardous Chemicals Quantity (Volumetric Capacity/ Max Qty can be Stored/ Inventory)	Type of Storage (Under Ground/ Submerged/ On the Ground/ Above Ground)	Type of Container (Spherical /Box Type/Cylindrical)	Type of Alignment (Horizontal/ Vertical)	Hazard Anticipated (Fire/Explosion/ Toxic release)	MSDS (Material Safety Data Sheet) of the Chemicals	Vulnerable Zone in case of Emergency (Radius in Km/Meter)	Down wind Distance	Total Number of People in the Vulnerability Zone
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Critical Facilities/Infrastructure situated within close proximity of the Factories/Industries or Chemical Storage Points Table-11.3

Factor ies/ Indust ries Name	Critical Facilities (with in Close Proximity) Name	Facility Type (School, AWC Hospitals etc)	Location Address	Lat- Long	Facility in-charge Name	Facility in charge email	Facility in charge mobile number	Total Population in the Close Proximity
NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA

**Statutory Compliance of the Factories/Industries
Table-11.4**

Statutory Compliance			
Orga nisati on Nam e	Status of licence under different Acts/Rules	Status of Safety & Health Policy	Safety Management System
	Factories Act, 1948 & Odisha Factories Rules		Status of Stability Certificate wrt plant & buildings
	Consent under Air Act & Water Act from SPCB, Odisha		Constitution of Safety Committee and regular meetings
	NOC from Fire Department		Deployment of Safety & Welfare Officers
	Notification of Site (Rule 8 of Odisha Factories (C of MAH) Rules, 2001		Safety Report
			Safety Audit
			On Site Emergency Plan
			Risk Assessment Study
			Mock Drills

			Periodical Inspection
			Training & Awareness

Nearest Hospital Details of the Factories/Industrial Units
Table-11.5

Hospital Details										
Orga nisati on Name	Nearest Hospitals (Govt/Private) Name	Hospital Address	District Name	City	Pin Code	Lat-long	Chief Medical Officer / Hospital Superintendent Name	Chief Medical Officer / Hospital Superintendent Mobile Number	Chief Medical Officer / Hospital Superintendent Email	Infrastructural Facilities
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Nearest Fire Station of the
Factories/Industries Table-11.6

Fire Stations Details											
Orga nisati on Name	Area fire station name	Hospital address	District Name	City	Pin code	Lat-long	Fire Officer Name	Fire Officer Designation	Fire Officer Email-id	Fire Officer Mobile Number	Facilities Available
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
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Chapter 12- Biological Disaster & 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 SDMAs.

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 12.1 Nodal Departments for Managing Biological Disaster

SI No	Bio Disaster	Nodal Department	Contact person	Contact details (Office/Mobile)
1	Biological Disaster	H&FW Department	CDMO (District)	9437207355
2	Bio Terrorism/ War	Home Department	SP	06678-225478
3	Animal Health Disaster	F&ARD Department	CDVO (District)	9438436553
4	Agro - Terrorism	A&FE Department	DAO	9437074098

12.2 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.

12.2 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.

- 12.2.1 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 12.2- Crisis Management Committee

Crisis Management Committee

Sl. No	Member	Department	Contact Details
1	Collector & DM	Revenue & DM	
2	CDM & PHO	Health	9439989988
3	Emergency Officer	Revenue & DM	
4	DPHO	Health	9439989772
5	ADPHO (DC)	Health	-
6	Epidemiologist	Health	-
7	Microbiologist	Health	9776591101
8	Pharmacist	Health	9437627038
9	Medicine Specialist	Health	9937384677
10	MPHS	Health	9439989530
11	MPHW	Health	9439998987
12	SR Helper	Health	-

Table 12.3 Task Force

Task Force

Sl. No	Member	Department	Contact Details
1	CDM & PHO	Health	9439989988
2	DPHO	Health	9439999080
3	DMO (MS) cum Suptd. DHH	Health	9439989989
4	Epidemiologist	Health	-
5	DPM, NHM	Health	9439989500
6	Microbiologist	Health	9776591101

Table 12.4 Technical Experts

Technical Expert			
Sl. No	Member	Department	Contact Details
1	CDM & PHO	Health	9439989988
2	DPHO	Health	9439999080
3	DMO (MS) cum Suptd. DHH	Health	9439989989
4	Epidemiologist	Health	-
5	DPM, NHM	Health	9439989500
6	Microbiologist	Health	9776591101

- 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, DDMAAs 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.

12.5 Nodal Public Health Institution

Sl	Block / Municipality	Name and Address of Health Centre	Facilities (Numbers)			Facility In-charge	
			Wards	Beds	Ventilators	Name	Contact
1.	NA	NA	NA	NA	NA	NA	NA

Logistic

Sl	Block	Name and Address of the Health Centre	Personal Protective Equipments (Requirement)			Sanitizers (Requirement)	
			Gloves	Suits	Masks	Sanitizers	Disinfectants
NA	NA	NA	NA	NA	NA	NA	NA

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.

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 authorized 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.
 - Water Supply: A regular survey of all water resources, especially drinking water systems, & proper maintenance of water supply and sewage pipeline will go a long way in the prevention of biological disasters and epidemics of waterborne origin.

 - Personal hygiene: Necessary awareness must be created in the community about the importance of personal hygiene, and measures to achieve this, including provision of washing, cleaning and bathing facilities, and avoiding overcrowding in sleeping quarters, etc. Other activities include making temporary latrines, developing solid waste collection and disposal facilities, and health education.
 - Environmental engineering work and generic integrated vector control measures including.
 - 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 12.7 Important/Critical Infrastructure

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

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.

12.8 Infrastructure that can be used as quarantine centres

SI	Infrastructure/ Institution Type	Dept./Instt.	Contact person with contact Details
1	GP Building & DPRC	PR Department /All BDO	7684014064
2	All UP School/ME school/ High schools	DEO/ DPC	8280252826
3	All Health centre	CDMP	9437207355

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.

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.

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.

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.

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.

Chapter 13- Preparedness

13.1 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			
NA	NA	NA	NA	• NA	NA
NA	NA	NA	NA	• NA	NA

13.2 Relief Line Channels: Block to GPs & Villages (Based on past records)

9.3 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	-		-		Jacob kisporta	09439103170
2	ODRAF	41 (50)		41		Shri Kusalkar Nitin Dagdu	
3	Police	848 (967)		0		Shri Kusalkar Nitin Dagdu	
4	Home Guards	557 (631)		0		Shri Kusalkar Nitin Dagdu	

5	Civil Defens e	0	0	-	-
6	NCC	1200	0	GS Ramarao	06652- 250755
7	NSS	1500	0	Ajit Ku Bhoi	993738291 1
8	NYK	12	0	Narasimha Kumar	703291026 9
9	Traine d Task force	0			

9.4 Preparedness at District level

All the actions mentioned above are to be carried out by different departments/agencies participating in the District Disaster Management Plan. It is necessary that all the departments have well defined standard operating procedures and preparedness checklists. It is absolutely important that all the departments / agencies are very familiar with the overall plan and the procedures specifically applicable to them and report diligently upon their implementation. The Standard Operating Procedures (SOPs) of various departments at district level and given as under:

Task	Activity
District Emergency operation Centre (DEOC)	<ul style="list-style-type: none"> ➤ 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 must be earmarked for Control Room
Upward & Downward Communication	<ul style="list-style-type: none"> ➤ 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)	<ul style="list-style-type: none"> ➤ DDMA must meet 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

	<ul style="list-style-type: none"> ➤ Circulate the minutes of the meeting with clear-cut role & responsibility
Capacity Building	<ul style="list-style-type: none"> ➤ Identifying & designating Nodal Officer for different Dept. ➤ Capacity building & skill upgradation 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 stake 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	<ul style="list-style-type: none"> ➤ 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 I
Planning & Reporting	<ul style="list-style-type: none"> ➤ 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

9.5 Preparedness at Community Level

Task	Activity
Early Warning Dissemination	<ul style="list-style-type: none"> ➤ 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	<ul style="list-style-type: none"> ➤ 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
	<ul style="list-style-type: none"> ➤ Understand Local dynamics exposed & vulnerable to different disaster ➤ local Social Economic & weather conditions ➤ Develop Village DM plan

	<ul style="list-style-type: none"> ➤ 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
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9.6 Preparedness at Family Level

Task	Activity
Warning Communication	<ul style="list-style-type: none"> ➤ 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	<ul style="list-style-type: none"> ➤ 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	<ul style="list-style-type: none"> ➤ Participate & involve in the activities of village disaster Management plan, preparation of Safety plans, participate in Capacity building Programmes & involve in Mock Drills
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9.7 Preparedness at Individual Level

Task	Activity
Early Warning Dissemination	<ul style="list-style-type: none"> ➤ List & keep a ready to go minimum Important requirements ➤ Record the Safe & alternative routes to shelter ➤ Keep News update in Radio/TV
Ensuring Preparedness	<ul style="list-style-type: none"> ➤ 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	<ul style="list-style-type: none"> ➤ Participate & involve in the activities of ➤ Disaster Management

	<ul style="list-style-type: none"> ➤ Safety plans ➤ Capacity building Programmes ➤ Mock Drills & FAMEX
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9.8 Preparedness of Departments

The Government departments playing lead or support roles in disaster preparedness are:

Name of the Department	Normal Time
Collector/ADM / Emergency Officer	<ul style="list-style-type: none"> ➤ 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

	<ul style="list-style-type: none"> ➤ Adopt sustainable mitigation measures ➤ Integrate DM & DRR features in development programmes
CDMO	<ul style="list-style-type: none"> ➤ 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 ➤ Stock piling of Life saving drugs/ORS packets/Halogen tablets on receipt of warning from the Collector/DCR ➤ Transmission of messages to all PHCs to stock medicines and keep the medical staff ready ➤ Disease surveillance and transmission of reports to the higher authorities on a daily basis. ➤ Vaccination. ➤ To obtain and transmit information on natural calamities from the DCR ➤ Advance inoculation programme in the flood/Cyclone prone areas. ➤ Ensuring distribution of areas of operation among the mobile team.

	<ul style="list-style-type: none"> ➤ Pre-distribution of basic medicines to the people who are likely to be affected ➤ Shifting the patients who are in critical situation to the District Hospital ➤ Awareness messages to stop the outbreak of epidemics ➤ Conducting mock drills
Superintendent of Police (SP)	<ul style="list-style-type: none"> ➤ Reception of Warning from the DCR ➤ Communication establishment with District and Block/Tahasil Control rooms and departmental offices within the division. ➤ Alerting the APR force for deployment at the time of calamity ➤ To issue directive to police field functionaries to co-operate with Revenue Personnel in management of Relief operation.
EE- RWSS	<ul style="list-style-type: none"> ➤ Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment. ➤ Within the affected block, all available personnel will be made available to the District Magistrate. If more personnel are required then out of station official or those on leave may be recalled. ➤ Prepare plans for water distribution to all transit and relief camps, affected villages and cattle camps and ensure proper execution of these plans. ➤ Inform people to store an emergency supply of drinking water ➤ Investigation of alternate of water and its supply.

	<ul style="list-style-type: none"> ➤ Standby diesel pumps or generators should be installed in damage-proof buildings. ➤ A standby water supply should be available in the event of damage, saline intrusion or other pollution of the regular supply. ➤ Establish procedures for the emergency distribution of water if existing supply is disrupted. ➤ Make provisions to acquire tankers and establish other temporary means of distributing water on an emergency basis. ➤ Make provision to acquire containers and storage tanks, required for storing water on an emergency basis. ➤ Protect pump stations from water logging. ➤ Repair sewage lines where damage is detected. ➤ Repair water pipelines wherever damaged.
EE- Irrigation	<ul style="list-style-type: none"> ➤ Check the wireless network and ensure that all the flood stations are connected. ➤ Establish mechanisms for exchange of information with irrigation divisions ➤ Inspect all the Bundhs, and check their height and slope. ➤ Check the top of the Bundhs, and if they have been cleared of encumbrances / encroachments and if they are motorable ➤ Check that all the Bundhs have been repaired/ reinforced, in particular those Bundhs which were damaged during the last floods.

	<ul style="list-style-type: none"> ➤ Check the drainage system of the Bundhs and ensure that the seepage and rat holes, etc. have been closed. ➤ Check that all the materials required for protecting Bundhs have been stored at different places, and a list of these places has been furnished to the district administration ➤ Check that the Junior engineers and other staff have been assigned their beats, and all the ➤ Arrangements for continuous vigilance over these Bundhs have been made. ➤ Check that all rain gauge stations are functional, and arrangements have been made to report the readings. ➤ Check the regulators and siphons. Check that they have been repaired and cleaned, increasing the flow of water. ➤ Check all the anti-erosion works, necessary to maintain the Bundhs.
DAO- Agriculture	<ul style="list-style-type: none"> ➤ Review and update precautionary measures and procedures. ➤ Check available stocks of equipments and materials which are likely to be most needed during and after flood/disaster. ➤ Stock agricultural equipments which may be required during and after flood. ➤ Determine what damage, pests or disease may be expected, and what drugs and other

	<ul style="list-style-type: none"> ➤ insecticide items will be required, in addition to requirements of setting up extension teams for crop protection, and accordingly ensure that extra supplies and materials, be obtained quickly. ➤ All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof. ➤ Ensure that certified seeds of required varieties are available in adequate quantities. ➤ Develop a pest and disease monitoring system so that timely steps can be taken to reduce damage to crops. ➤ A pests and disease monitoring system should be developed to ensure that a full picture or risks is maintained. ➤ Plan for emergency accommodations for agriculture staff from outside the area. ➤ Extension Officers should be unplugged when flood/disaster warning is received.
EE- Rural Works	<ul style="list-style-type: none"> ➤ Govt. buildings should be inspected and necessary repairs to be got executed to with standing hazards affected. ➤ Script for slides, pamphlets, and cultural programmers should be got prepared immediately. ➤ Arrangements should be made to obtain poster and films by addressing the Director through the Collectors. ➤ Public addresses equipment should be obtain kept ready.

	<ul style="list-style-type: none"> ➤ The community Radio sets available in the coastal villages should be ascertained ➤ The names of Hamlets where they are not available to be reported. ➤ The public should be fully educated regarding the precautionary measures & after cyclone through available media. ➤ Specific duties should be assigned to the field staff. ➤ The field staff should proceed to the place of work allotted and be ready to attend to cyclone duty.
EE- Public Works	<ul style="list-style-type: none"> ➤ All personnel required for disaster management should work under the overall supervision and guidance of DM. ➤ Review and update precautionary measures and procedures, and review with staff the precautions that have been taken to protect equipment. ➤ Vehicles should be inspected, fuel tanks filled and batteries and electrical wiring covered as necessary. ➤ Extra transport vehicles should be dispatched from headquarters and stationed at safe strategic spots along routes likely to be affected. ➤ Heavy equipments, such as front-end loaders, should be moved to areas likely to be damaged and secured in a safe place. ➤ Clean the area beneath bridges regularly for smooth flow of water excess. ➤ Maintain all the highways and access roads, which are critical from the point of view of supplying relief.

