

2017

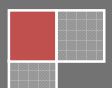
District Disaster Management Plan 2017-18

PURI, ODISHA

Volume- I

**Volume I accessible from
<http://puri.nic.in/>**

District Disaster Management Authority (DDMA)
Puri, Odisha



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Puri District, Odisha



PREFACE

Natural disaster or calamity brings widespread damage to the property and lives of vulnerable people. The District Disaster Management Plan intends to mitigate the impact of such disasters be it floods, cyclone, earthquake or drought etc. Undeniably poverty in rural areas is directly proportional to the damage due to its impact. The responsibility of District Administration becomes manifold to prepare them for mitigation. It includes relief, rehabilitation and preventive measures to lessen the impact. Puri district being a coastal district is vulnerable to all such calamities.

A treatise on such management has been attempted taking all things into consideration and obtaining valuable feedbacks and past experiences of all the stakeholders and line departments. I would like to thank all of them for their active involvement in the exercise. Further I hope that this referral book will be of great help to all concerned related to disaster management. The role & active co-operation of PRI members and People's Representatives during disaster management are undoubtedly laudable in the past.

This endeavour will go a long way to guide them in managing the disasters in saving loss to life and property of the vulnerable people whose coping mechanism to fight the impact of disasters are not adequate due to various socio-economic reasons and locational disadvantage.

Further, I would like to congratulate and thank Odisha State Disaster Management Authority (OSDMA) for providing the technical inputs in shaping up the District Disaster Management Plan and the efforts of DEOC, Puri for the preparation of DDMP, Puri 2017-18.

We must remain committed and work together to ease the sufferings of mostly vulnerable people during disasters.

Collector & District Magistrate,
Puri

Abbreviation

ADM	:	Additional District Magistrate
AWC	:	Anganwadi Centre
BDO	:	Block Development officer
BCR	:	Block Control Room
CCA	:	Climate Change Adaptation
CDMO	:	Chief District Medical Officer
CDPO	:	Child Development Project Officer
CDVO	:	Chief District Veterinary Officer
CMRF	:	Chief Ministers Relief Fund
DC	:	District Collector
DCR	:	District Control Room
DDMA	:	District Disaster Management Authority
DDMP	:	District Disaster Management Plan
DDM	:	District Disaster Manager
DEOC	:	District Emergency Operation Centre
DRDA	:	District Rural Development Agency
DSWO	:	District Social Welfare Officer
DRR	:	Disaster Risk Reduction
GoI	:	Government of India
GP	:	Gram Panchayat
HRVA	:	Hazard Risk and Vulnerability Assessment
IAY	:	Indira AawasYojana
MO	:	Medical Officer
NGO	:	Non-granted Organisation
OSDMA	:	Odisha State Disaster Management Authority
OIC	:	Officer In charge
PDS	:	Public Distribution System
PHC	:	Primary Health Centre
PWD	:	Public Works Department
RD	:	Route Distance
SP	:	Superintendent of Police
VSO	:	Veterinary Stock officer
W&CD	:	Women & Child Development
UNDP	:	United Nations Development Programme
NIDM	:	National Institute of Disaster Management
CDKN	:	Climate & Development Knowledge Network
GEAG	:	Gorakhpur Environmental Action Group
ISET	:	Institute for Social and Environmental Transitions
SLD	:	Shared Learning Dialogue

Chapter – 1: Introduction

Necessity of the Plan:

Basing on the past experiences to combat natural disasters such as flood and cyclone that has ravaged densely populated areas of Puri district, followed by the spread of epidemics and allied diseases, the follow up actions taken thereby and the lessons learnt from it, the rationale of an effective and realistic District Disaster Management Plan was felt. A comprehensive DDMP will strengthen the efforts of the District Administration.

The District Disaster Management Plan has a multi hazard approach and incorporates various actions, which will promote a culture of preparedness. Trigger mechanism is an emergency quick response mechanism, which would spontaneously set in motion all disaster management activities for response and recovery without loss of critical time. The aim of the Plan will be – fool proof communication, authentic and accurate database, documented and rehearsed, to be activated in the shortest possible time with minimum simple orders and procedures ensuring active participation by Government, Community and volunteers at all levels, making optimal utilization of men, material and resources with no gaps or no overlaps to prevent loss to lives and minimize loss to property ensuring fastest restoration of the situation.

Changing Disaster Profile and Lesson Learnt:

DISASTER – “A serious disruption of the functioning of a society, causing widespread life, property or environmental losses, which exceed the ability of the affected society to cope using its own resources”.

Basing on the disasters experienced by the district in the last 15 years, probability of flood ranks first. Accordingly the occurrence of other disasters such as cyclone, fire accident, drought, epidemic and earthquake rank as orderly mentioned.

Disaster	<i>Year</i>
Flood	1956, 1959, 1969, 1970, 1986, 1987, 1988,1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2001, 2003, 2005, 2006,2008,2011 and 2014
Cyclone	1967, 1968, 1970, 1971, 1972, 1973, 1999, 2013 and 2014
Fire Accidents	Every year in summer and winter.
Drought	1956, 1970, 2000, 2002, 2010 and 2015.
Epidemic	During cyclone & floods.
Earthquake	2013.

Types of Disasters experienced in the Puri District:

Common Disasters
Flood
Cyclone
Drought
Earthquake
Tsunami
Fire Accident
Heat Wave

Frequency of climate induced disasters is increasing every year. The District Disaster Management Plan tries to encompass the Climate Change Action Plan. The lesson learnt from the management past disasters basically pertaining to Planning, Preparedness and Prevention activities are included in the District Disaster Management Plan.

Under the DM Act 2005, it is 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. These processes are to be incorporated in the developmental plans of the different departments and preparedness 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.

Section 31 of Disaster Management Act 2005 (DM Act) makes it mandatory to have a disaster management plan for every district. DDMP shall include Hazard Vulnerability Capacity and Risk Assessment (HVCRA), prevention, mitigation, preparedness measures, response plan and procedures.

1.1 Aims and Objectives of the DDMP:

The objective of the District Disaster Management Plan is to ensure prevention, response and recovery to facilitate planning, preparedness, operational coordination and community participation in the shortest possible time.

- I. To identify the areas vulnerable to major types of the hazards in the district.
- II. To adopt proactive measures at district level by all the govt. departments to prevent disaster and mitigate its effects.
- III. To define and assign the different tasks and responsibilities to stakeholders during the pre-disaster and post-disaster phases of the disaster.
- IV. To enhance disaster resilience of the people in the district by way of capacity building.
- V. Reduce the loss of public and private property, especially critical facilities and infrastructure, through proper planning.
- VI. Manage future development to mitigate the effect of natural hazards in the district.
- VII. To develop the standardized mechanism to respond to disaster situation to manage the disaster efficiently.
- VIII. 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.