	<ul style="list-style-type: none"> ➤ Inspect all buildings and structures of the state government (including hospital buildings.) by a senior engineer and identify structures which are endangered by the impending disaster. ➤ The designation of routes strategic to evacuation and relief should be identified and marked, in close coordination with police and District Control Room ➤ Establish a priority listing of roads which will be opened first. Among the most important are the roads to hospitals and main trunk routes ➤ Work under construction should be secured with ropes, sandbags and covered with tarpaulins if necessary. ➤ Construct/ reinforce the connecting roads from villages to roads, canals and Bundhs and raise their level so that people can access the high ground. ➤ Inspection of old buildings and suggesting retrofitting of weak buildings/ demolition of dangerous structures and evacuation of population. ➤ Carry out route opening by removing debris on the road. ➤ Begin clearing roads. Assemble casual labourers to work with experienced staff and divide them into work gangs.
DTO-Telecom	<ul style="list-style-type: none"> ➤ Assess the different disaster scenarios and match the communications needs with the available resources.

	<ul style="list-style-type: none"> ➤ Ensure that TSPs (private and public) invest in preventive measures that will ensure maximum robustness and preparedness of the telecom networks during emergencies. ➤ Ensure that TSPs (private and public) develop detailed emergency plans for management of resources under their responsibility. ➤ Conduct annual reviews of the ETP/SOP - Organize annual symposium on telecommunications availability during emergency. – ➤ Update the communications plan according to development and innovations in emergency telecommunications systems. ➤ Disseminate information among the Public and the district administration on the availability of telecom services and equipment’s for use during emergencies.
CDVO	<ul style="list-style-type: none"> ➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives. Review and update precautionary measures and procedure and review with staff the precautions that have been taken to protect equipments. ➤ Prepare a list of water borne diseases that are preventable by vaccination. ➤ Publicize the information about common diseases afflicting livestock and the precautions that need to be taken. ➤ Assist the Revenue Department in preparing plans for cattle campus and cattle feeding centers.

- Stock emergency medical equipments which may be required during and post disaster Surgical packs should be assembled and sterilized.
- Enough stock of surgical packs should be sterilized to last for four to five days.
- The sterilized surgical packs must be stored in protective cabinets to ensure that they do not get wet. Covering the stock with polythene is recommended as an added safety measure.
- All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof.
- All electrical equipments should be unplugged when disaster warning is received.
- Organize vaccination campaigns in disaster prone villages before, during and after the disaster.
- Prepare kits for veterinary diseases, which could be provided to veterinary doctors at the block level and extension officers at the village level. Kits can also be provided to the private veterinary doctors.
- Arrange for emergency supplies of anesthetic drugs.
- Check stocks of equipments and drugs which are likely to be most needed during and after disaster.
- Fill department vehicles with fuel and park them in a protected area.

	<ul style="list-style-type: none"> ➤ Fill hospital water storage tanks and encourage water savings. If no storage tanks exist, water for drinking should be drawn in clean containers and protected. ➤ Prepare an area of the hospital for receiving large number of livestock. ➤ Develop emergency admission procedures (with adequate record keeping). ➤ Establish cattle camps and additional veterinary aid centres at affected sites and designate an Officer In-charge for the camp. ➤ Estimate the requirement of water, fodder and animal feed, for cattle camps and organize the same. ➤ Ensure that adequate sanitary conditions through cleaning operations are maintained in order to avoid outbreak of any epidemic. ➤ An injury and disease monitoring system should be developed, to ensure that a full picture of risk is maintained. ➤ Plan for emergency accommodations for veterinary staff from outside the area.
RTO/MVI	<ul style="list-style-type: none"> ➤ Prepare a list of vehicles- trucks, buses, jeeps, tractors, etc of government and private agencies in the district and provide the list to the District control room. ➤ Provide requires vans and ambulances for mobile health and animal husbandry teams. ➤ Provide trucks, buses, jeeps, tractors, etc for evacuation and supply chain management

	<ul style="list-style-type: none"> ➤ Issue standing instructions to the State transport department for providing buses for evacuation and relief. ➤ Recall important functionaries from leave; communicate to the staff to man their places of duties like the ward and divisional offices and respective departments. ➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.
DFO	<ul style="list-style-type: none"> ➤ Develop and quarterly update the disaster management plan that includes the Contingency Action Plan for the Department based on HVRC analysis with the active involvement of all concerned line departments and local bodies in the district ➤ Make personnel available to the District Magistrate, within the affected block,. If more personnel are required, recall those on leave. ➤ Identify areas that could be opened or made available for grazing or fodder collection in case of disaster ➤ Ensure that adequate supply of small poles or bamboo is available for reconstruction of houses of the affected people, as well as wood for cremation of dead. ➤ Ensure plantation to the maximum possible extent.

Railway	<ul style="list-style-type: none"> ➤ Identification of flood prone areas, RAT, RAW and information prone to erosion/breaches and marking them on railways system map. ➤ Development of Flood Shelters for staff and passenger at suitable locations in the areas prone to repeated floods ➤ Study of changed water catchment area due to construction of highways, Dams. ➤ Study of changed rainy season month on a particular region. ➤ Action Plan for Alignment, Location, Design and Provision of Waterway on Railways Embankments ➤ Inspections of Railway Affecting Works – to be streamlined and timely ensured. ➤ Review of waterways for adequacy and alignment and measures to modify, if needed. ➤ Status Note on the lessons learnt from the previous flood situations in the past 5 years. ➤ Bye-laws for buildings in flood plains. ➤ Making existing and new buildings and infrastructure capable of withstanding fury of floods.
EE- Electricity/OPTCL	<ul style="list-style-type: none"> ➤ Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment. ➤ Ensure that the Power Supply department to make alternate arrangements of emergency supply for the major offices from time of receipt of districts

- Check emergency tool kits, assembling any additional equipment needed.
- After receiving alert warning, immediately undertake following inspection of High tension lines, Towers, Sub-stations, Transformers, Insulators, Poles and other equipments
- Instruct district staff to disconnect the main electricity supply for the affected area.
- Protect Power Stations from disaster. Raise the height of compound walls. Arrange gunny bags. Install pump sets for draining water in case of Flood/ Cyclone/ Tsunami,
- etc.
- Provide information to the people about the state of power supply. It is one of the most important sources of information. Establish temporary electric supplies to other key public facilities, public water system etc. to support emergency relief.
- Establish temporary electric supplies to transit camps feeding centres, relief camps and Site Operation Centre, District EOC and on access roads to the same.
- Establish temporary electric supplies for staging area.
- Compile an itemized assessment of damage, from reports made by various electrical receiving centres and sub-centres.

EE – PHED	<ul style="list-style-type: none">➤ Formation of Disaster Management Cell and manning with senior personnel drawn from key sections of the dept.➤ Formulation of Public Health Engineering related programme and activities by intonating them with hazard specific preventive and mitigation measures.➤ Creation of stocks of installation materials at the district level for use in emergencies.➤ Orientation and training of a team of technicians to do installation as quickly as possible.➤ Strategizing the installation of hand-pumps etc. with hazard profile of the area in mind.➤ In consultation with the Department of Education and DMD, provision of additional sanitation and drinking water facilities in schools and relief shelters where people take refuge during flood.➤ In consultation with the Department of Disaster Management making special arrangements for the supply of drinking water in drought prone areas.➤ Planning for repair and maintenance of the facilities created as a part of the programme and activities.➤ Keeping a track of groundwater level and having a fresh look at the facilities created accordingly.
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	<ul style="list-style-type: none"> ➤ Organizing interaction with Gram Panchayats for having proper sanitation facilities, and providing them support and guidance in planning, implementation and maintenance of the same. ➤ Procurement, upkeep and maintenance of sanitation equipment for use in emergencies.
DPS, SSA- School & Mass Education/ DEO - Higher Secondary Education	<ul style="list-style-type: none"> ➤ Formation of Disaster Management Cell and manning the same by senior personnel drawn from key Directorates. ➤ Incorporating costs for preventive and mitigation measures for earthquake, flood, fire and cyclonic storm prone areas to construct disaster resistant school buildings. ➤ In association with Fire Dept. getting fire extinguishers installed in schools and teachers identified and trained in operating them. ➤ Awareness Generation Programmes about Hazard, the kind of preparedness required and how to act at the time of disaster shall be organized in schools on monthly basis. ➤ Disaster Management shall be made a part of the school curriculum. ➤ The Department shall get quality films made on hazard wise disaster preparedness and organize their viewing by children and their parents.

	<ul style="list-style-type: none"> ➤ The Department shall in association with Nehru Yuva Kendra organize locality based youth clubs and get them groomed in escort services, relief work and taking care of children, women, old and sick. ➤ Making adequate arrangements for getting hand pumps installed, storage facilities created, toilet and bathrooms built in those schools where communities do take shelter during flood. Concerned departments shall either make the arrangements or make funds available for the same.
BDO/Tahasildar	<ul style="list-style-type: none"> ➤ Providing authentic information required by the DCR ➤ Preparing a record of previous disasters in the locality and analyzing the effects ➤ Preparing hazard maps of the Block./Tahasil & the GPs in minute details ➤ Mapping the cut off areas with alternate route map. ➤ Identification of shelter places in the maps ➤ Keeping a List of storage Points & facilities available, dealers of foodstuffs. ➤ Keeping a list of vulnerable people and area and weak points on embankments (if applicable)

- Creating a Control Room at the respective level and assignment of duties to the staff.
- Pre-positioning of staff for site operation centers.
- Uninterrupted communication with the DCR
- Arrangement of alternative communication/generator sets, etc
- Formation of GP/village level disaster committees and task forces
- Arrangement of boats on hire available locally.
- Deployment of Boat in the most vulnerable areas.
- Organizing awareness camps at GP/village levels
- Dissemination of Warning:
- Crosschecking with the DCR for the authenticity of the warnings
- Arrangement or requisition of Jeeps/Trekkers/ Auto Rickshaw to disseminate received warning information's to the population of vulnerable / weak places
- Dissemination of warning/ coordination with District control room.
- Warning the people about probable affected areas
- Mobilizing the people to leave for identified shelters with their domestic animals and personnel belongings.

Chapter-14 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.

All the disaster response activities will be undertaken by the District Magistrate of Nuapada with all the resources at their command will facilitate the district administration. However, preparedness to response will be the responsibility of the authorities themselves that they will carry out in close coordination with the district administration during pre-disaster phase. Nuapada district is vulnerable to the following hazards:

- Drought
- Heat waves
- Floods
- Fire

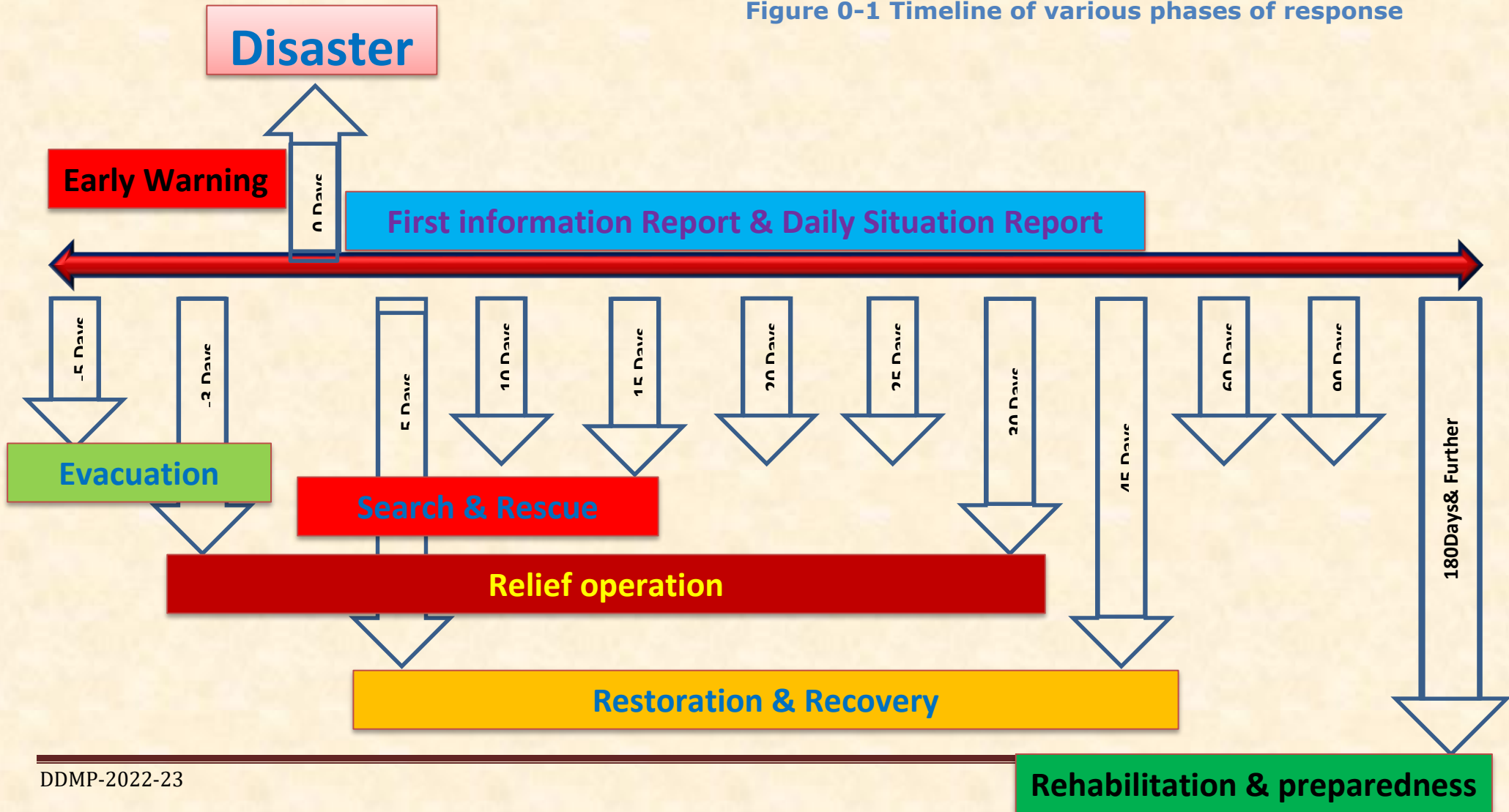
- Epidemics
- Lightening

The need for an effective disaster management strategy is to lessen disaster impact which can be achieved through strengthening and reorienting existing organizational and administrative structure from district to block and GP levels. The emergency response plan is a first attempt to follow a multi-hazard approach to bring out all the disasters on a single platform and incorporates the 'culture of quick response'. Under the plan, common elements responsible for quick response have been identified and a set of responsible activities has been articulated. It provides a framework to the primary and secondary agencies and departments, which can outline their own activities for disaster response. The plan will also include specific disaster action plans along with modal scenarios in detail to conduct practice drills at district administration level.

14.1 Phases of Response: Timeline

Timeline of various phases of response is presented in the following diagram.

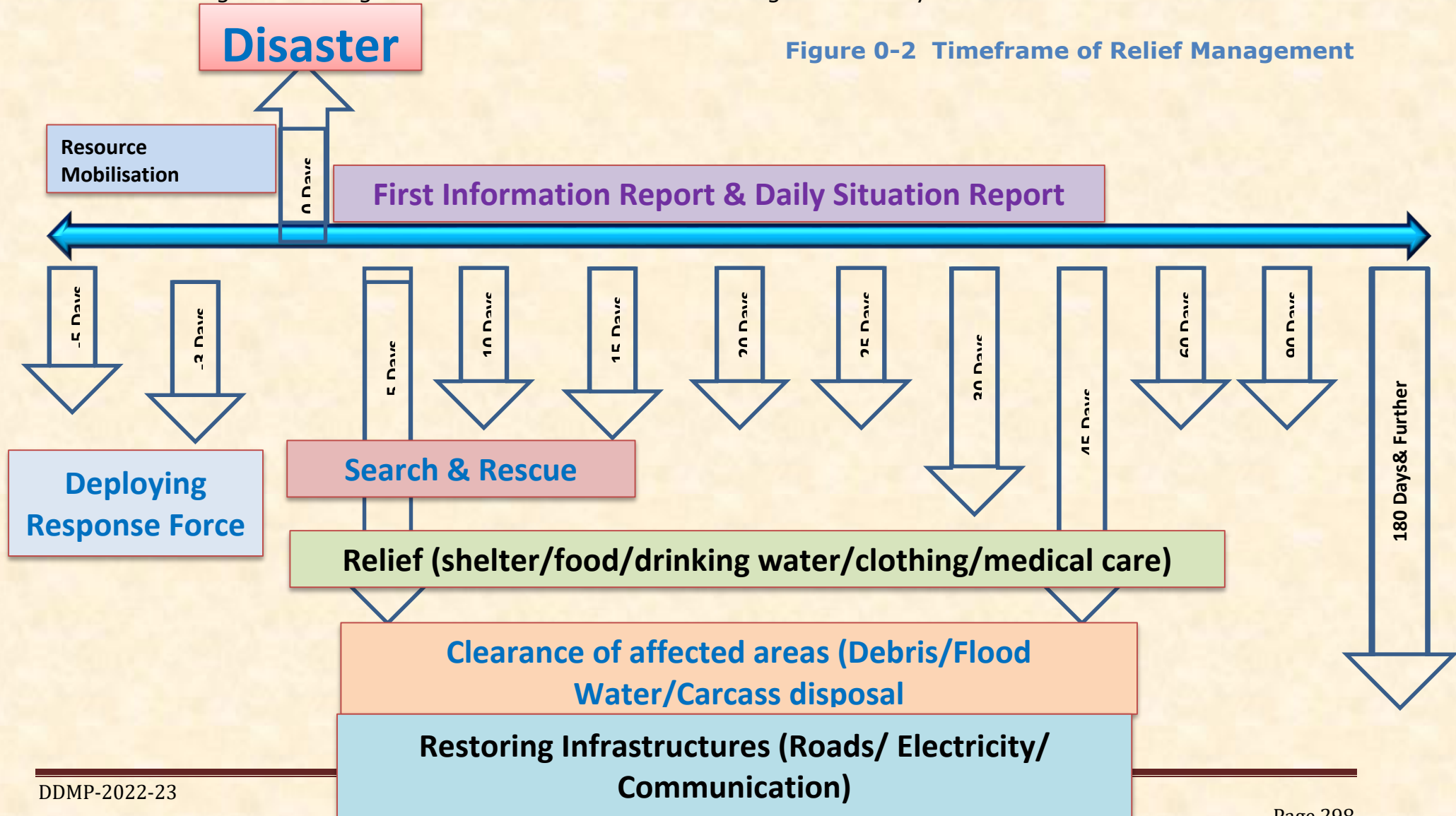
Figure 0-1 Timeline of various phases of response



Relief Management: Timeline

The relief management along with the time frame allotted is diagrammatically reflected below.

Figure 0-2 Timeframe of Relief Management



14.2 Response: District

Task	Activity
Warning Communication	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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

	<ul style="list-style-type: none"> • Constitute a special team for special care to vulnerable section like Specially abled, Sr. Citizen, Pregnant & lactating women, Infants & children etc.
Response	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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

	<ul style="list-style-type: none"> • Collector to collect & transmit First Information Report (FIR) & Daily Situation Report as per requirement
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14.3 Response: Community Level (The list is Indicative & may be extended further as per need & requirement)

Activity
<ul style="list-style-type: none"> • 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

Response: Family & Individual Level

Task	Activity

Response	<ul style="list-style-type: none">• 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
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14.4 Response: Standard Operating Procedures for Departments

Name of the Department	On Receiving Warning	Response time	Post Disaster
Collector/ADM / Emergency Officer	<ul style="list-style-type: none"> ➤ Review the situation in DDMC ➤ Activate EOC & Early Warning ➤ Work distribution for operation ➤ Circular to keep offices open ➤ Arrange vehicle & activate Evacuation (Normal/Forceful) 	<ul style="list-style-type: none"> ➤ Activate Search & Rescue ➤ Arrange temporary shelters ➤ Arrange logistics in shelters ➤ Workout financial estimates (evacuation / relief /recovery) 	<ul style="list-style-type: none"> ➤ Activate relief line clearance ➤ Proper relief Distribution ➤ Start damage assesment ➤ Facilitate Ex-gratia & Compensation ➤ Start primary damage estimate ➤ Pool resources for SAR/shifting of critical patients
CDMO	<ul style="list-style-type: none"> ➤ Disseminate the alert to all concerned (Staff list) ➤ Arrangement of medicine, First aid kits & teams 	<ul style="list-style-type: none"> ➤ Mass Casualty Management units & Triage ➤ First Aid Centers 	<ul style="list-style-type: none"> ➤ Psycho-Social Counseling ➤ Post Disaster Disease surveillance system

	<ul style="list-style-type: none"> ➤ Mobile Health units for inaccessible pockets ➤ Identifying & shifting patients requiring intensive care to safer places ➤ Supply of medicines & pre-positioning of medical teams to vulnerable areas ➤ Vaccination for prevention of communicable diseases ➤ Measures to disinfect drinking water ➤ Availability of Blood Banks/Ambulance 	<ul style="list-style-type: none"> ➤ Medical surgical teams ➤ Adequate mortuary facility ➤ Measures to shift patients requiring intensive care ➤ Pool of Blood donors (Preferably each group) ➤ Additional laboratories ➤ Carcass disposal team & units 	<ul style="list-style-type: none"> ➤ Special attention to vulnerable section ➤ Networking with & promote treatment in Private Hospitals ➤ Carcass Management & Issuance of Death Certificate
Superintendent of Police (SP)	<ul style="list-style-type: none"> ➤ Identify Disaster Prone area in the district ➤ Prepare a Deployment Plan for the Police force, based on the needs of the most vulnerable areas. 	<ul style="list-style-type: none"> ➤ Dispatch Police to systematically identify and assist people and communities in life threatening situation. 	<ul style="list-style-type: none"> ➤ Provide guards wherever needed particularly for staging area of cooperative food etc stores and distribution centers.

	<ul style="list-style-type: none"> ➤ Ensure that a sufficient number of police force is available for responding to the disaster situation. ➤ Establish coordination with the State Armed Police and Defense and Home Guards. ➤ Check the wireless communication network, and secure additional wireless sets for deployment during a disaster. ➤ Installation of radio communications at • District Control Room, Control room at affected site, Departmental Offices within the District & Division. ➤ Keep the police vehicles and other modest transport in 	<ul style="list-style-type: none"> ➤ Designate an area, within Police Station to be used as help line centre for public. ➤ With the assistance of health professional, help injured people and assist the community in organizing emergency transport of seriously injured to medical treatment centers. Ensure that the police stations with staff are functioning in disaster situation. ➤ Assist and encourage the 	<ul style="list-style-type: none"> ➤ Provide convoys for relief materials. ➤ Evacuation will be ordered by Deputy Commissioner, Addl. Commissioner and Superintendent of Police. ➤ Assist and encourage the community in road-cleaning operation. ➤ Assess and Identify road for following conditions/facilities one Way, Blocked, Alternate route, Overall Traffic Management, Other access roads.
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	<p>readiness for deployment of the police.</p> <ul style="list-style-type: none"> ➤ Call for emergency meeting to take stock of the situation. 	<p>community in road-cleaning operation.</p>	<ul style="list-style-type: none"> ➤ Provide security arrangements for visiting VVIPs and VIPs. ➤ Assist district authorities to take necessary action against Hoarders, Black Marketers and those found manipulating relief material.
EE- RWSS	<ul style="list-style-type: none"> ➤ When early signs of distress appear in any part of the district, EE RWSS will submit a special situation update to DM indicating the position in respect of Water and Sanitation preparedness in the district. ➤ Will inform all concerned RWSS- JE / AE of blocks and 	<ul style="list-style-type: none"> ➤ Will ensure supply of clean drinking water to affected areas. Will ensure transportation of water with minimum wastage. ➤ Will ensure supply of water purification 	<ul style="list-style-type: none"> ➤ Must launch necessary awareness campaigns on safe water handling practices, environmental sanitation and individual hygiene along with hardware provision. ➤ Will visit as many areas as possible to have

	<p>Panchayats to review essential emergency stocks and contingency plans to be able to respond in a timely manner.</p> <ul style="list-style-type: none"> ➤ Upon receipt of early warning signals from State, he must start the monitoring of all water and sanitation infrastructure in the affected parts of the District. ➤ Will be in constant touch with the local IMD and other agencies in the district for information on impending disaster. 	<p>installations, mobile systems, halogen tablets etc. for providing clean drinking water</p> <ul style="list-style-type: none"> ➤ Will ensure that special care is taken of women with infants and pregnant women. Will ensure that sewer pipes and drainage are kept separate from drinking water facilities. ➤ Will ensure availability of adequate number of toilets to prevent 	<p>first-hand information of the situation. Will keep District Collector and E-in-C / Chief Engineer, RWSS informed daily about the action taken by him in his area.</p> <ul style="list-style-type: none"> ➤ Local MLA, MP and other community leaders must be informed on measures taken by RWSS / PHED for an effective disaster response.
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		further contamination of water sources.	
EE- Irrigation	<ul style="list-style-type: none"> ➤ When early signs of distress appear in any part of the district, EE Irrigation will submit a special situation update to DM indicating the position in respect of Irrigation preparedness in the district. ➤ Prepare and update the disaster risk map of the district. The map should show the vulnerability and risks of the critical infrastructure related to irrigation and also whether alternate source of H₂O within the district. ➤ Prepare a contingency plan for the maintenance and repairs of Bundhs and embankments. 	<ul style="list-style-type: none"> ➤ Will ensure availability of adequate number of tool kits to prevent any damage during disaster. ➤ Provide special attention to those places where the Bundhs were breached and repaired during the last floods/disaster last year. These are the Bundhs, which will be threatened first during the disaster. 	<ul style="list-style-type: none"> ➤ Undertake channel improvement for rivers and nalas to the extent possible. Undertake de-silting / cleaning of Nalas and canals to improve the flow of water. ➤ Supply the essential tool kits and protection material at critical places for emergency repair and construction. ➤ Organize round the clock inspection and repair of equipments.

	<ul style="list-style-type: none"> ➤ Identify Bundhs, which are critical for disaster protection and control. ➤ Review and update precautionary measures and procedures. 	<ul style="list-style-type: none"> ➤ Deployed adequate team in the most vulnerable areas. 	
DAO- Agriculture	<ul style="list-style-type: none"> ➤ Prepare HRV Analysis of the district. ➤ Develop Contingency Action Plan based on HRV analysis. ➤ Review and update precautionary measures and procedures. ➤ Check available stocks of equipments and materials which are likely to be most needed during and after disaster 	<ul style="list-style-type: none"> ➤ Supply of agricultural equipments which may be required during Disaster. ➤ All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof during disaster 	<ul style="list-style-type: none"> ➤ Suggest variety of seeds and cropping pattern, which can reduce losses and reduce the risks to farmers ➤ Plan for emergency accommodations for agriculture staff from outside the area. ➤ A pests and disease monitoring system should be developed to

	<ul style="list-style-type: none"> ➤ 6. Provision of agricultural services should be coordinated with irrigation department, DRDO, District EOC, SITE OPERATIONS CENTRES. 	<ul style="list-style-type: none"> ➤ All electrical equipments should be unplugged during disaster period. 	<p>ensure that a full picture or risks is maintained.</p> <ul style="list-style-type: none"> ➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives. ➤ Establish contact with soil and water testing laboratories.
EE- Rural Works	<ul style="list-style-type: none"> ➤ When early signs of distress appear in any part of the district, EE Rural works will submit a special situation update to DM indicating the position in respect of rural works preparedness in the district. ➤ Prepare and update the disaster risk map of the district. 	<ul style="list-style-type: none"> ➤ Will ensure availability of adequate number of tool kits to prevent any damage during disaster. ➤ Provide special attention to those places which were most vulnerable 	<ul style="list-style-type: none"> ➤ Provide for agricultural rehabilitation of disaster affected area by necessary assistance, with the help of state government, to affected farmers in activities such as sowing/harvesting.

	<p>The map should show the vulnerability and risks of the critical infrastructure related to rural areas.</p> <ul style="list-style-type: none"> ➤ Ensure community involvement in disaster preparedness on: Risk assessment (to point to which measures to implement); Early warning systems; Life safeguarding equipment; Resources and emergency kits in anticipation of need; Maintaining emergency rosters and evacuation plans; Emergency information and communication systems; Capacity building to ensure adequate emergency response. 	<p>areas during disaster last year..</p> <ul style="list-style-type: none"> ➤ Deployed adequate team in the most vulnerable areas. ➤ Provide for preventive medication for entire livestock to check the spread of any disease among the surviving cattle. ➤ Ensure the rural communication system and shelter management process during disaster. 	<ul style="list-style-type: none"> ➤ Make available requisite seeds and fertilizers free of cost to the farmers, of course, with the help of concerned government departments. ➤ Provide agricultural equipment/tools through Banks and other funding agencies. ➤ Help in rehabilitation of artisans and marginal businessmen affected due to the disaster. ➤ Make efforts to re-start schools as soon as possible and encourage children to attend school regularly.
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			<ul style="list-style-type: none"> ➤ Rehabilitation of livestock affected due to the disaster; Ensure replacement of mulch cattle to the affected farmers;— Free cattle feed for about 2 to 3 months.
EE- Public Works	<ul style="list-style-type: none"> ➤ Conduct HRV analysis of PWD of the district. ➤ Based on HRV analysis, prepared Contingency Action Plan for the Department. ➤ All personnel required for disaster management should work under the overall supervision and guidance of Deputy Commissioner. 	<ul style="list-style-type: none"> ➤ Carry out route opening by removing debris on the road. ➤ Provide a work team carrying emergency tool kits, depending on the nature and extent of the disaster, essential equipments to the disaster spot. 	<ul style="list-style-type: none"> ➤ Undertake repair of all paved and unpaved road surfaces including edge metalling, pothole patching and any failure of surface, foundations in the affected areas by maintenance engineer’s staff and keep monitoring their conditions.