- IX. 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.
- X. To make the use of media in disaster management.
- XI. Rehabilitation plan of the affected people and reconstruction measures to be taken by different govt. departments at district level and local authority.

The District Disaster Management Plan (DDMP) is the guide for achieving the objective i.e. mitigation, preparedness, response and recovery. This Plan needs to be prepared to respond to disasters with sense of urgency in a planned way to minimize human, property and environmental loss.

Perspective & Strategy:

A formal plan for managing disaster would include:

- ❖ Pre planning a proper sequence of response actions.
- ❖ Allocation of responsibilities to the participating agencies.
- ❖ Developing codes and standard operating procedures for various departments and relief agencies involved.
- ❖ Inventory of existing facilities and resources.
- ❖ Mechanism for effective management of resources.
- ❖ Coordination of all relief activities including those of NGOs to ensure a coordinated and effective response.
- ❖ Coordinating with the State response machinery for appropriate support.
- ❖ Testing the plan including mock drills.
- ❖ Defining levels of acceptable risk.
- ❖ Monitoring and evaluation of actions taken during relief and rehabilitation

Responsibility of the Preparation of the Plan:

The Disaster Management Plans have been formulated starting from the village level up to the district level. The plan clearly indicates the role and responsibility of each team member. The Collector in the District level, Sub-Collector in the Sub-Divisional level and the BDO in the Block level will be chief of the team. The Sarpanch plays the key role in GP level and the Community with guidance of Village Disaster Management Committee to carry out this plan in the village level. Civil Society Organisations also have a vital role during the implementation of this plan in the ground level.

The Codal provision of District Disaster Management Act 2005 Para 30-Formation of District Disaster Management Authority, Para 31-There shall be plan for Disaster Management of every district in the State. DDMA will prepare the District Plan in consultation with the local authorities. The Committee also takes stock of the arrangements, monitors preparedness and suggests improvements in response mechanism and develops a document for effective management of Disasters in the District.

1.2 Preparation and Approval of DDMP:

As defined in Section 30 of DM Act 2005, DDMA shall act 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 National Authority and the State Authority.

The district Collector was discussed the modalities and seek views for preparation of a holistic plan in the meeting of the DDMA held in the month of January and to prepare the plan by the end of February every year.

After finalisation the District Authority will send a copy of the District DM plan to the State Disaster Management Authority for approval. The District Disaster Management Plan should be reviewed and updated annually.

1.3 Evolution of DDMP in brief: Evolution, Procedure and Methodology to be followed for preparation of DDMP

1.3.1 Evolution of DDMP

District Disaster Management Authority (DDMA) has been preparing the DDMP every year since 2010 with the support of OSDMA under UNDP programme to tackle the various types of disaster in the district. District Emergency Operation Centre (DEOC), Puri 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 viz. Volume I which contains the DDMP and Volume II covered relevant statistical figures and annexure. The DDMP, 2017 includes the database of India Disaster Resource Network and mainstreaming DRR-CCA into developmental programme.

Adhering to the current scenario, Puri district prepares DDMP, 2017-18 as provisioned under Section 31 of Disaster Management Act 2005.

1.3.2 Procedure and Methodology

Preparation of a multifaceted plan document is neither possible with a single agency nor an individual. The district has been taken various measures to prepare this document and make it as perfect as possible. The major steps involved in preparing the plan document include the following steps.

The district followed a comprehensive process to prepare the DDMP, 2017-18. The district level meeting on preparation of DDMP under chairmanship of Collector, Puri was conveyed on 16.3.2017 at Sadbhavana Sabha Gruha at 3.00 PM on proposed methodology suggested by OSDMA and role of various stakeholders at district, block and village level. Prior to the meeting prescribed formats were shared with the line department official to submit the information vide letter No. 431/Emer dated 16/3/2017.

Besides, the district adopted followed key processes like Review, Situation Analysis Hazard Analysis, Vulnerability Assessment and Opportunity Analysis. Detailed processed with team entrusted for each processes.

1.3.3 Review, Finalization and Approval

The information submitted to all concerned was compiled and report was drafted by DEOC, Puri under the close supervision of Addl. District Magistrate. 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 was shared with the members of District Disaster Management Authority (DDMA), Puri. The DDMP, 2017 was finally approved by DDMA on 25.04.2017.

1.4 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. Framing of a Comprehensive District Disaster Management Plan to combat the effects of disasters and minimize loss of life and property. The role and responsibilities of different stakeholders involved in disaster management such as Government officials, Public, NGO sector, Civil Defence, Interest groups, CBOs, and the community in disaster mitigation during different stages of disaster are included in the Plan.

Pre Disaster Period (Preparedness)

1. Formation of District Disaster Management Committee.
2. Formation of District Disaster Management Plan for the running year.
3. Hazard Analysis & Resource Inventory.
4. Allocation of responsibilities to the individual actors/ Groups/ Institutions/ Organizations.

5. Broadly defining the responsibilities and operational jurisdiction.
6. IEC Programme
7. Training and capacity building.
8. Logistic arrangement – Cyclone/ Flood shelters, Food items like Rice, Chuda & Guda, Drinking water, Medical facilities, clothing, other essential commodities, communication network like wireless system etc.