	<ul style="list-style-type: none"> ➤ All officers (technical officers) should be notified and should meet the staff to review emergency procedures. ➤ Review and update precautionary measures and procedures, and review with staff the precautions that have been taken to protect equipment. ➤ Maintain all the highways and access roads, which are critical from the point of view of supplying relief. 	<ul style="list-style-type: none"> ➤ If people are evacuating an area, the evacuation routes should be checked and people assisted. ➤ Construct/ reinforce the connecting roads from villages to roads, canals and Bundhs and raise their level so that people can access the high ground during disaster. 	<ul style="list-style-type: none"> ➤ Undertake construction of temporary roads to serve as access to temporary transit and relief camps, and medical facilities for flood victims. ➤ As per the decisions of the District Control Room, undertake construction of temporary structures required, for organizing relief work and construction of relief camps, feeding centres, medical facilities, cattle camps and SITE OPERATIONS CENTRES.
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			<ul style="list-style-type: none"> ➤ An up-to-date report of all damage and repairs should be kept in the district office report book and communicate the same to the District Control Room.
<p>DTO-Telecom</p>	<ul style="list-style-type: none"> ➤ Communication establishment with District and Block/ Tahasil control room and departmental officers within the division. ➤ An officer to be appointed as nodal officer ➤ Standby arrangements for temporary electric supply or generators. ➤ Inspection and repair of poles etc. 	<ul style="list-style-type: none"> ➤ Where Disaster strikes with/ without early warning signals, TSPs shall immediately assess damage to their network and deploy Rapid Damage Assessment Team & Disaster Response Task Force Teams (DRTF) with required 	<ul style="list-style-type: none"> ➤ If required portable / vehicle mounted / air-transportable BTSs / BSCs with backhaul on satellite media may be installed by TSPs. ➤ Nodal officer of TSPs of affected telecom circle level shall report to concerned DDG (TERM), DoT (Chairman of STDCC) in that circle,

	<ul style="list-style-type: none"> ➤ Identification of materials required for response operations. ➤ All staff informed about the disasters, likely damages and effect 	<p>inventory to provide emergency communication to priority callers like police, Fire, Medical, civil defense, Red Cross, Army, financial institutions, NGOs, all officers and staffs engaged in restoration of telecommunication services, etc</p> <ul style="list-style-type: none"> ➤ A control room will be setup at the state HQ / nearest to affected area, as the case may be, and made operational under control of 	<p>for sharing information and coordination related matters.</p> <ul style="list-style-type: none"> ➤ TERM units of DOT shall be the single nodal point in the disaster region where representatives of TSPs shall also be present to coordinate and oversee communication restoration efforts ➤ All the affected areas and infrastructure will maintained immediately to make sure the effective communication after disaster for quick response.
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		TERM cell of affected area.	
CDVO	<ul style="list-style-type: none"> ➤ Prepare HRV Analysis of Animal Husbandry Department of the District. ➤ Based on HRV Analysis, prepare Contingency Action Plan of the District. ➤ All personnel required for Disaster/Flood Management should work under supervision and guidelines of District Magistrate. ➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives. ➤ Review and update precautionary measures and procedure and review with staff 	<ul style="list-style-type: none"> ➤ . Supply stocks of equipments and drugs which are likely to be most needed during the disaster. ➤ Fill department vehicles with fuel and park them in a protected area. ➤ Prepare an area of the hospital for receiving large number of livestock during disaster. ➤ Distribute the requirement of water, fodder and 	<ul style="list-style-type: none"> ➤ Post Disaster Disease surveillance system ➤ Special attention to vulnerable section ➤ Assist the Revenue Department in preparing plans for cattle campus and cattle feeding centers. ➤ Organize vaccination campaigns in disaster prone villages after the disaster.

	<p>the precautions that have been taken to protect equipments.</p> <ul style="list-style-type: none"> ➤ Stock emergency medical equipments which may be required during and post disaster 	<p>animal feed, for cattle camps and organize the same.</p> <ul style="list-style-type: none"> ➤ Ensure that adequate sanitary conditions through cleaning operations are maintained in order to avoid outbreak of any epidemic during disaster. 	
RTO/MVI	<ul style="list-style-type: none"> ➤ Disseminate the alert to all concerned staff. ➤ Prepare a list of vehicles- trucks, buses, jeeps, tractors, etc of government and private agencies in the district and provide the list to the District control room. 	<ul style="list-style-type: none"> ➤ Provide requires vans and ambulances for mobile health and animal husbandry teams for immediate response during disaster. ➤ Provide trucks, buses, jeeps, 	<ul style="list-style-type: none"> ➤ Providing vehicles for communication and relief. ➤ Provide ambulances to rural areas for bringing affected people to hospitals after disaster.

	<ul style="list-style-type: none"> ➤ Issue standing instructions to the State transport department for providing buses for evacuation and relief. ➤ Recall important functionaries from leave; communicate to the staff to man their places of duties like the ward and divisional offices and respective departments. ➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives. 	<p>tractors, etc for evacuation and supply chain management.</p> <ul style="list-style-type: none"> ➤ Fill department vehicles with fuel and park them in a protected area. 	
DFO-	<ul style="list-style-type: none"> ➤ Conduct HRV analysis of Forest of the district. ➤ Based on HRV analysis, prepared Contingency Action Plan for the Department. 	<ul style="list-style-type: none"> ➤ Allow the transportation of fodder from forest areas, when the fodder is not freely available. 	<ul style="list-style-type: none"> ➤ Ensure Plantation to maximum possible extent. ➤ Ensure supply of wood for disposal of dead bodies.

	<ul style="list-style-type: none"> ➤ All personnel required for disaster management should work under the overall supervision and guidance of Deputy Commissioner. ➤ All district level officials of the department would be asked to report to the Deputy Commissioner when disaster occurs ➤ Emergency tools kits should be assembled for each division, and should include: Crosscut saws, Axes, rope. 	<ul style="list-style-type: none"> ➤ Evacuate the people and animal under the forest areas to a safest place. ➤ Cut down the most vulnerable trees near the residential areas. ➤ Provide wooden poles and bamboo for temporary shelter. 	<ul style="list-style-type: none"> ➤ Recall important functionaries from leave; communicate to the staff to man their places of duties like the ward and divisional offices and respective departments. ➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.
Railway	<ul style="list-style-type: none"> ➤ Overall coordination with the district administration for disaster response. ➤ Disseminate the alert to all concerned staff. 	<ul style="list-style-type: none"> ➤ Activate Search & Rescue ➤ Arrange temporary shelters 	<ul style="list-style-type: none"> ➤ Providing necessary information to public. ➤ Clearing the railway line blockages and restoration of the communication system.

	<ul style="list-style-type: none"> ➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives. ➤ Prepare and update the disaster risk map of the district. The map should show the vulnerability and risks of the critical infrastructure related to railway lines. 	<ul style="list-style-type: none"> ➤ Mass Casualty Management units & Triage ➤ First Aid Centers ➤ Medical surgical teams ➤ A control room will be setup at the district HQ / nearest to affected area, as the case may be, and made operational under control of TERM cell of affected area. 	<ul style="list-style-type: none"> ➤ Providing relief line to the vulnerable areas after disaster. ➤ Special attention to vulnerable section.
EE- Electricity	<ul style="list-style-type: none"> ➤ Conduct HRV analysis for the department of the district. 	<ul style="list-style-type: none"> ➤ Instruct district staff to disconnect the main electricity 	<ul style="list-style-type: none"> ➤ Ensure that the Power Supply department to make alternate arrangements of

	<ul style="list-style-type: none"> ➤ Based on HRV analysis, prepare Contingency Action Plan of department of Power Supply. ➤ All personnel required for disaster management with work under the overall supervision and guidance of responsible officer. ➤ Establish radio communications with State Emergency Operation Centre, Divisional Commissioner, District Control Room and your departmental offices within District/Division. ➤ After receiving alert warning, immediately undertake following inspection: High tension lines ,Towers ,Sub-stations ,Transformers 	<p>supply for the affected area.</p> <ul style="list-style-type: none"> ➤ Dispatch emergency repair groups equipped with food, bedding, tents, and tools. ➤ Protect Power Stations from disaster. Raise the height of compound walls. Arrange gunny bags. ➤ Install pump sets for draining water in case of Flood/ Cyclone/ Tsunami, etc. ➤ Provide information to the people about 	<p>emergency supply for the following offices from time of receipt of districts: Hospitals ,Public Health Departments , Deputy Commissioner Office, District EOC, Sub-Divisional EOC, site Operation Centres. , Police Stations , Telecommunications buildings , Meteorological stations. Irrigation Office.</p> <ul style="list-style-type: none"> ➤ Hire casual labourers on an emergency basis for clearing of damaged poles and salvage of
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	<p>,Insulators , Poles and Other equipments.</p>	<p>the state of power supply. It is one of the most important sources of information.</p>	<p>conductors and insulators.</p> <ul style="list-style-type: none"> ➤ Begin repair/reconstruction .
EE – PHED	<ul style="list-style-type: none"> ➤ When early signs of distress appear in any part of the district, EE PHED will submit a special situation update to DM indicating the position in respect of water supply preparedness in the district. ➤ Prepare and update the disaster risk map of the district. The map should show the vulnerability and risks of the critical infrastructure related to water supply and public health. 	<ul style="list-style-type: none"> ➤ Will ensure availability of adequate number of tool kits to prevent any damage during disaster. ➤ Provide special attention to those places where the water supply were breached and repaired during the last disaster last year. 	<ul style="list-style-type: none"> ➤ Supply the safe drinking water at the affected areas immediately after the disaster. ➤ Maintainance of Water works immediately after the disaster. ➤ Cleaning the sewerage system with adequate disinfection to prevent disease and epidemics.

	<ul style="list-style-type: none"> ➤ Prepare a contingency plan for the maintenance and repairs water pipe systems. ➤ Identify vulnerable areas, which are critical for disaster protection and control. ➤ Review and update precautionary measures and procedures. 	<ul style="list-style-type: none"> ➤ Deployed adequate team in the most vulnerable areas. ➤ Opening the blockage of sewerage and sewage system during disaster to control the disease and epidemics. 	
<p>DEO- School & Mass Education</p>	<ul style="list-style-type: none"> ➤ Conduct HRV analysis of schools of the district. ➤ Based on HRV analysis, prepared Contingency Action Plan for the Department. ➤ All personnel required for disaster management should work under the overall supervision and guidance of the DEO. 	<ul style="list-style-type: none"> ➤ Duck cover and hold first sign of earthquake move away from buildings. ➤ Assist the evacuation teams in evacuation of the school buildings. ➤ For a chemical hazard assist the 	<ul style="list-style-type: none"> ➤ Dissemination of information on do's and don'ts so that the situation doesn't worsen. This can be done in the coordination with the warning and information dissemination teams.

	<ul style="list-style-type: none"> ➤ All officers (technical officers) should be notified and should meet the staff to review emergency procedures. ➤ Obtain IEC materials postars, Phmplets, simple tips on do’s and don’ts in different disasters. ➤ Conduct awareness generation activities systemically in the whole school targeting different classes and also staffs and teachers. ➤ Assists in organizations of the evacuations drills for various hazards. 	<p>warning team in disseminating the required safety tips to the entire school.</p> <ul style="list-style-type: none"> ➤ Ensuring the schools becomes the shelter houses with adequate nos of equipments during the disaster. 	<ul style="list-style-type: none"> ➤ The damaged building and infrastructure should repair immediately after the disaster. ➤ The relief lines should be measured from the school building after the disaster.
<p>DEO - Higher Secondary Education</p>	<ul style="list-style-type: none"> ➤ Conduct HRV analysis of Higher Secondary schools of the district. 	<ul style="list-style-type: none"> ➤ Duck cover and hold first sign of earthquake move away from buildings. 	<ul style="list-style-type: none"> ➤ Dissemination of information on do’s and don’ts so that the situation doesn’t

	<ul style="list-style-type: none"> ➤ Based on HRV analysis, prepared Contingency Action Plan for the Department. ➤ All personnel required for disaster management should work under the overall supervision and guidance of the DEO. ➤ Organized demonstration of fire safety, first aid and search and rescue through linkages with the fire brigade, health officials and civil defense and home guards. ➤ Obtain IEC materials posters, Pamphlets, simple tips on do's and don'ts in different disasters. ➤ Conduct awareness generation activities systemically in the 	<ul style="list-style-type: none"> ➤ Assist the evacuation teams in evacuation of the school buildings. ➤ For a chemical hazard assist the warning team in disseminating the required safety tips to the entire school. ➤ Ensuring the schools becomes the shelter houses with adequate nos of equipments during the disaster. 	<p>worsen. This can be done in the coordination with the warning and information dissemination teams.</p> <ul style="list-style-type: none"> ➤ The damaged building and infrastructure should repair immediately after the disaster. ➤ The relief lines should be measured from the school building after the disaster.
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	<p>whole school targeting different classes and also staffs and teachers.</p> <ul style="list-style-type: none">➤ Assists in organizations of the evacuations drills for various hazards.		
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14.5 Format for First Information Report (FIR)

First Information Report (FIR) should follow the flash report as soon as possible (within a matter of hours). Its purpose is to inform the recipients of the severity of the disaster and, more importantly, by relating the severity of the disaster to coping capacities, provides the information needed to start mobilizing resources from outside the affected area to help. The report needs to be sent to Special Relief Commissioner, Odisha within maximum of 18 hours of occurrence of calamity. The report should, therefore, briefly summarize:

**OFFICE OF THE DISTRICT MAGISTRATE, NUAPADA
(Emergency Section)**

Letter No. /Emg. Date DD/MM/YYYY

To

Special Relief Commissioner, Odisha
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

FIR of _____, 20XX

- 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-

Name of the Department	Normal Time
Collector/ADM / Emergency Officer	<ul style="list-style-type: none"> ➤ 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	<ul style="list-style-type: none"> ➤ Disaster Management Plans & Safety plans for Hospitals ➤ Capacity building of Medical & Para Medical Staffs

- l. Forecast of possible future developments including new risks-
- m. Any other relevant information-

	<ul style="list-style-type: none"> ➤ 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 ➤ Stock piling of Life saving drugs/ORS packets/Halogen tablets on receipt of warning from the Collector/DCR ➤ Transmission of messages to all PHCs to stock medicines and keep the medical staff ready ➤ Disease surveillance and transmission of reports to the higher authorities on a daily basis. ➤ Vaccination. ➤ To obtain and transmit information on natural calamities from the DCR ➤ Advance inoculation programme in the flood/Cyclone prone areas. ➤ Ensuring distribution of areas of operation among the mobile team. ➤ Pre-distribution of basic medicines to the people who are likely to be affected ➤ Shifting the patients who are in critical situation to the District Hospital ➤ Awareness messages to stop the outbreak of epidemics ➤ Conducting mock drills
Superintendent of Police (SP)	<ul style="list-style-type: none"> ➤ Reception of Warning from the DCR ➤ Communication establishment with District and Block/Tahasil Control rooms and departmental offices within the division. ➤ Alerting the APR force for deployment at the time of calamity

	<ul style="list-style-type: none"> ➤ To issue directive to police field functionaries to co-operate with Revenue Personnel in management of Relief operation.
EE- RWSS	<ul style="list-style-type: none"> ➤ Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment. ➤ Within the affected block, all available personnel will be made available to the District Magistrate. If more personnel are required then out of station official or those on leave may be recalled. ➤ Prepare plans for water distribution to all transit and relief camps, affected villages and cattle camps and ensure proper execution of these plans. ➤ Inform people to store an emergency supply of drinking water ➤ Investigation of alternate of water and its supply. ➤ Standby diesel pumps or generators should be installed in damage-proof buildings. ➤ A standby water supply should be available in the event of damage, saline intrusion or other pollution of the regular supply. ➤ Establish procedures for the emergency distribution of water if existing supply is disrupted. ➤ Make provisions to acquire tankers and establish other temporary means of distributing water on an emergency basis. ➤ Make provision to acquire containers and storage tanks, required for storing water on an emergency basis. ➤ Protect pump stations from water logging. ➤ Repair sewage lines where damage is detected. ➤ Repair water pipelines wherever damaged.

EE- Irrigation	<ul style="list-style-type: none"> ➤ Check the wireless network and ensure that all the flood stations are connected. ➤ Establish mechanisms for exchange of information with irrigation divisions ➤ Inspect all the Bundhs, and check their height and slope. ➤ Check the top of the Bundhs, and if they have been cleared of encumbrances / encroachments and if they are motorable ➤ Check that all the Bundhs have been repaired/ reinforced, in particular those Bundhs which were damaged during the last floods. ➤ Check the drainage system of the Bundhs and ensure that the seepage and rat holes, etc. have been closed. ➤ Check that all the materials required for protecting Bundhs have been stored at different places, and a list of these places has been furnished to the district administration ➤ Check that the Junior engineers and other staff have been assigned their beats, and all the ➤ Arrangements for continuous vigilance over these Bundhs have been made. ➤ Check that all rain gauge stations are functional, and arrangements have been made to report the readings. ➤ Check the regulators and siphons. Check that they have been repaired and cleaned, increasing the flow of water. ➤ Check all the anti-erosion works, necessary to maintain the Bundhs.
DAO- Agriculture	<ul style="list-style-type: none"> ➤ Review and update precautionary measures and procedures. ➤ Check available stocks of equipments and materials which are likely to be most needed during and after flood/disaster.

	<ul style="list-style-type: none"> ➤ Stock agricultural equipments which may be required during and after flood. ➤ Determine what damage, pests or disease may be expected, and what drugs and other ➤ insecticide items will be required, in addition to requirements of setting up extension teams for crop protection, and accordingly ensure that extra supplies and materials, be obtained quickly. ➤ All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof. ➤ Ensure that certified seeds of required varieties are available in adequate quantities. ➤ Develop a pest and disease monitoring system so that timely steps can be taken to reduce damage to corps. ➤ A pests and disease monitoring system should be developed to ensure that a full picture or risks is maintained. ➤ Plan for emergency accommodations for agriculture staff from outside the area. ➤ Extension Officers should be unplugged when flood/disaster warning is received.
EE- Rural Works	<ul style="list-style-type: none"> ➤ Govt. buildings should be inspected and necessary repairs to be got executed to with standing hazards affected. ➤ Script for slides, pamphlets, and cultural programmers should be got prepared immediately. ➤ Arrangements should be made to obtain poster and films by addressing the Director through the Collectors. ➤ Public addresses equipment should be obtain kept ready. ➤ The community Radio sets available in the coastal villages should be ascertained

	<ul style="list-style-type: none"> ➤ The names of Hamlets where they are not available to be reported. ➤ The public should be fully educated regarding the precautionary measures & after cyclone through available media. ➤ Specific duties should be assigned to the field staff. ➤ The field staff should proceed to the place of work allotted and be ready to attend to cyclone duty.
EE- Public Works	<ul style="list-style-type: none"> ➤ All personnel required for disaster management should work under the overall supervision and guidance of DM. ➤ Review and update precautionary measures and procedures, and review with staff the precautions that have been taken to protect equipment. ➤ Vehicles should be inspected, fuel tanks filled and batteries and electrical wiring covered as necessary. ➤ Extra transport vehicles should be dispatched from headquarters and stationed at safe strategic spots along routes likely to be affected. ➤ Heavy equipments, such as front-end loaders, should be moved to areas likely to be damaged and secured in a safe place. ➤ Clean the area beneath bridges regularly for smooth flow of water excess. ➤ Maintain all the highways and access roads, which are critical from the point of view of supplying relief. ➤ Inspect all buildings and structures of the state government (including hospital buildings.) by a senior engineer and identify structures which are endangered by the impending disaster.

Addl. District Magistrate

District Emergency Operation Centre (DEOC)

	<ul style="list-style-type: none"> ➤ The designation of routes strategic to evacuation and relief should be identified and marked, in close coordination with police and District Control Room ➤ Establish a priority listing of roads which will be opened first. Among the most important are the roads to hospitals and main trunk routes ➤ Work under construction should be secured with ropes, sandbags and covered with tarpaulins if necessary. ➤ Construct/ reinforce the connecting roads from villages to roads, canals and Bundhs and raise their level so that people can access the high ground. ➤ Inspection of old buildings and suggesting retrofitting of weak buildings/ demolition of dangerous structures and evacuation of population. ➤ Carry out route opening by removing debris on the road. ➤ Begin clearing roads. Assemble casual labourers to work with experienced staff and divide them into work gangs.
<p>DTO-Telecom</p>	<ul style="list-style-type: none"> ➤ Assess the different disaster scenarios and match the communications needs with the available resources. ➤ Ensure that TSPs (private and public) invest in preventive measures that will ensure maximum robustness and preparedness of the telecom networks during emergencies. ➤ Ensure that TSPs (private and public) develop detailed emergency plans for management of resources under their responsibility. ➤ Conduct annual reviews of the ETP/SOP - Organize annual symposium on telecommunications availability during emergency. – ➤ Update the communications plan according to development and innovations in emergency telecommunications systems.

	<ul style="list-style-type: none"> ➤ Disseminate information among the Public and the district administration on the availability of telecom services and equipment's for use during emergencies.
CDVO	<ul style="list-style-type: none"> ➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives. Review and update precautionary measures and procedure and review with staff the precautions that have been taken to protect equipments. ➤ Prepare a list of water borne diseases that are preventable by vaccination. ➤ Publicize the information about common diseases afflicting livestock and the precautions that need to be taken. ➤ Assist the Revenue Department in preparing plans for cattle campus and cattle feeding centers. ➤ Stock emergency medical equipments which may be required during and post disaster Surgical packs should be assembled and sterilized. ➤ Enough stock of surgical packs should be sterilized to last for four to five days. ➤ The sterilized surgical packs must be stored in protective cabinets to ensure that they do not get wet. Covering the stock with polythene is recommended as an added safety measure. ➤ All valuable equipments and instruments should be packed in protective coverings and stored in room the most damage-proof. ➤ All electrical equipments should be unplugged when disaster warning is received. ➤ Organize vaccination campaigns in disaster prone villages before, during and after the disaster.

Nuapada

- Prepare kits for veterinary diseases, which could be provided to veterinary doctors at the block level and extension officers at the village level. Kits can also be provided to the private veterinary doctors.
- Arrange for emergency supplies of anesthetic drugs.
- Check stocks of equipments and drugs which are likely to be most needed during and after disaster.
- Fill department vehicles with fuel and park them in a protected area.
- Fill hospital water storage tanks and encourage water savings. If no storage tanks exist water for drinking should be drawn in clean containers and protected.
- Prepare an area of the hospital for receiving large number of livestock.
- Develop emergency admission procedures (with adequate record keeping).
- Establish cattle camps and additional veterinary aid centres at affected sites and designate an Officer In-charge for the camp.
- Estimate the requirement of water, fodder and animal feed, for cattle camps and organize the same.
- Ensure that adequate sanitary conditions through cleaning operations are maintained in order to avoid outbreak of any epidemic.
- An injury and disease monitoring system should be developed, to ensure that a full picture of risk is maintained.
- Plan for emergency accommodations for veterinary staff from outside the area.

RTO/MVI	<ul style="list-style-type: none"> ➤ Prepare a list of vehicles- trucks, buses, jeeps, tractors, etc of government and private agencies in the district and provide the list to the District control room. ➤ Provide requires vans and ambulances for mobile health and animal husbandry teams. ➤ Provide trucks, buses, jeeps, tractors, etc for evacuation and supply chain management ➤ Issue standing instructions to the State transport department for providing buses for evacuation and relief. ➤ Recall important functionaries from leave; communicate to the staff to man their places of duties like the ward and divisional offices and respective departments. ➤ Call for emergency meeting to take stock of the situation. Develop a strategy and objectives.
DFO	<ul style="list-style-type: none"> ➤ Develop and quarterly update the disaster management plan that includes the Contingency Action Plan for the Department based on HVRC analysis with the active involvement of all concerned line departments and local bodies in the district ➤ Make personnel available to the District Magistrate, within the affected block,. If more personnel are required, recall those on leave. ➤ Identify areas that could be opened or made available for grazing or fodder collection in case of disaster ➤ Ensure that adequate supply of small poles or bamboo is available for reconstruction of houses of the affected people, as well as wood for cremation of dead. ➤ Ensure plantation to the maximum possible extent.
Railway	<ul style="list-style-type: none"> ➤ Identification of flood prone areas, RAT, RAW and information prone to erosion/breaches and marking them on railways system map.

	<ul style="list-style-type: none"> ➤ Development of Flood Shelters for staff and passenger at suitable locations in the areas prone to repeated floods ➤ Study of changed water catchment area due to construction of highways, Dams. ➤ Study of changed rainy season month on a particular region. ➤ Action Plan for Alignment, Location, Design and Provision of Waterway on Railways Embankments ➤ Inspections of Railway Affecting Works – to be streamlined and timely ensured. ➤ Review of waterways for adequacy and alignment and measures to modify, if needed. ➤ Status Note on the lessons learnt from the previous flood situations in the past 5 years. ➤ Bye-laws for buildings in flood plains. ➤ Making existing and new buildings and infrastructure capable of withstanding fury of floods.
EE- Electricity/OPTCL	<ul style="list-style-type: none"> ➤ Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment. ➤ Ensure that the Power Supply department to make alternate arrangements of emergency supply for the major offices from time of receipt of districts ➤ Check emergency tool kits, assembling any additional equipment needed. ➤ After receiving alert warning, immediately undertake following inspection of High tension lines, Towers, Sub-stations, Transformers, Insulators, Poles and other equipments ➤ Instruct district staff to disconnect the main electricity supply for the affected area.

	<ul style="list-style-type: none"> ➤ Protect Power Stations from disaster. Raise the height of compound walls. Arrange gunny bags. Install pump sets for draining water in case of Flood/ Cyclone/ Tsunami, ➤ etc. ➤ Provide information to the people about the state of power supply. It is one of the most important sources of information. Establish temporary electric supplies to other key public facilities, public water system etc. to support emergency relief. ➤ Establish temporary electric supplies to transit camps feeding centres, relief camps and Site Operation Centre, District EOC and on access roads to the same. ➤ Establish temporary electric supplies for staging area. ➤ Compile an itemized assessment of damage, from reports made by various electrical receiving centres and sub-centres.
EE - PHED	<ul style="list-style-type: none"> ➤ Formation of Disaster Management Cell and manning with senior personnel drawn from key sections of the dept. ➤ Formulation of Public Health Engineering related programme and activities by intonating them with hazard specific preventive and mitigation measures. ➤ Creation of stocks of installation materials at the district level for use in emergencies. ➤ Orientation and training of a team of technicians to do installation as quickly as possible. ➤ Strategizing the installation of hand-pumps etc. with hazard profile of the area in mind. ➤ In consultation with the Department of Education and DMD, provision of additional sanitation and drinking water facilities in schools and relief shelters where people take refuge during flood.

	<ul style="list-style-type: none"> ➤ In consultation with the Department of Disaster Management making special arrangements for the supply of drinking water in drought prone areas. ➤ Planning for repair and maintenance of the facilities created as a part of the programme and activities. ➤ Keeping a track of groundwater level and having a fresh look at the facilities created accordingly. ➤ Organizing interaction with Gram Panchayats for having proper sanitation facilities, and providing them support and guidance in planning, implementation and maintenance of the same. ➤ Procurement, upkeep and maintenance of sanitation equipment for use in emergencies.
DPS, SSA-School & Mass Education/ DEO - Higher Secondary Education	<ul style="list-style-type: none"> ➤ Formation of Disaster Management Cell and manning the same by senior personnel drawn from key Directorates. ➤ Incorporating costs for preventive and mitigation measures for earthquake, flood, fire and cyclonic storm prone areas to construct disaster resistant school buildings. ➤ In association with Fire Dept. getting fire extinguishers installed in schools and teachers identified and trained in operating them. ➤ Awareness Generation Programmes about Hazard, the kind of preparedness required and how to act at the time of disaster shall be organized in schools on monthly basis. ➤ Disaster Management shall be made a part of the school curriculum. ➤ The Department shall get quality films made on hazard wise disaster preparedness and organize their viewing by children and their parents. ➤ The Department shall in association with Nehru Yuva Kendra organize locality based youth clubs and get them

	<p>groomed in escort services, relief work and taking care of children, women, old and sick.</p> <ul style="list-style-type: none"> ➤ Making adequate arrangements for getting hand pumps installed, storage facilities created, toilet and bathrooms built in those schools where communities do take shelter during flood. Concerned departments shall either make the arrangements or make funds available for the same.
BDO/Tahasildar	<ul style="list-style-type: none"> ➤ Providing authentic information required by the DCR ➤ Preparing a record of previous disasters in the locality and analyzing the effects ➤ Preparing hazard maps of the Block./Tahasil & the GPs in minute details ➤ Mapping the cut off areas with alternate route map. ➤ Identification of shelter places in the maps ➤ Keeping a List of storage Points & facilities available, dealers of foodstuffs. ➤ Keeping a list of vulnerable people and area and weak points on embankments (if applicable) ➤ Creating a Control Room at the respective level and assignment of duties to the staff. ➤ Pre-positioning of staff for site operation centers. ➤ Uninterrupted communication with the DCR ➤ Arrangement of alternative communication/generator sets, etc ➤ Formation of GP/village level disaster committees and task forces ➤ Arrangement of boats on hire available locally.

- Deployment of Boat in the most vulnerable areas.
- Organizing awareness camps at GP/village levels
- Dissemination of Warning:
- Crosschecking with the DCR for the authenticity of the warnings
- Arrangement or requisition of Jeeps/Trekkers/ Auto Rickshaw to disseminate received warning information's to the population of vulnerable / weak places
- Dissemination of warning/ coordination with District control room.
- Warning the people about probable affected areas
- Mobilizing the people to leave for identified shelters with their domestic animals and personnel belongings.