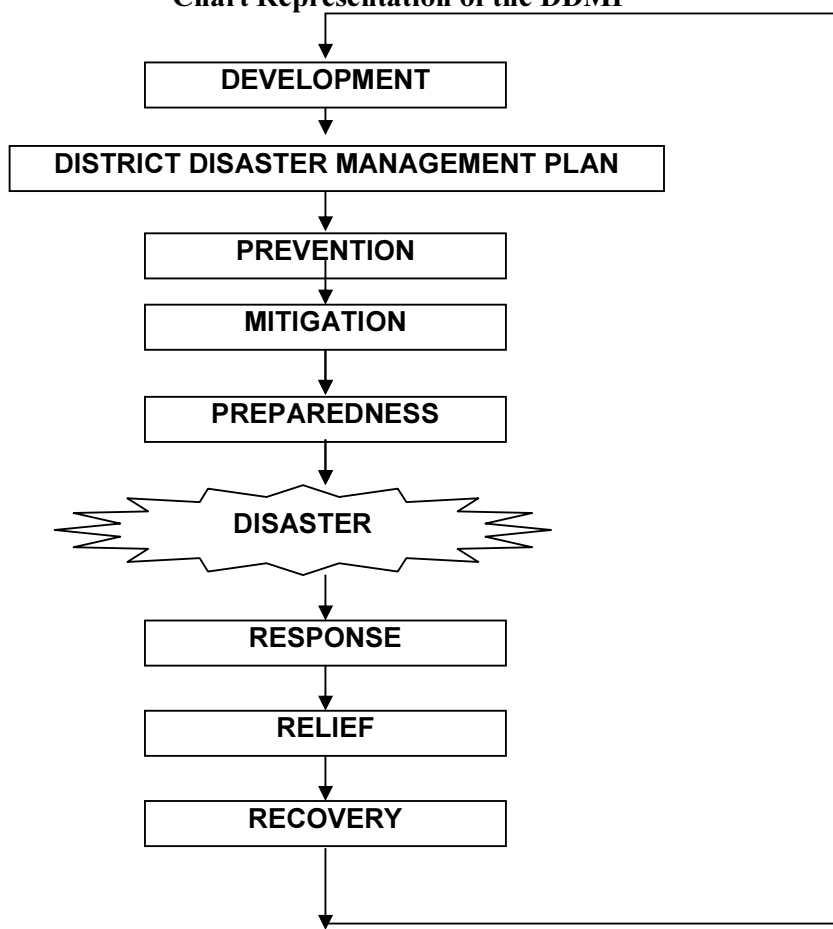
During Disasters

1. Functioning of District Control Room & other Block/ Tahasil/ Line Departmental Control Rooms.
2. Dissemination of warning/ information.
3. Coordination meeting with officials at District Control Room in each 12 hours interval to take stock of the situation.
4. Alert Line Deptt. And support functionaries.
5. Immediate freezing of reasonable POL stock with different Petrol Pumps.
6. Rescue Operation / Evacuation teams (already identified) providing infrastructure facility and movement to rescue centres.
7. Management of Rescue shelters.
8. Administration of Relief.
9. Preparation of the Daily situation report.
10. Daily stock of the situation by District Magistrate and Addl. District Magistrate.

Post Disaster

1. Assessment & enumeration of damage.
2. Distribution of Relief/ Emergent Relief as per the provisions of ORC.
3. Monitoring Relief Operation organized by outside agencies/ UN Agencies/ Red Cross/ NGOs/ PSUs other states etc through District Administration.
4. Restoration of Communication – Roads & Railways.
5. Restoration of Electronic communication system.
6. Immediate arrangement of free kitchen in the cut off/ shelter camps and inaccessible areas.
7. Ensuring transportation of Relief Materials to affected pockets.
8. Ensuring safeguarding of belongings of the evacuees.
9. Maintenance of Law & Order.
10. Ensuring safe availability of Drinking water.
11. Provision of Medical facilities and Minimum sanitation.
12. Removal of debris and disposal of carcasses.
13. Helping the evacuees to return to their homes.
14. Special care to children, Lactating Mothers, Old & infirm.
15. Documentation of the entire events.
16. Keeping liaison with field and state Govt. & interaction.

Chart Representation of the DDMP



The District Collector has the following duties:

- i. To facilitate and coordinate with local Government bodies to ensure that pre and post disaster management activities in the district are carried out.
- ii. To assist community training, awareness programmes and the installation of emergency facilities with the support of local administration, non-governmental organizations and the private sector.
- iii. To function as a leader of the team and take appropriate actions to smoothen the response and relief activities to minimize the adverse impact of disaster.
- iv. To recommend the Special Relief Commissioner and State Government for declaration of disaster.

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 resource,
 - 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:

- i. 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.
- ii. They should adhere to the relevant rules regarding prevention of disasters, as may be stipulated by relevant local authorities.
- iii. As a part of CSR, undertake DRR projects in consultation with district collector for enhancing district's resilience.

Community Groups and Volunteer Agencies:

- i. 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.
- ii. 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.

1.5 Plan for review and updating: Periodicity

- Dissemination of the plan.

-Revise and Maintain - Planning teams should establish a process for reviewing and revising the plan. Reviews should be a recurring activity. Review on an annual basis is considered minimum. It should be mandatory to consider reviewing and updating the plan after the following events:

- i. A major incident.
- ii. A change in operational resources (e.g., policy, personnel, organizational structures, Management processes, facilities, equipment).
- iii. A formal update of planning guidance or standards.
- iv. Major exercises.
- v. A change in the district's demographics or hazard or threat profile.
- vi. The enactment of new or amended laws or ordinances.

The responsibility for the coordination of the development and revision of the basic plan, annexes, appendices and implementing instructions must be assigned to the appropriate person(s).

It is recommended that a DDMP be internally reviewed on a yearly basis and either be updated or reaffirmed. The updates or reaffirmed document may also be used to summarize the accomplishments of the past year and help the administration to prioritize mitigation goals for the next year.

Website Address

- www.metocph.nmci.navy.mil for US NAVY WEBSITE
- www.imd.gov.in for Indian Meteorological Department WEBSITE
- www.cnn.com/weather for CNN WEBSITE
- www.bbc.co.uk/weather for BBC WEBSITE
- www.weather.co.uk for Sify website to get the local weather report
- www.ori.nic.in for NIC, Websites of Orissa

Chapter-2 District Profile

2.1 History & Location:

The District of Puri has been named after its head quarters, Puri. According to Cunningham, the ancient name of this town was Charitra, mentioned by the Chinese pilgrim Hiuen Tsang as Che-li-ta-lo. But the restoration of the word Che-li-ta-lo as Charitra and its identification with the town of Puri are open to doubt. The importance of the town as a seat of Vaisnavism increased when Chodaganga Deva constructed the temple of Purusottama Jagannath and installed the images of the deities. Thereafter, it became famous as the abode of Purusottama and was popularly called Purusottama Kshetra.

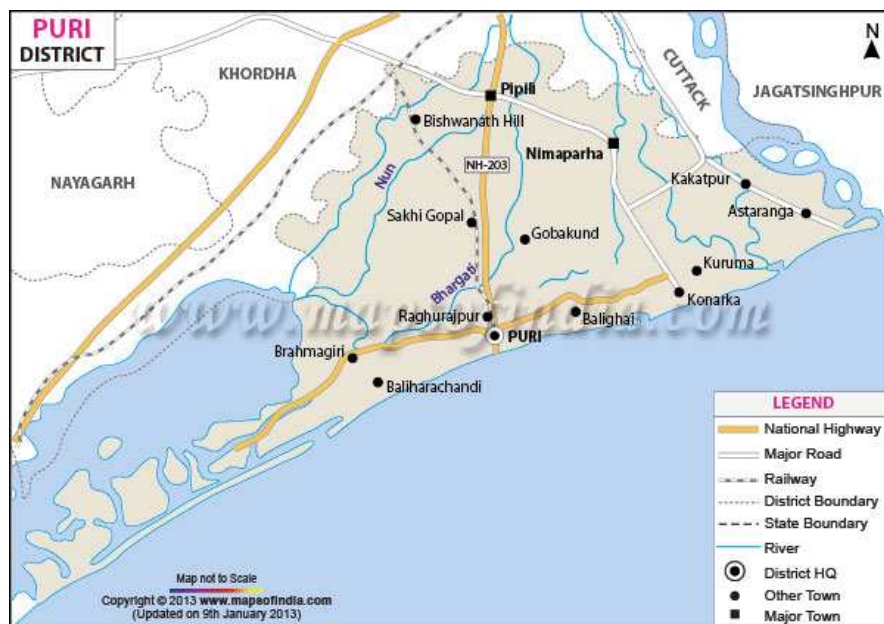
Purusottama name was applied to this town from the drama Anargharaghava Natakam attributed to cir. 9th century A.D. In the Nagari Plate of Anangabhim III of the Saka year 1151-52, i.e., 1229-30 A.D., the place is called Purusottama Kshetra. This name in the form of Purusottama Chhatra or only in the form Chhatra was used by the Mughals, the Marathas as well as the early British rulers in their official records. Even in Yoginitantra and Kalikapurana, the city is referred to as Purusottam. Puri region was also known as Utkal.

The name Purusottama Kshetra was also for sometime known as Purusottama Puri and as the word Purusottama Kshetra was contracted into Kshetra or Chhatra, so also Purusottama Puri was expressed in the contracted form, Puri. In fact, in many early British records this town is known by the name "Pooree". In modern times, Puri has become the most popular name amongst all other names of this town.

In 1912, the new province of Bihar and Odisha was formed and subsequently Odisha became a separate province in 1936. After integration with Odisha on 1st January 1948, of the feudatory states of Nayagarh, Daspalla, Khandapara and Ranapur with a total area of 3941 sq. km., a separate sub-division comprising these ex-states was added to Puri District with its headquarters at Nayagarh. The fourth sub-division of Bhubaneswar was established on 26th January 1959. The old Puri District consisted of four sub-divisions i.e. Puri Sadar, Khurda, Bhubaneswar and Nayagarh. Puri Sadar sub-division consisted of four Tahasils i.e. 1) Krushna Prasad 2) Sadar 3) Pipili and 4) Nimapara. Again by the year 1995, Puri District was divided into 3 Districts i.e.

1. Nayagarh District comprising of Nayagarh sub-division.
2. Khurda District comprising of Khurda and Bhubaneswar sub-divisions.
3. Puri District comprising of Puri Sadar sub-division only.

1. District at a glance:



2.2 Administrative Setup:

Brief outline of administrative set up.

1.	District Head Quarters	1
2.	Sub-division	1
3.	Municipality	1
4.	N.A.C	3
5.	Block	11
6.	Tahasils	11
7.	Gram Panchayat	268
8.	Revenue Village	1714
9.	Police Station	28
10.	Assembly Constituency	6
11.	Parliamentary Constituency	2

The district ranks 20th among all the 30 districts of the state in terms of area which is 2.33% of the total area of the state. Geo-physically the district is situated in coastal plain. It has more than 150 Km large coast line with plenty of aquatic and marine resources. Distributaries of river Mahanadi like Daya

and Bhargabi is flowing through the district. Which produces large area of river bank and alluvial plain. So the district is rich in agrarian product such as rice, black gram, groundnut, vegetables, etc. It has the Chilika Lake, the largest brackish water lakes in India that holds a picturesque sea-scape beauty. It offers an ideal resort for birds that migrate from different parts of the continent. By virtue of its geographical location, the climate of Puri is equable throughout the year. It holds a wealth of attractions for visitors.

2.3 Climate & Rain fall:

Being on the coast of the Bay of Bengal the district of Puri enjoys the cool breeze flowing from the Bay of Bengal which makes the hot and tropical weather of Puri during the summers tolerable in compare to the places of interior Odisha. The weather here remains humid in summers which is said to be between the months of March and June. In the months of July to August the temperature remains modest and the months between October and January are said to be winter season. During the month of June Puri witnesses the south west monsoon and the temperatures tends to fall to around 28° C up to the month of October. On an average, there were 62 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies from 66 at Pipli to 50 at Krushnaprasad. Puri witnesses the winters from November, when the temperatures starts decreasing and reaches at an average of 16° C in the month of December and January. The Cold winds blow from the North East that tends to keep the temperatures comparatively low regardless of the dazzling sunshine.

2.3.1 Temperature

The period from March to June is one of continuous increase of temperature and May and June are the hottest months. The mean daily maximum temperature in June is about 33⁰ C and mean daily minimum temperature is about 27⁰ C. On individual days, the maximum temperature sometimes reach above 44⁰C. During the monsoon season, the temperatures remain almost steady, the mean daily maximum temperature in the range of 31-32⁰C and the mean daily minimum temperature in the range of 26-27⁰C. With the withdrawal of the monsoon towards the end of September, the district experiences a slight increase in the day temperatures. From October, temperatures begin to decrease gradually till January, which is the coldest month with the mean daily maximum temperature at about 27⁰C and the mean daily minimum temperature at about 18⁰C. The highest maximum temperature ever recorded at Puri was 44.2⁰C on 12th June 1965 and the lowest minimum temperature ever recorded was 8.6⁰C on 27th December 1968.

2.3.2 Humidity

Relative humidifies are generally high throughout the year in the coastal areas but in the interior of the district they are slightly lower especially in the non-monsoon months.

2.3.3 Cloudiness

Skies are clear or lightly clouded in the cold season. In the summer months clouding is moderate. Heavily clouded to over-cast skies prevail during the monsoon season and clouding decreases thereafter.

2.3.4 Wind

Winds are fairly strong particularly in the coastal regions in the summer and monsoon months. The wind speeds are less in the post-monsoon months and the cold season. In the post-monsoon and the cold seasons winds blow from a northerly or north-easterly direction in the mornings and veer to a southerly or south-easterly direction in the afternoons. In the summer and monsoon month's winds are mainly south-westerly or southerly, the afternoon winds being more southerly than in the mornings.

(Normal Rainfall of Puri District – 1424.3mm)

Sl. No.	Month	Actual Rainfall (in mm)							
		2010	2011	2012	2013	2014	2015	2016	2017
1	January	0	0	0	0	0	55.27	20.32	0
2	February	2.59	1.36	0	0.75	3.73	3.36	0.09	0
3	March	0	0	0	0	31.43	0.18	0.82	250
4	April	0	8.36	0	22.25	0	68.48	0.55	-
5	May	141.85	100.56	0	54.07	123.36	15.16	108.43	-
6	June	124.82	166.5	117.92	224.71	79.39	109.67	110.65	-
7	July	162	237.55	305.27	329.61	558.15	230.09	197.04	-
8	August	358.36	272.25	324.58	272.53	278.71	319.67	382.13	-
9	September	253.11	266.08	218.27	206.69	402.13	236.54	287.36	-
10	October	283.45	4	104.27	653.91	88.48	31.65	64.63	-
11	November	123.55	0	195.14	0	0	36.45	52.28	-
12	December	63.45	0	0	0	3.31	26.93	0	-
TOTAL		1513.18	1056.66	1265.45	1764.52	1568.69	1133.45	1224.3	250

2.3.5 Rain Gauge Stations:

In each Block Head Quarter, Rain Gauge Instrument has been installed to report proper measurement of rainfall each day to the District Control Room. The Head Clerk of respective Blocks has been designated as Rain Recording Officer and is responsible to report the rainfall to District Control Room.