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).

14.6 Preparedness of Departments

The Government departments playing lead or support roles in disaster preparedness are:

Daily Status Report on Relief/ Restoration Measures Undertaken By Departments

Health Department.

Medical Relief Centres Opened-

Mobile teams deployed-

Wells disinfected-

ORS distributed-

Halogen Tablets distributed-

Minor Ailment Treated-

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-

FS & CW Department

.....Qtls. Chuda, Qtls gur supplied to

Blocks

(Qty

.in quintals)

District	Chuda	Gur

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

Blocks

Quantity allocated (in quintal)

Total

Fisheries & A,R.D. Department

- Animals vaccinated-
- Animals treated-

Damages to Roads/River Embankments

R.D. Department.

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

Works Department.

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

W.R Department.

- Breach occurred-
- Breaches closed-
- Breach closing works in progress-

Chapter-15- 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.

15.1 Standard Operating Procedure: Restoration & Rehabilitation

Name of the Department	Normal Time
Collector/ADM / Emergency Officer	<ul style="list-style-type: none"> • Restoration of Critical Infrastructures to bring situation to normalcy • Ensure Restoration of roads & channels, Communication network, Electricity & Energy • Ensure health in the affected areas • Adopt sustainable mitigation measures in the restoration activities
CDMO	<ul style="list-style-type: none"> • Carry out Disease surveillance measures to check epidemic prone diseases • Dis-infection of drinking water & measures for health & hygiene • Rehabilitation of deprived & destitute • Carry out Trauma & Psycho-social counseling
Superintendent of Police (SP)	<ul style="list-style-type: none"> • Security arrangements for relief materials in transit and in camps etc. • Senior police officers to be deployed in control rooms at State & district levels during L 1 level deployment onwards. • Deploy personnel to guard vulnerable embankments and at other risk points. • Arrangement for the safety.

	<ul style="list-style-type: none"> • Coordinate search, rescue and evacuation operations in coordination with the administration • Emergency traffic management. • Maintenance of law and order in the affected areas. • Assist administration in taking necessary action against hoarders, black marketers etc.
EE- RWSS	<ul style="list-style-type: none"> • Provision of tube wells at the squares, market places, bus stops, public buildings like schools, hospitals etc. to face the heat wave situation. • Alternate drinking water sources for the fluoride- affected areas like Roof top water harvesting, rainwater conservation and recycling. • Construction of drains in the villages for easy discharge of the flood water, wastewater and sewage • IEC campaign for safe drinking water and sanitation to prevent any health hazard in normal time in general and during disaster in particular.
EE- Irrigation	<ul style="list-style-type: none"> • Planning for new medium irrigation project and completion of the ongoing project in the rivers to increase the irrigational potential of the district. • Strengthening the weak points of the river embankments,

	<ul style="list-style-type: none"> • Provision of spurs, stone packing, launchings at the turning point and guide bank along the course of the rivers and big Nallas to prevent the damage during flash flood. • Constructions of culverts, cause ways and other cross drainage work for quick discharge of flood water and to prevent prolonged submergence causing damage to the important infrastructure. • Planning and Construction of Minor Irrigation Projects at suitable location. • Construction of masonry check dams on some seasonal and perennial Nallas
DAO- Agriculture	<ul style="list-style-type: none"> • Encourage the formation of social institution to increase their access to credit, market, insurance etc. like Producers/Growers association, • Cooperatives, Societies, Farmers club etc. • Capacity building of farmers and grass root extension workers on the modern agriculture practices, dynamic contingency crop planning, IPM, INM, alternate land use etc on • Popularization of Seed Village scheme and promotion of Community managed Seed Bank. • Increase the access of farmers to appropriate agro information, market, credit etc.

	<ul style="list-style-type: none"> • Promotion of the cultivation of vegetables, spices, tuber crops, mushroom etc through on field demonstration and minikit distribution program. • Construction of low cost storage structures for the perishable agro/hort. Products. • Training of the SHGs, vegetable growers etc. on the package of practice, proper storage, processing and value addition of the hort. Products. • Treatment of arable and non-arable lands through various mechanical and vegetative measures to prevent further their degradation and increase productivity
EE- Rural Works	<ul style="list-style-type: none"> • Strengthening and restoration of infrastructure with an objective to eliminate the factor(s) which caused the damage.
EE- Public Works	<ul style="list-style-type: none"> • Construct/reinforce the connecting roads from villages to roads, canals and bunds and raise their level so that people can access the high ground. • Install adequate road signs to guide and assist the drivers. • Institute repair of all paved and unpaved road surfaces, including edge metaling, pothole patching and any failure of surface, foundations in the affected areas by maintenance engineer's staff and keep monitoring their conditions.

	<ul style="list-style-type: none"> • Take on construction of temporary roads to serve as access to temporary transit and relief camps and medical facilities for disaster victims.
DTO-Telecom	<ul style="list-style-type: none"> • Assessment of damage and restoration of communication network. • Ensure all communication equipment installed at DEOC.
CDVO	<ul style="list-style-type: none"> • Popularization of the livestock farming as one of the viable alternative livelihood option in the normal year in particular and in drought year in general through awareness generation, attractive schemes etc. • Improvement of the quality and productivity of local livestock through Artificial Insemination and other breeding process. • Strengthening of the dispensaries/Livestock Aid centers with staffs, medicines, and equipment to proper health care of the animal. • Capacity building of the grass root extension workers/Para worker/ farmers on animal health care and hygiene, AI/breeding, birth care etc. • Popularization of the cultivation of nutritious fodder grasses or trees in the home stead/field bunds of farmers/village pasture lands etc. through demonstration unit, mini kit distribution etc. • Storage, Processing, Market linkage, Price fixation of the livestock products

	<ul style="list-style-type: none">• Promotion of the development of Institutions like Milk Cooperatives, Goat grower association etc.for better access to market, credit etc.• Introduction of Pisciculture in all the Dams,• Reservoirs/MIP/GP tanks and other bodies.• Supply of quality and productive fingerlings of fast growing/improved fish species.• Capacity building of fish farmers/grass root extn. Workers/SHG members on commercial pisciculture, fish seed and feed production etc.
RTO/MVI	<ul style="list-style-type: none">• Emergency repairs of roads if affected must be carried out.• A system for priority transport of relief goods and personnel must be developed.• Relief goods may be considered for exemption from freight charges, if any.• All bus depots should be equipped with emergency communication equipments.• Every work gang should have tools which will be needed in an emergency.• This should include crosscut saws, axes and ropes.• Raincoats, caps and gumboots should be made available to work gangs in an emergency

DFO	<ul style="list-style-type: none"> • Improvement of the Vegetation coverage and Biomass production to meet the multiple community need like food, fuel wood, fodder etc. through three-tier plantation. • Regeneration of degraded village Common Property Resources like village forest, waste land through the gap filling and block plantation of multipurpose tree species. • Prevention of indiscriminate forest felling through strict introduction of rules and regulation and massive awareness generation. • Strengthening of the community based organizations like VSS through various training, exposure, orientation, and sensitization and ensures the involvement of the local community in forest management (regeneration, protection etc.) • Fair Collection and marketing of the NTFP products • Restricted grazing of the cattle herd in the forest area is to be ensured to protect the natural regeneration of the forest ecosystem.
Railway	<ul style="list-style-type: none"> • Rapid access to the site of the accident. ☞ • Effective site management by making best use of on-board and locally available resources. • Quick extrication of victims. ☞ Speedy transportation of victims to hospital.

	<ul style="list-style-type: none"> • Proper communication system both for assisting the stranded passengers as well as giving out timely information to the media.
EE- Electricity	<ul style="list-style-type: none"> • Disconnect electricity after receipt of warning. • Attend sites of electrical accidents and assist in undertaking damage assessment. • Stand-by arrangements to ensure temporary electricity supply. • Inspection and repair of high tension lines /substations/transformers/poles etc. • Ensure the public and other agencies are safeguarded from any hazards, which may have occurred because of damage to electricity distribution systems. • Restore electricity to the affected area as quickly as possible. • Replace / restore of damaged poles/ salvaging of conductors and insulators.
EE – PHED	<ul style="list-style-type: none"> • Provision of tube wells at the squares, market places, bus stops, public buildings like schools, hospitals etc. • Alternate drinking water sources to affected area • Construction of drains for easy discharge of the flood water, wastewater and sewage • IEC campaign for safe drinking water and sanitation to prevent any health hazard in normal time in general and during disaster in particular.

DPC, SSA- School & Mass Education/ DEO - Higher Secondary Education	<ul style="list-style-type: none">• Department and the field level institution will prepare a contingent Action Plan for their reconstruction.• Damaged buildings (including classroom building, department building, and breaking of window) should be assessed and the report is to be sent to SRC for adequate funding needed for repair and constructions of building, boundary wall, Hostels etc. for quick recovery and restoration of Education.
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15.2 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					

15.3 Calculation of assistance for agricultural input subsidy-SMF**(Rs. In lakh)**

Sl.	Name of the Block	Area held by SMF (in Hectares)	Total Agricultural area Affected [in Hect.]	Total agricultural area where crop loss is > 50%	Crop loss 33% & above			Expenditure incurred			Total
					Irrigated [in hect.]	Rainfed [in hect.]	Perennial	Irrigated @Rs.13,500/- per hectare	Rainfed @Rs.6800/- per hectare	Perennial @ Rs.18000/ per Hect.	
1											
2											
Total											

Agricultural input subsidy- Farmers other than SMF**Farmers affected first year****Rs. In lakh)**

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										
Total										

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										
Total										

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 /	Calf/ Donkey/ Pony		Buffalo/ Cow	Sheep/ Goat	Camel/ Horse /	Calf/ Donkey/ Pony	Buffalo/ Cow	Sheep/ Goat	Camel/ Horse /			Calf/ Donkey/ Pony

			Bullock					Bullock				Bullock			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)

Assistance sought for repair /restoration of damaged houses

(Rs. In Lakh)

Sl	District	Fully Damaged/ Severely Damaged		Partially (15% & More)	Huts	Cattle shed attached with house	TOTAL
		Plain Areas	Hilly Areas				

	Pucca	Amount	kutcha	Amount	pucca	Amount	Kutcha	Amount	pucca	Amount	Kutcha	Amount	Nos.	Amount	Nos.	Amount
		@ Rs.-		@ Rs.-		Rs.-		@ Rs.-		@ Rs.-		@		@ Rs.-		@ Rs.-
		95100/-		95100/-		101900/-		101900/-		5200/-		Rs.-		4100/-		4100/-
												3200/-				
1																
TOTAL																

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)				
					Temporary accommodation	Food	clothing	Medical care	Total expenditure
1									
	Total								

Extent of damage due to natural calamities

Dist : Nuapada 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 kutch houses	
	v) Partly damaged houses (pucca + kutch)	
	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	

Format for working out the requirements under the head of repair of damaged infrastructure of immediate nature

(Rs. In lakh)

Sector		Damage in physical terms	Requirement of funds for repair of immediate nature	Out of (3), amount available from annual maintenance budget	Out of (3), amount available from related schemes/ programs/ other sources	Out of (3), amount proposed to be met from CRF/NC CF in accordance with list of works indicated in the Appendix to the revised items and norms
Roads & Bridges	PWD Road Roads	No. of breaches- Length of Road				

		damaged - No. of culverts damaged - No. of culverts washed away -				
	Rural Roads	No. of Roads damaged - Length of Road damaged - No. of breaches - No. of CD/Bridge damaged- No. of CD/Bridge washed away -				
	Urban	Length of drain				

	Roads	damaged - Length of Road damaged No. of culverts damaged -				
	Panchayat Roads	No. of Roads damaged - Length of breaches - Length of Road damaged - No. of culverts damaged - No of culverts washed away				
	River /Can	No of Roads				

	al Emba nkme nt Road s	damaged in river embankm ents- Length of Road damaged in river embankm ents - No of Roads damaged in canal embankm ents - Length of Road damaged in canal embankm ents -				
Drinking Water Supply	Rural Wate r Suppl y	No of Tube wells damaged - No of platforms damaged -				

		No. of Rural pipe water supply system damaged -				
	Urban Water Supply					
Irrigation	River Embankment	No of breaches - Length of breach in Km - No of partial damage -				
	Canal Embankments	No of breaches - Length of breach in Km - No of partial damage -				

	M I proje cts	No of Minor Irrigation projects damaged -				
	Clear ance of Drain age chan nels	Length of drainage channels congested with vegetative materials -				
Primary Education	Prim ary Scho ol Buildi ngs	No of Primary School buildings damaged -				
PHCs	PHCs	No of Primary Health Centres damaged -				
Community assets owned by Panchayats	Com muni ty Halls	No of Panchayat Ghar/Com munity				

		Hall damaged -				
	AWW Centres	No of Anganwad i Centres damaged -				
Power	Electrical lines	No of Primary sub-stations damaged - 33 KV lines damaged - 11 KV lines damaged - Distribution Transformers damaged - LT lines damaged -				
Total						

Chapter- 16 -Recovery

An insight

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-terms 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;

ASSESSMENT AND PRIORITIZATION

Comprehensive District Plan, 2016 prepared by District Planning and Management Unit, Nuapada made a detail SWOT analysis of the district and suggested few priority area from which three areas are directly linked with Disaster Management. In this background, DDMP, 2022-23 chalked out a recovery plan in compliance with the existing plan of the various departments especially for **DROUGHT (IRRIGATION), LIVELIHOOD and HEAT WAVE (DRINKING WATER)** which are the priority of the district.

DDMP Prioritization

1. Drought Mitigation Measures with Irrigation Potential
2. Livelihood Restoration
 - a) *Agri Based Livelihood*
 - b) *Skill Development*
3. Management Of Heat Wave (Drinking Water)

TARGETING

During recovery phase targeting is crucial for optimum utilization of resources. It also helps to reach the most vulnerable household/person who needs special care of the vulnerable. Hence, priority shall be given to the following vulnerable categories of households/person during recovery stage.

1. Households without shelter
2. Destitute/living on alms
3. Manual scavengers
4. Primitive Tribal groups
5. Legally released bonded labourers
6. Only one room with Kucha walls and Kucha roof
7. No adult member between age 16 to 59

8. Female headed households with no adult male member between age 16 to 59
9. Disabled member and no able bodied adult member
10. SC/ST households
11. Pregnant women and Lactating mother
12. Widow/Orphan
13. No literate adult above 25 years
14. Landless households deriving major part of their income from manual casual labour
15. Small and marginal farmers
16. BPL/IAY/FRA beneficiaries.

16.1 PART-I: DROUGHT RECOVERY PLAN

Total Water Demand of the district for various sector

Estimation of Domestic water demand is one of the important analyses for Nuapada district. The following table portrays the block wise water demand status in the district.