2.3.6 Special weather phenomena

Odisha being located on the coast of the Bay of Bengal is also very much prone to the cyclones and especially the Districts of Puri which is located the most closer to the cost of the sea. Puri being located on the coast gets most affected by the cyclones and high winds. Depressions and cyclonic storms originating in the Bay of Bengal in the pre monsoon, monsoon and post-monsoon months pass through or in the neighbourhood of the district. The storms, particularly those in the pre and post-monsoon months, cause heavy rain and high winds in the district. Thunder-storms, sometimes violent, occur in the pre-monsoon months of April and May and in October. During the monsoon period also the rainfall is associated with thunder. In the winter months fog occurs occasionally. Puri district enjoys a tropical climate with an average rainfall of 1424.3 mm most of which comes from June to October. It experiences three district seasons of hot dry weather (March to early June), hot wet weather (Middle June to October), and slight cold dry weather (November to February).

2.4 Geography & Topography:

Puri is one of the coastal districts of Orissa. It is situated on the Eastern Coastal plain of Odisha. It is surrounded by the district Cuttack and Jagatsinghpur in its north, Khordha in its west, Ganjam to the southwest and the Bay of Bengal to its East and South-East.

Latitude- 19° 28' N to 26° 35' N

Longitude- 84° 29' E to 86° 26' E

Altitude - 0 meters

Time Zone - UTC+5:30

2.4.1 Geographical area of the district

Geographical area of Puri district is 3051 km² or 264988 Ha.

2.4.2 Natural divisions of Puri District

The natural divisions depending upon the available rock types, soil, vegetation, water bodies and climate. The whole of the district may be divided into two dissimilar natural divisions i) The Littoral tract ii) The level alluvial tract.

i) The Littoral Tract:

The strip of the country lies between the alluvial and the Bay of Bengal. It assumes the form of a sandy ridge which stretches along the sea-shore for the full length of the District, Varying from 6.5 km. to a few hundred meters. It forms the dividing line between the Chilika Lake and the ocean.

ii) The Level Alluvial Tract:

This level of alluvial region is full of villages and rice fields, watered by a network of channels, through which the water of distributaries of the most southerly branch of Mahanadi, find their way to the sea. There is no hill in Puri District except a small cultivate land are under plough. Generally Biali or autumn rice, Sarada or winter rice and Dalua or spring rice these three types of rice are cultivated.

The entire district is covered with plain alluvial track and the coastal belt is mainly utilized for its high fishery potentiality. It has a total of 188745 Hectares of cultivated area.

High Land	:	45653
Medium Land	:	57654
Low Land	:	85438
Water Logged Area in Hectares	:	15192
Saline Area in Hectares	:	19480
Irrigated Area in Hectares	:	105106

2.4.3 GEOLOGY AND GEOMORPHOLOGY:

Besides, following are the other kinds of areas in the district:

Forest Area in hectares	:	18175
Misc. tree groves in Hectares	:	7524
Permanent Pastures in Hectares	:	11328
Cultivable waste in Hectares	:	8226
Land put to non-agric in Hectares	:	17259
Barren and uncultivable waste in Hectares	:	8866

2.4.4 FORESTS:

Besides the cultivable land the district possesses a total of 264988 Hectares of land that can be categorized as the following types.

1.	Grazing Land	:	11328
2.	Forest Land	:	18175
3.	Others	:	46740

2.5 River System

The Puri District is a deltaic zone of Mahanadi system with major rivers like Kushabhadra, Bhargavi, Daya and Devi with tributaries of small rivers such as Luna, Makara, Rajua, Prachi, Dhanua, Ratnachira and Kadua.

2.5.1 BHARGAVI

River Bhargavi after leaving River Kuakhai at Sardeipur of Baliana Block and following a circuitous course of 40 miles empties itself into the outfall of River Daya breaking up into numerous tributaries in the concluding 2 and ½ miles of its course. It is very appropriately constructed owing to its embankments that are constructed on either bank close to its channel. This river affects a part of Pipili, Brahmagiri, Satyabadi and Puri Sadar blocks during flood.

2.5.2 DAYA

River Daya takes off from the River Kuakhai from Sardeipur. It runs southwards for 8 miles and then makes a sharp turn westwards for four miles and after that continues its course south wards for the rest of the length emptying itself into the north eastern corner of Chilika Lake, some 37 miles from its take off. This river affects some pockets of Kanas, Delanga and Brahmagiri blocks during floods.

2.5.3 KUSHABHADRA

It leaves the River Kuakhai at Baliana and flows in the south western direction for 46 miles till it enters the Bay of Bengal near the shrine of Ramachandi, 15 miles to the east of Puri. The mouth of Kushabhadra below Ramachandi is free from silt. But the riverbed between the Liakhiapherry and its mouth is shallow resulting in low discharge at the time of heavy flood. The RiverDhanua with its tributaries brings a large volume of water to Kushabhadra.

2.5.4 LUNA

The area between the Bhargavi and the Daya is drained by the Luna, which falls into the Daya. This river affects major portions of Delanga and Kanas block during flood.

2.5.5 MALAGUNI

It runs through Khurda Tahasil and is the channel by which almost the whole of the surplus water of Ranapur Tahasil is drained out. It joins the river Daya below the villages of GadaBalabhadrapur. This is more or less a hill stream and badly affects some portion of Khurda and Kanas block during flood.

2.5.6 PRACHI

The River Prachi rises at the border of Cuttack and Puri having its origin near Kantapada on the Cuttack – Gop road and passing through the village Kakatpur, falls into the sea 11 km to south. During flood this river affects some portions of Gop and Kakatpur blocks.

PuriSadar Block is affected by the Rivers Kanchi and Ratnacheera. Some portions of Pipli block are affected by River Gangua. River Rajua and Makara flood some portion of Kanas block.

In case the flow of water at the Delta head (Naraj) is within 8 lakh cusecs normal flood may occur in the rivers of Mahanadi system. But if the flow exceeds this limit, flood may be more intense.

2.5.7 Sea-coast Bays

The length of the sea-coast of the district of Puri is nearly 150.4 km. Sandy ridges are found along the sea-coast which stretch into the districts of Jagatsinghpur and Ganjam. One such sandy spit divides the lake Chilika from Bay of Bengal. These sandy ridges and dunes are formed by the strong monsoon currents which blow over the country for nearly 8 months of the year. The ridges vary from about 7 km to a few metres in width and have prevented most of the rivers of the district from finding their way into the ocean.

2.5.8 Lakes

2.5.8.1 The Chilika Lake

Asia's largest brackish water lagoon the Chilika Lake was probably a part of Bay of Bengal separated later by the formation of sand ridges. The southern extremity of the Mahanadi delta has also contributed towards its isolation from the sea and formation as an inland lake. The Chilika Lake is a shallow inland sea situated in the extreme south of the district and extends into the district of Ganjam. It is separated from the Bay of Bengal by a group of islands formed by silt deposit and by a long strip of land which for miles consists of nothing but a sandy ridge, little more than two hundred yards (180 metres) wide.

2.5.8.1 The Sar Lake

To the north-east of Puri Town in the Puri subdivision there existed originally an extensive swamp formed by the backwater of the river Bhargavi which has almost lost its existence today. Popularly it was known as Sara Pata.

2.5.9 Tanks

There are five sacred tanks in Puri town. They are Narendra, Markanda, Swetaganga, Indradyumna and Parbatisagar at Puri. The **Narendra tank** has been named after Lakshposi Narendra who is reported to have excavated it. It covers a vast area of little above 3 hectares and is located to the north of Puri town close to the river Madhupur, popularly known as Mangala River. With its embankments stone-lined the **Markanda tank** extends over an area of nearly 1'6 hectares. It has an irregular shape. On its south-west bank the temple of Markandeswar is located.

2.5.10 Water ways

Rivers form considerable water traffic of the district during the rainy season. With the commencement of hot weather these rivers dry up and are rendered unfit for navigation. For a major part of the year the Kushabhadra, the Bhargavi and the Daya serve the purpose of navigation. The Kushabhadra dries up earlier in its upper reaches, but in its lower part, country boats are to be seen throughout the year. But the Daya and the Bhargavi are navigable up to the month of January. These two rivers empty their water into the Chilka lake and from their respective mouths up to a distance of about ten miles (16 km.) Upstream they are navigable even in hot dry weather. Traders from the district of Ganjam with their heavy loads of barn boos and other commodities come by way of the Ganjam canal and the Chilika Lake.

2.5.11 Island

No Island is found in the coastal waters of Puri, but the Chilika Lake is separated from the Bay of Bengal by a group of Islands.

2.6 Demography:

The total population of Puri district as returned by the Census of 2011 was 16,98,730 of whom 8,65,380 were males and 8,33,350 females. It comprises of 11 Blocks & 4 ULBs spreading over 23 police stations. The Block-wise and ULB-wise population is given below as per 2011 Census.

2.6.1 Households and its distribution:

Sl. No	Total Number of Families/HH	Category		Category				Category	
		Rural	Urban	SC	ST	OBC	GEN	BPL	APL
1	367269	313188	54081	NA	NA	NA	NA	NA	NA

2.6.2 Population and its composition:

Sl. No	Population			SC		ST		OBC	
	T	M	F	M	F	M	F	M	F
1	1698730	865380	833350	164366	160767	3240	2889	NA	NA

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

2.6.3 Religion wise distribution of Population:

Sl. No.	Total Population	Category				
		Hindu	Muslim	Christian	Sikh	Others
1	1698730	1644905	46094	4239	193	3299

2.6.4 Age Group

Sl. No.	Total Population	0-6 years	6-14 years	15-59 years	60 years and above
1	1698730	173000	NA	NA	NA

2.6.5 Sex Ratio:

1	Sex Ratio (Females per 1000 males):	963
2	Sex Ration(0-6 Years):	932

2.6.6 Literacy Rate:

	Total	Male	Female
Literacy Rate	84.67	90.85	78.28

[Details are at Table No.1.1 to 1.9 of Volume II of the DDMP]

2.7 Socio-Economic profile:

2.7.1 Workforce participation:

The survival and subsistence of human society largely depends on the division of labour. Since some people have to work for production either for their own consumption or for social wealth, it is essential for some individuals of the society to indulge in some form of economic activity. There are 621676 nos. of workers working in the district out of which 450536 nos. are main workers and 171140 nos. are marginal workers.

2.7.1.1 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 is 80.18 percent as compared to the female counter part (19.81 percent). Participation of female main workers is significantly lower i.e. only 11.38 percent compared to male i.e. 88.62 percent, participation of female marginal workers is i.e. 42.02 percent than male i.e. 57.98 percent.

2.7.2 Land Holding Pattern:

The Agriculture Census, 2010-11 showed the district had 173739 farmers from 326129 rural households. Thus, it is expected that remaining 152390 (46.72% of the rural households) households are landless. Out of 173739 farmers, 69.42% (120624), 22.16% (38506), and 8.40% (14609), are marginal, small, and the farmer belongs to other category. Further average size of holding by size class is 1.083 acre in the district. There is no official data on share cropper and land less the number of Semi Medium and Medium Farmers is not maintained separately but have been included in farmers under others category.

2.7.3 Agriculture and Irrigation

During 2015-16, the net shown area was 158160 hect. against the 188183 hect. cropping areas and 348102 hect. geographical area of the district. Irrigation potential created are 116255 hect. The total production of paddy was 737532 MTS., 95.4 MTS wheat, 279 MTS. maize, 49.8 MTS. Ragi, 30515.13 MTS. Pulses, 44036.6 MTS. oilseeds, 8718.6 MTS. Groundnut, 429915 MTS. vegetables and 4657 MTS. spices.

2.7.3.1 Consumption of Fertilizer

During 2015-16 about 221209.8 Qtls. fertilizers (NPK) was consumed in the district. Similarly use of pesticide is recorded as 136392.45 KG/Ltr.

2.7.4 Agriculture allied Sectors

2.7.4.1 Fishery

The fisherman population in the district is 61335. There were 2 nos. of fish farms covering 14.65 hect. where 1150 farmers are involve the fish farming.

2.7.5 Industries and mining

Since, inception of DIC till the end of the year 2013-14, the broad category of industries promoted along with their numbers is as follows.

SI No.	Category of Industries Promoted	Nos. Promoted
1	Agro Based	1452
2	Forest Based	221
3	Animal/Husbandry Based	30
4	Textile Based	421
5	Chemical Based	109
6	Engineering/ Allied Based	461
7	Building/Ceramic Based	289
8	Plastic/Rubber Based	42
9	Miscellaneous/Service Based	2539
TOTAL		5564

Handicrafts-Brass, Bell metals, Pottery, Stone Carving, Goldsmithy, Bamboo & Cane works, Basketery, Iron Works, Silk Weaving, Filigree, Ornamental Fabric, Toy making, Carpentry. Puri is famous for its art, architecture and handicrafts. The artists and artisans of Puri have created wonders on stone and wood. The temples of Lord Jagannath of Puri and Sun Temple of Konark, the Pattachitra of Raghurajpur, the Appliqué work of Pipli and Coir products of Sakhigopal bears ample testimony of the skill of our artists and artisans.