**Achievement of Pani Panchayat Programme
in different Blocks of Nuapada district**

(Area in Hectares)

Sl. No.	Block / Year	No. of Pani Panchayat formed	No. of Farmers covered	Area under Pani Panchayat	Crop coverage in Hect.	
					Kharif	Rabi
1	2	3	4	5	6	7
	2018-19	85	16338	21224	16127	4304
	2019-20	87	16737	21739	17113	5626
	2019-20 BLOCK					
1	Boden	10	1483	2137	1032	146
2	Khariar	6	1113	1245	529	120
3	Komna	25	5166	6150	4750	2391
4	Nuapada	34	7879	10510	9989	2714
5	Sinapali	12	1096	1697	813	255

Source : EE MI/EE Irrigation / EE Jonk / EE LI Divn. Nuapada

Domestic Water Demand:

The table shows the water demand status in the district. This table shows the present (2015) population and projected population (2020) and gross water demand in all aspect.

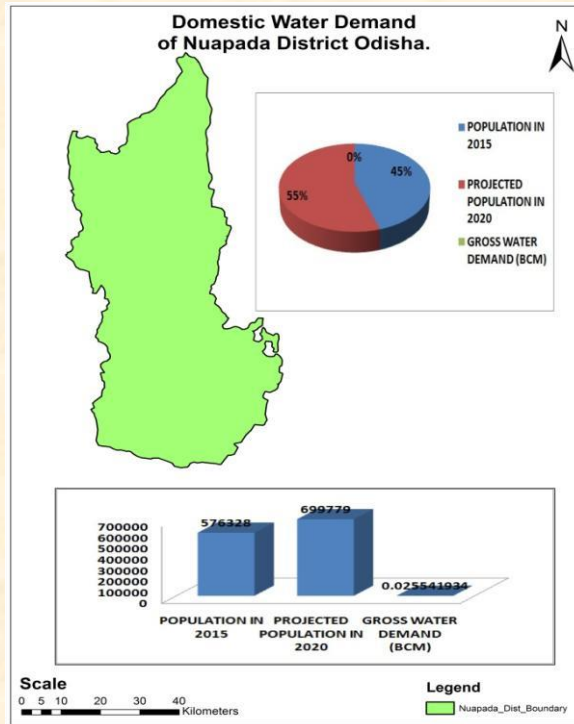
Table: 4.1 -Block Wise - Domestic Water Demand

Block	Population in 2015	Population in 2020	Gross Water Demand (BCM) 2015	Gross Water Demand (BCM) 2020
Nuapada	156194	189651	0.005701081	0.006922
Komna	127206	154454	0.004643019	0.005638
Khariar	111750	135687	0.004078875	0.004953
Boden	76670	93093	0.002798455	0.003398
Sinapali	104508	126894	0.003814542	0.004632

Source: CWC, Department of Water Resources in District and Status Report

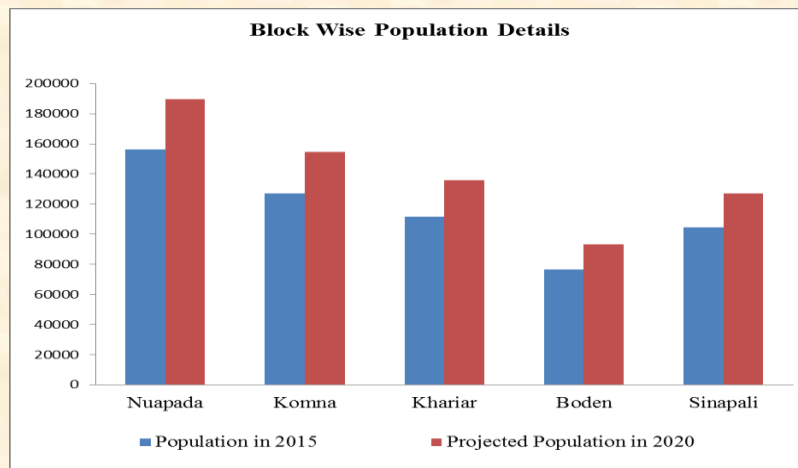
The Nuapada District population in 2015 is 5766328 and the estimated population for the year 2020 is 6631277 , the calculated gross water demand is BCM 0.025541934.

Map 11 - Domestic Water Demand



The figure 4.1 displays the block wise population and estimated population details as per Odisha government statistical report. Among all blocks the Nuapada block estimated population is more than all block estimated population.

Figure 4.1: Block Wise Population and Estimated Population



4.16 Crop Water Demand:

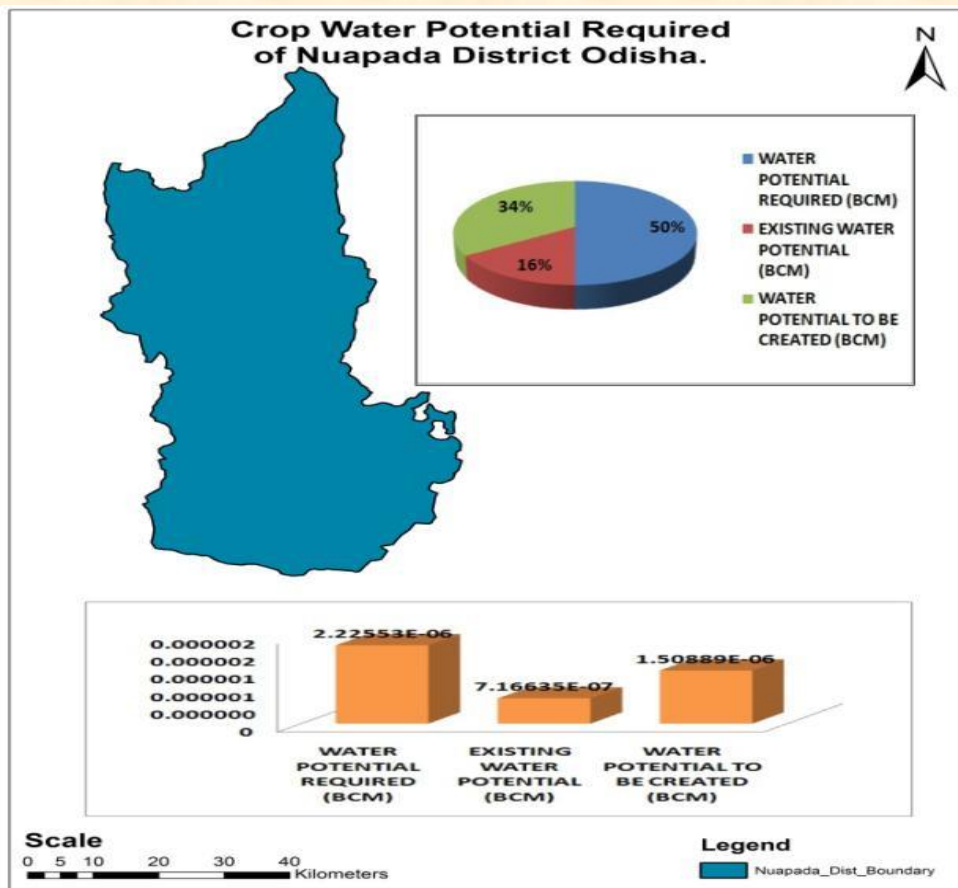
The table 4.2 shows the block wise crop water demand in Nuapada district. In this table Area sown, irrigated area, water potential required (BCM), existing water potential (BCM) and water potential (BCM) to be created is given in the table. The

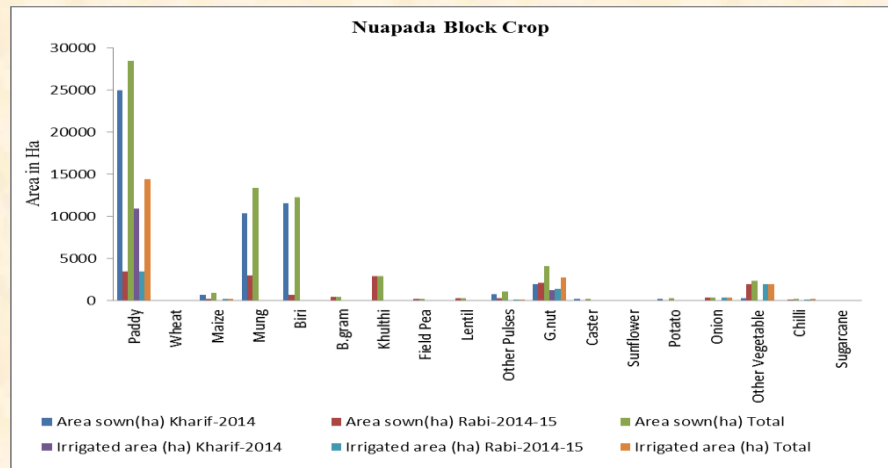
Block Nuapada requires 0.546187 BCM water potential, 0.2202 BCM is the existing water potential and water potential to be created is 0.325987 BCM, 0.370484 BCM is the existing water potential to be created by 2020.

Table: 4.2 - Block Wise - Crop Water Demand

Block	Area sown(ha)			Irrigated area (ha)			Water potential required (BCM)	Existing Water Potential	Water potential to be created	Water potential to be created by 2020
	Kharif-2014	Rabi-2014-15	Total	Kharif-2014	Rabi-2014-15	Total				
Nuapada	51338	16814	68,152	12,341	8,212	20,553	0.546187	0.2202	0.325987	0.370484
Komna	40548	14016	54,564	12,950	4,400	17,350	0.45422	0.182229	0.271991	0.309118
Boden	19789	8869	28658	6151	1307	7458	0.214203	0.076239	0.1379635	0.156796
Khariar	25489	13550	39,039	8,740	3,170	11,910	0.2909975	0.113907	0.1770905	0.201263
Sinapalli	26987	11280	38,267	6,924	2,125	9,049	0.27284	0.090212	0.182628	0.207557
Total	164151	64529	228680	47106	19214	66320	1.778447	0.682787	1.0956595	1.245217

Map 12 -Crop Water Potential Requirement





Source: DIP, Nuapada

Crop water demand in Nuapada district is summarised in the following table. The table explains the crop details, area sown in Kharif & Rabi season, irrigated area of Kharif & Rabi season and crop water demand, water potential required, Existing Water Potential and water potential to be created. The major crops in Nuapada District is Rice, Maize, Jowar, Millets, Pulses, Oil Seeds, Fibre, Vegetables, Cereals, pulses, oil seeds, chilly, garlic, Coriander, and Sugar Cane. The crop water demand is measured as millimetre, meter and the water potential measured as BCM.

Water Budget

The water budget for the district and the blocks includes the existing water availability, which is in turn divided as Surface and Ground water. The present and projected water demand is calculated, similarly the water gap also

16.3 PART-II: LIVELIHOOD RECOVERY PLAN

Considering the poverty profile of Odisha, convergence of different flagship schemes holds great significance in addressing poverty and unemployment. All the major anti-poverty Schemes envisage convergence of some kind. But two of them, critical in the context of poverty reduction, are NRLM and MGNREGS. NRLM needs MGNREGS because of better inclusion of the poorest, strengthening organizations of poor, enhanced livelihood opportunities and bringing the right perspective into intervention. Economic activities taken up by the SHGs often require certain backward linkage. If basic assets for taking up of NRLM can be created under MGNREGS, it might be of help to the groups and their members. In the other side, MGNREGS needs NRLM for stronger access to entitlements, participation of poor women, more effective decentralized planning and execution. The assets created under MGNREGS can be better utilized when there is value addition done by other schemes of Line Departments.

Agri based Livelihood

The majority of works highlighted in MGNREGS guidelines are related to land, water and tree and also it is mandated in the guidelines to take up at least 60 % of works under MGNREGs which are linked to agriculture and agriculture allied activities. Hence the livelihood models described in this guideline are largely on agriculture and agriculture allied activities.

1.1. Agriculture

Study shows that wherever MGNREGS works are being implemented effectively it is generating multiple environmental benefits, leading to improve water availability, soil fertility and increased crop production. The works are also helping reduce soil erosion and increase area under plantations. Hence it is the

top most agenda of the State to devise strategy to improve the agriculture production and productivity. To take up agriculture based livelihoods following processes have to be adhered to;

1. Map the cultivable and the potentially cultivable land in the area through social and resource mapping (through GPDP using IPPE exercise). This exercise will help in identifying the type of lands available in the area like waste land, fallow land etc. These lands may lands owned by individual households or regularised under Forest Rights Act (FRA).
2. The lands need to be shaped and treated under a scientific plan to ensure that there is no waterlogging and there is optimum utilization of available water. This will be done through MGNREGS. This will not only ensure that the beneficiaries get wages but also enables them to develop their own assets, thus triggering further sources of employment.
3. Required topographical survey may be carried out before planning and executing land development works. Land development work should be planned and carried out on watershed approach i.e. ridge to valley approach. In construction of bunds and earthen check dams, earth should be taken from upstream side and at least 3-4 feet away from foot of the bund. If common land is not used for crop then the best way to develop is by constructing contour bunds to conserve rain water and soil which is economical, productive and durable.
4. Without provisioning water sources, the lands will become again unproductive. Hence through MGNREGS percolation tanks, canals, check dam, diversion wire etc. could be taken up in the area. Minor Irrigation department can take up irrigation works. Lift Irrigation can also be taken up by Odisha Lift Irrigation Corporation.
5. The next step is optimum utilization of water by encouraging the use of sprinklers, drip irrigation, plastics mulching for horticulture water conservation etc. which can be provided by Agriculture Department.

6. The individual households whose lands are developed under MGNREGS or other schemes could take up farming practices in the developed lands. The SHGs promoted by NRLM can take up collective farming through taking the land on lease basis. The working capital for farming could come up from NRLM.
7. Loans are available to farmers through several institutions and programmes, such as cooperative banks, lead bank district credit plan, Kisan credit cards (introduced by GoI to provide affordable credit to farmers), Primary Agriculture Credit Societies (PACS) and Large Area Multipurpose Cooperative Societies (LAMPS) for SC/ST farmers. However, there is a need to rationalize their borrowing, both in terms of the extent of finance required and the cost of that loan.
8. Agriculture department has provisions of providing seeds (maize, paddy, black gram etc) to the farmers on subsidy. Agriculture/Cooperation department gives subsidy on fertilizers to the poor farmers. Besides, MGNREGS has recently focussed more on taking up vermi compost and NADEP compost as bio fertilizers. These can also be planned in the area.
9. Activities and funds of several Departments can be converged to ensure good storage facilities. MGNREGS could provide storage centres and food grain storage can also be constructed by Food Supplies and Consumer Welfare Department/ Cooperation Department.
10. NRLM has to take a lead role in providing market related information to the farming communities. The thrust activity of increase in production and crop selection has to include the component of marketing and an investment in building the capacity of farmers to market effectively.