2.7.6 Education

Education is the prime agency which builds the capacity of a community to withstand in any type of disaster. In Puri, 3347 Habitations are having primary School within the village itself whereas 361 habitations having Upper Primary Schools within 3 KMs. The district had 1307 Primary, 35 Primary with High schools, 672 Primary with Upper Primary, 12 Secondary, 237 Upper Primary 335 Upper Primary with Secondary, totalling to 259 schools. Total number of teachers in the district is 8136. The PTR is 18.53 in the district. During last year, number of students enrolled at the age group of 6 to 10 years was 144295 students which include 74857 boys & 69438 girls students and 793 students which include 444 boys and 349 girls students were found under never enrolled category. The number of students enrolled

at the age group of 11 to 14 years was 76675 students which include 39901 boys & 36774 girls student and 413 students which include 239 boys and 174 girls students were found under never enrolled category

2.7.7 Health

The district health vulnerability snapshot shows Tuberculosis is one the major diseases in the district followed by Diarrhoea, Pneumonia and Jaundice. Villages frequently affected by such diseases and cases of reported deaths are reflected in Table 1.34 in Volume - II. The district had 241 sub centres, 45 PHCs, 16 CHCs, 1 Ayurvedic Hospital at Puri, 15 nos. of 10 Ambulance and 4 general Ambulance, and 1 blood bank at DHH, Puri across the district. To run such medical establishments, 130 doctors, 338 paramedical staff, 214 ANMs and 1539 ASHA are extending their services in the district. In health indicator dimensions, the district has ensured Institutional delivery by 97.4%, immunization by 94%. But the district had an Infant Mortality Rate (IMR) of 25 and Maternal Mortality Rate (MMR) of 75.

2.7.8 Electrification

Number of revenue villages partially electrified in the district is 1445. No village in Puri district is deprived of electricity. Further, out of 414749 households in the district, 45549 households have been electrified and remaining 85297 households are expected to cover under various electrification scheme of the Government.

2.7.9 Drinking water and sanitation

In the district, 1707 nos of villages are having the safe drinking water facility where as no villages are getting fluoride and arsenic contaminated water. There are 13756 nos of functional tube wells, 429 nos of sanitary wells and 295 nos of Pipe Water Supply (PWS) are available in the district to provide drinking water to 842 villages and a population of 157177.

122199 nos of HHs are having IHHL facility out of 313188 nos. of HHs. Further 30 nos. of villages having sanitary complex, 141 ODF villages and out of 2401 schools in the districts 2387 have the toilets.

2.7.10 Migration

During the year 2016-17, 3 Nos. of valid license obtained by 3 nos. of those who have engaged / drafted 47 nos. of migrant workmen to the state of Karnataka & Kerala to work in M/s Ambit Controls Pvt. Limited, Doddagobbi, Bangalore, M/s Sobha Limited etp SEZ technopark campus, Thiruantapuram & Vardhashree Products, Karnataka. Further, it is mentioned that, maximum numbers of migrant workmen have gone to different states directly so-motto without help of any contractors/dalals to maintain their livelihood. Near past on raid in the Puri Railway Station there are 27 nos. of migrant workmen have been rescued by the District Labour Machinery and those were going to work to outside state have been handed over to their respective families. The Inspectors of District Labour Office are always vigilant about for obstruction of migration of poor workers to outside state from the district and propaganda also was made in different rural blocks area to prevent the migration of migrant workmen from different areas of Puri District to outside States.

2.7.11 Food security

To ensure timely delivery of food grain, the district has 319 PDS retail outlay. Besides, the district has 7 major storage points with 146000 Qntl. storage capacities.

2.7.12 Social Security

In Puri, 84457 persons have covered under various social security schemes. Among them, 59941 (38962 male and 20979 female) have covered under Old age Pensions, 17622 under Widows Pension and 3447 (2758 male and 689 female) under Disability Pensions.

[Details are at Table No. 1.1 to 1.43 of Volume II of the DDMP]

2.8 Critical infrastructure

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.

2.8.1 Anganwadi centres

2599 AWCs are operational in the district from which 615 AWCs are having their own building which constitutes 24% of the total AWCs. In these AWCs, 144597 pre-school children have enrolled. Besides, 20 children are found Severely Malnourished and referred. AWCs are also providing support to 23709 pregnant women and lactating mothers.

2.8.2 Schools and other Educational Institutions

The district had 1307 Primary school. Number of upper primary schools 237, Primary with high school 35, Primary with upper primary 672, secondary school 12 and upper primary with secondary 335 schools respectively. Students enrolled at upper primary are 220970. Pupil Teacher Ratio is 18.53 during 2016-17. Besides, there are 61 Junior Colleges in the district.

2.8.3 Hospitals and Health Centres

There were one district headquarter hospital, 16 CHC, 45 PHC, one Ayurvedic hospital and 2 Private Hospitals in the district during 2014-15.

2.8.4 Veterinary Hospitals

Puri district had 15 hospital and dispensary, 147 Livestock Aid centre, 121 Dept. AI Institution.

2.8.5 Police and Fire Stations

The district had 31 police stations and 13 fire and disaster response service centres in the district.

2.8.6 Cooperative Societies

The district had 208 PACS with 224273 members. 25746.63 lakhs loan advanced to the farmers by PACS during the reporting period. Besides, 5065.5Qntls.seed and 13562.5 Qntls. fertilizers were distributed to members of PACS 445052.32 Qntl. Paddy has been purchased by various PACS during KMS 2015-16.

2.8.7 Banks and Post offices

There were 128 nos., 51 nos., 12 nos., and 16 nos. of Public Sector Bank, Regional Rural bank and Scheduled Commercial Banks in the district. Besides, the district had 287 nos. of Post Offices including one District Post Officer at Puri.

2.8.8 Road and Railway network

In Puri district 139.176 KMs of National Highways 33 Kms of State highways, 320.08 kms major district roads and other district roads, 859.86 kms of rural roads, 1442.63 GP/PS roads are connected in the

district. Besides, 32 kms with 6 railway stations are providing convenient communication facilities in the district.

2.8.9 Cyclone and Flood Shelters

The district has 187 cyclone and flood shelters. The district also uses schools and BNRGSK building as temporary flood shelters.

2.8.10 Rain gauge and Automatic Weather Stations

The district has 11 Rain Recording stations to record the rainfall on regular basis in every Block H.Q. The Head Clerk of respective Blocks has been designated as Rain Recording Officer and is responsible to report the rainfall to District Control Room. The records are updated in Odisha Rainfall Monitoring, a web based rainfall monitoring portal of Government of Odisha.