S I	Scheme	Depart ment	Activities	Cost Norms
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1	MGNREGS	PRD	1. Construction of dry fish yard 2. Provision for wage labour for construction of <i>Matsyajibi Basagraha Yojana</i>	1. Rs. 35,000 (Unskilled labour: material cost ratio of 25:75) 2. 90/95 person days per beneficiary
2	Matsyajibi Basagraha Yojana	PRD	Construction of Pucca House	• Pucca house of Rs 70,000/ Rs 75000
3	Infrastructure Support and Marketing Schemes	F & ARD	Godown, ice plant, cold storage, processing centre, water and electricity facilities etc.	• As per norms of the scheme
4	MGNREGS	PRD	Excavation of Multipurpose Farm Ponds	• Rs. 2,50,000 (Unskilled labour: material as per Estimate). The households shall be from the categories specified in Para 5 of the Schedule I of the Act.
5	National Mission for Protein	F & ARD	Renovation of Tank, Subsidy assistance to fish farmers on Pisciculture promotion	• As per provisions of the schemes

	Supplement (NMPS) National Fisheries Development Board assistance (NFDB)		(Feeding, gardening of embankment etc.)	
6	Short Term Credit Scheme	F & ARD	Input Loan (SHG)	<ul style="list-style-type: none"> As per provisions of the schemes
7	Medhabruti Scheme	F & ARD	Scholarship to the children of Matsyajibi who have passed Matriculation	<ul style="list-style-type: none"> As per provisions of the schemes
8	OLM	PRD	Promotion of Producers Groups, Forward and Backward Linkages, bank linkage	As per the approved proposal of OLM

16.3 SKILL DEVELOPMENT PROGRAMME

Without doubt training provides increased employment opportunities. Today, even entry level roles in many industries require base level skill. By completing a training course, employment opportunities become wider. Thus, there is a need for a clear focus on improving the employability of rural youth of the

district as agriculture failed to observe the educated youth which constitutes a major proportion of the district workforce. In view of this, DDMP, 2019-20 identified the following Skill Development Programme which will increase the employability of the district to sustain the livelihood of the rural population.

Sl	Department	Implementing Agency / Directorate	Skill Development Programmes
1	Skill Development & Technical Education (SD&TE)	Odisha State Employment Mission Society (OSEMS)	Placement Linked Skill Training Programme (PLTP)
		Directorate of Technical Education & Training (DTE&T)	MES / Apprenticeship / Craftsmanship
2	Panchayati Raj	Odisha Rural Marketing Society (ORMAS)	Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)
			Rural Self Employment Training Institute (RSETI)
3	ST & SC Development	Odisha Scheduled Caste and Scheduled Tribe Development Finance Co-Operative Corporation Ltd. (OSFDC) / ITDA	Skill Development Training Programme (SDTP)
			Placement Linked Employability Training Programme (PLETP)
4	Housing & Urban Development (H&UD)	State Urban Development Agency (SUDA) / National Urban Livelihoods Mission (NULM)	Employment through Skill Training and Placement (ESTP) under NLUM

Sl	Department	Implementing Agency / Directorate	Skill Development Programmes
5	Agriculture	Directorate of Institute on Management of Agricultural Extension (IMAGE)	Skill Development Training Programme (SDTP) for the Youth of watershed area
			Skill Development Training Programme (SDTP) under Modular Employable Skill
		National Horticulture Mission (NHM)	Skill Development Training Programme (SDTP) in Horticulture Sector
6	Handlooms, Textiles & Handicrafts (HT&H)	Directorate of Textiles & Handlooms (DT&H)	Integrated Skill Development Scheme (ISDS)
			Skill Upgradation Training (SUT)
		Directorate of Handicrafts	Crafts Village Programme (CVP)
			Master Craftsman Training (MCT)
	Crafts Design, Development Training (CDDT)		
7	Transport	Government Driving Training School (GDTS)	Light Motor Vehicle Training

Sl	Department	Implementing Agency / Directorate	Skill Development Programmes
8	Fisheries & Animal Resources Development (FARD)	Directorate of Fisheries	Training on Fresh Water, Marine Fishery & Brackish Waters
9	Tourism	Tourism Department	Hunar Se Rozgar Tak (HSRT)
		Indian Institute of Tourism and Travel Management (IITTM)	Skill Development Training Programme (SDTP)
		State Institute of Hotel Management (SIHM)	Skill Development Training Programme (SDTP)
10	Electronics & Information Technology (E & IT)	Information and Technology Department (ITD)	Skill Development in ESDM for Digital India
11	MSME	Development Commissioner MSME	Entrepreneurship Development Programme (EDP)
		Development Commissioner MSME	Entrepreneurship Skill Development Programme (ESDP)

To meet the above water demand numbers of projects have been taken up and successfully completed under state plan and centrally sponsored programme (AMRUT, JnNURM, UIDSSMT) and Deposit works. But Litres per Capita per Day

(lpcd) of the district in urban areas is significantly high. Hence, Public Health Engineering Organisation, H&UD Department, Govt. of Odisha has identified following projects to meet the drinking water demand in ULBs of the district.

Plan for Rural Area

The availability of safe drinking water is an important aspect in the health and wellbeing of the people of the district. The importance drinking water for individual's survival, reducing illness, enhancing economic growth and improving peoples' quality of life has acquired prominence in the process of the development agenda in recent years. RWS&S district wings primarily aims at providing safe drinking water to the rural people of the district. Hence it is decided that desired goal can be achieved by providing water to rural habitations through tube wells and sanitary wells and Piped Water Supply (PWS).

Chapter 17 - Financial Arrangement

17.1 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 ad 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 form NDRF.
- This is, however, subject to the adjustment of 75% of the balance available in the State's SDRF for the instant Calamity.

17.2 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.

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 annexure 21 for SDRF and NDRF Items and Norms)

17.3 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.

Cases Eligible for Assistance under CMRF

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

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.

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.

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.

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.

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 Odisha 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 Odisha Relief Code.

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.

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.

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.

Table__ : Different State and Central Government Schemes and Programms

SI No .	Name of the Scheme	Sector	Nodal Department	Objective of the Scheme
1	National Agriculture Insurance Scheme (NAIS)/ Rastriya Krishi Bima	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, hailst

	Yojna (RKBY)			orm, 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	Pradhan Mantri Jeevan Jyoti Bima Yojna	Life Insurance		life insurance cover for death due to any reason
4	Pradhan Mantri Surkhya Bima Yojna	Life Insurance		Accidental insurance for death/full disability or partial disability
5	Postal Life Insurance (PLI) and Rural Postal Life Insurance (RPLI)	Life Insurance	Postal	life insurance under a number of schemes for employees in government, public sector banks and government-aided education institutions

6	Pradhan Mantri Fasal Bima Yojana (PMFBY)	Crop Insurance	Agriculture	Insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests and diseases.
7	Rashtriya Krishi Bima Yojana	Health Insurance	Agriculture	Crop insurance
8	Biju Krushaka Kalyan Yojana (BKKY)	Health Insurance	Health	financial support through health and accident insurance
9	Mahatma Gandhi Bunakar Bima Yojana	Accidental Insurance	Handloom and Textile	Insurance for accidental death and disabilities
10	Accident Insurance Scheme	Accident Insurance	Fishery	Assistant to fishermen towards hospitalization expenses during serious disease
11	Disease Control Programme			Protective vaccination for various diseases to livestock and treatment of animals

12	Mahatma Gandhi National Employment Guarantee scheme	Mitigation measures	PR Dept., Govt. of India	Utilisation of MGNREGS funds to reduce the vulnerability of Panchayat vis a vis natural hazards such as drought, forest fire, cloud floods, etc
13	Pradhan Mantri Gram Sadak Yojana	Roads	Rural Works	To ensure that in case of disasters these roads get provision for restoration to ensure all weather connectivity
14	Indira Awas Yojana	Housing	Rural Development/ Panchayati Raj	To promote measures like application of Hazard resistant design in construction of IAY houses, appropriate sitting of IAY housing. Besides, fire proof houses to fire victim for special allocation quota.
15	SSA/RMSA/ RUSA	Education	Human Resource Development	To induce institutional safety plan and development of Policy paper of institutional

				safety at various level of education.
16	National Rural Health Mission	Health	Health and Family Welfare	To ensure that the village Health Plan and the District health plan explicitly address the disaster risk reduction concerns in the vulnerable habitations and the vulnerable districts and the disaster management plan as per DM Act 2005 takes links itself to the District and village Health plans.
17	Finance Commission Grant	Infrastructure Development	PR Dept.	10% of the fund will be dedicated to disaster related projects

17.4 Roles of District Planning committee on financial outlay on mainstreaming Disaster Risk Reduction (DRR) in development programmes.

The 73rd and 74th amendments of the Constitution provided an impetus to the process of decentralized planning having mandated devolution of powers to Panchayati Raj Institutions (PRIs) at village, block and district levels. Article 243ZD of the Constitution mandated the setting up of District

Planning Committees (DPCs) for consolidating plans prepared by Panchayats and Municipalities in the district into District Plans. In view of this, Government of Odisha has ensured the formation of DPCs through the Odisha District Planning Committee Act, 1998 and subsequent Odisha District Planning Committee Rules, 2000 which have been enacted for effective planning process at the district level. Subsequently, DPMU, Nuapada have been set up in the district for preparing the Comprehensive District Plans as per the Department Letter No.12774/dated.03.11.2015 of Planning and Coordination Department, Govt. of Odisha. The vision documents 2022-23 of Nuapada stressed upon interventions to mitigate the critical risks. Further, under Section 38 (2) (e) of the DM Act, the State Government is to ensure that the integration of measures for prevention of disaster or mitigation have been incorporated by the departments of the Government of the State in their development plans and projects.

In this backdrop, the DDMP, 2022-23 focused on mainstreaming Disaster Risk Reduction (DRR) in development programmes.

Fund provision for disaster preparedness & capacity building

Thought the district does not have separate capacity building funds provisions to face various types of disaster, but training programmes have been conducted for government personnel and community during drought, flood and heat waves by various departments as per the need of the districts and instructions communicated by the Govt. from time to time. Agriculture, Horticulture, ARD, Forest and PR departments organizes training in drought like situation. To tackle heat wave condition department like Health, PR, RWSS and PHED, H&UD, Veterinary and forest organizes training programmes to minimize the effects of heat waves and causality. Funds of the existing programme (funds allocated under CB components or contingency funds) have been used for this purpose.

Chapter 18 - Preparation and Implementation of DDMP

18.1 Methodology

Nuapada district followed the following process in preparation of DDMP, 2022-23.

Steps	What has done	Who were involved	Methodology
I	Review of DDMP and District Gazetteer	<ul style="list-style-type: none"> •Collector, ADM, Emergency Officer •DPO •Selected district level official 	<ul style="list-style-type: none"> • Past history of disasters to be discussed and documented • Extent of severity and damage to be recorded • The nature of the Warning issued to be analysed • The nature and extent of the rescue and restoration done, to be revisited
II	Situation Analysis	District and Block level officials	<ul style="list-style-type: none"> • Mapping the geography and topography of the risk prone areas, block-wise, GP-wise and village-wise • Demographic details to be recorded • Mapping of the habitation in the concerned areas • The natural resources to be marked on the maps

			<ul style="list-style-type: none"> • Listing all the livelihoods and properties • The existing risk prone/ safe infrastructure to be marked on the map
III	Hazard Analysis	District and Block level officials	<ul style="list-style-type: none"> • Identification of all possible hazards in the area based on past experience and available records • Identification of the most vulnerable areas with relation to threat to life, livelihoods and property
IV	Vulnerability Assessment	District and Block level officials	<ul style="list-style-type: none"> • Locations of the vulnerable areas are to be mapped separately • Identification of the vulnerable people such as, the elderly, the disabled, children and pregnant women, families living in thatched houses, fishermen at sea (if any), ailing people, etc. • Identification of property or assets which are likely to be affected, such as, cattle and other livestock, kachcha houses, weak structures,

			<p>pump sets, tube wells and other installations, crops, horticulture and plantations, boats, nets, etc.</p> <ul style="list-style-type: none"> • Identification of weak points on embankments (if any) • Marking the drainage system in the concerned area
V	Opportunity Analysis	District and Block level officials	<ul style="list-style-type: none"> • Identification of the existing resources which may help to reduce risks to life and property • Identification of the safe houses and buildings for shelter and storage • Listing the existing flood/cyclone shelters, if any • Identification of the elevated and up-lands which can act as natural barriers to protect livestock • Listing of the existing health and sanitation facilities • Identification of safe routes for evacuation • Identification of the sources of funds to carry out the preparedness activities

18.2 Roles of ADM, DEO and Nodal Officers support from other line Departments

1	Collector/ADM	Issue of necessary directives to the line department. Provided critical inputs to the DDMP compilation team
2	DEO/DPO	Desk Review of DDMPs, decisions of DDMA, DLNCC of previous years, District gazetteer, Contingency Plan of the departments Coordinated line department officials to provide information in time Consulted head of the departments for improvisation of DDMP, 2017.
3	Heads of Line Departments	Hazard, Vulnerability and capacity analysis of the district Provided necessary information and data. Review the proposed DDMP, 2017 Extended necessary supports and feedback for improvisation of DDMP, 2017.

18.3 Time lines for updating DDMP

Sl No.	Activities to be done	Timeline
1	Consultation with line department officials and important stakeholders at district level	1st week of January
2	Submission of base line data by all line departments	3rd week of January
3	Compilation of information's and preparation DDMP. Sharing of draft with Chairperson, members of DDMA and other stakeholders	1st week of February
4	Necessary modification and finalization	2nd week of February
5	Placing the final copy before DDMA, finalization and submission of a copy to SDMA	Last week of February
6	Approval by SDMA	By March

18.4 Details of number of consultation and meetings, discussion with stakeholders

Rounds of discussion were held with the heads of the departments to prepare the DDMP for 2019-20. Inputs received from all quarters were taken care and a draft plan was prepared. The drafted plan was shared with the departments for review and provides their critical input for improvisation of the DDMP, 2022-23.

18.5 Implementation of DDMP, 2022-23

Efforts have been made to make the DDMP, 2022-23 useful and practicable which can be used by various departments to tackle the various types of disasters effectively to minimise the potential loss. Implementation of the DDMP, 2022-23 will govern by the SoP of the concerned departments and instructions issued by the Government from time to time.

Chapter – 19 Lessons learnt and Documentation

There have been multiple damaging events in the past, as show in the database, but drought and heat waves are two important region specific disasters and most of the population is aware of the existence of past events. The following section described the past experiences of the district in managing drought and heat waves in the district.

15.1 DROUGHT, 2015

The district has experienced 8 major droughts during the last 20 years. The 2015 drought, one of the severest in the district that affected 56 per cent of its geographical area, 36% of the total cultivable land and the livelihoods of 16 lakhs people and 5 lakhs cattle in the district. The district took proactive steps by forming teams comprising of field level officials of Revenue, Agriculture, Cooperation and Water Resources Departments and conducted sensitization and counselling camps at Gram Panchayat and village level in areas experiencing moisture stress. The district has created large water tanks through MGNREGA in every affected Gram Panchayat, wherever feasible. Large scale development of private lands of the affected farmers were taken up as a component under MGNREGS as an additional relief measure. Strict mechanism was established to monitor the money lending activities in rain deficit areas. Moreover, collective efforts were made to ensure assistance to the farmers as per the announcement made in the Drought Package declared by the Government on 15.10.2015.