[Details are at Table No. 2.1 to 2.7 of Volume II of the DDMP]

Chapter- 3

Hazard, Vulnerability and Risk Assessment

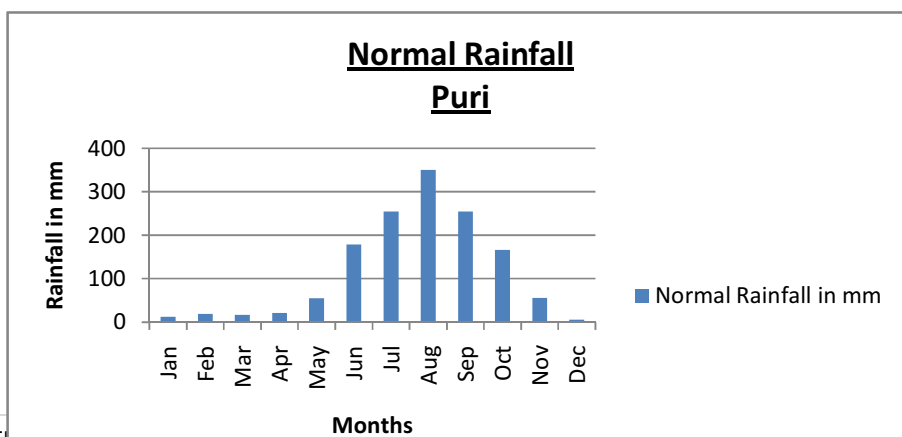
Climate and Hazard Profile

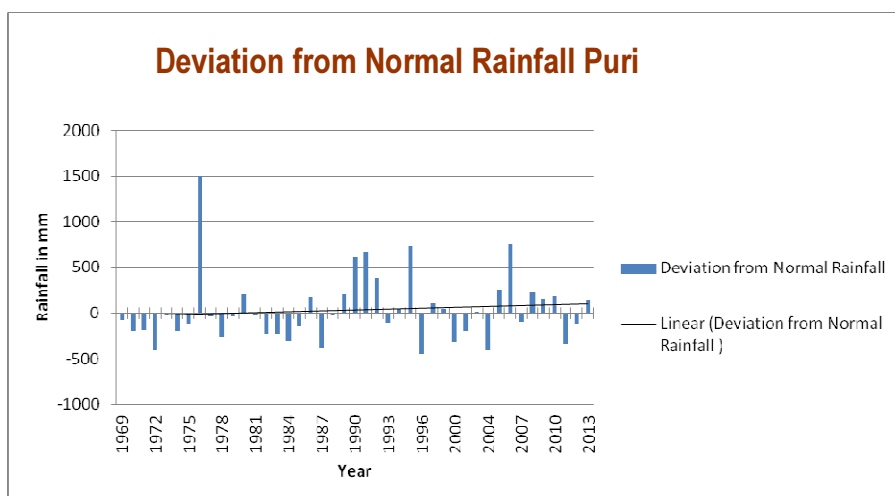
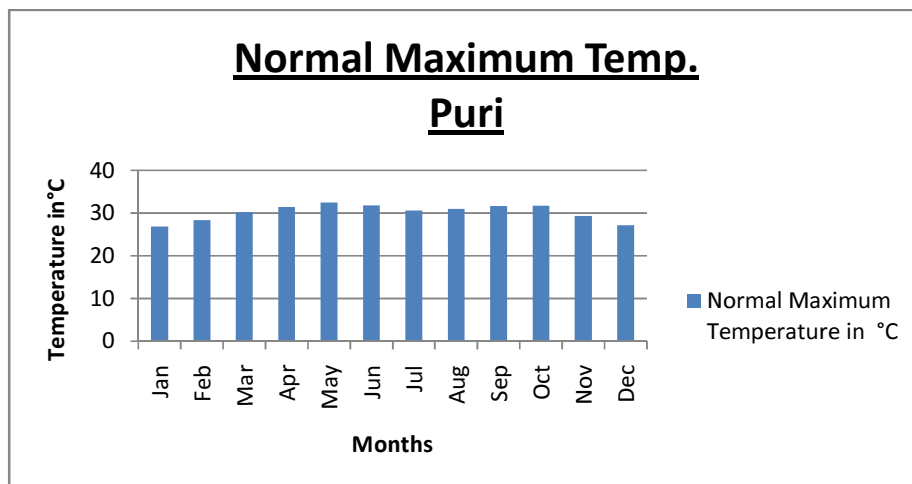
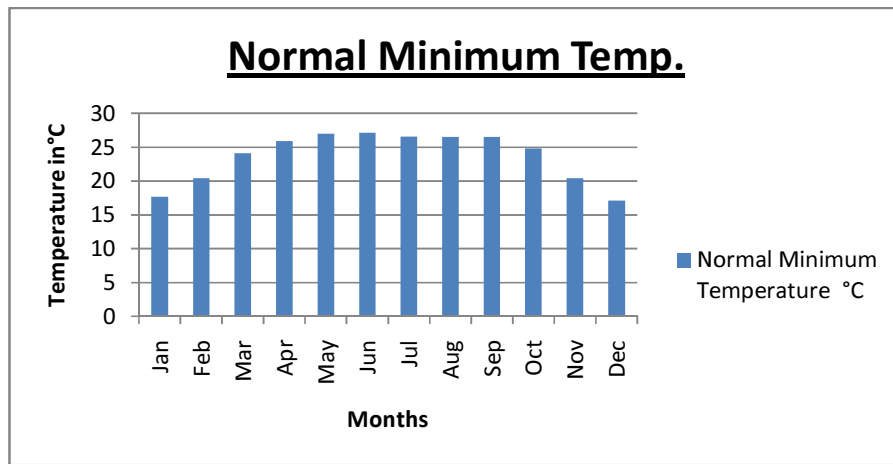
Climate

Puri has a tropical monsoon type of climate which may be further divided into two dissimilar natural divisions-the Littoral tract and the Level alluvial tract. It is standing on the coastal belt; the weather in Puri is greatly influenced by the sea. The length of the sea-coast of the district of Puri is nearly 150.4 km. The climate of the region is tropical resulting in very high temperature in the months of April and May. The average rainfall is 1392.5 mm with 62 days of rain and annual average maximum temperature is 30.22 °C and annual average minimum temperature is 23.68 °C. South west monsoon is active in the district during July-September. The month of July is the wettest and the major rivers usually get flooded. The district also experiences small rainfall from the retreating monsoon in the months of October and November. January and February are dry. The summers are from March to June, monsoons from June to September and winters are from October to February. Humidity is fairly high throughout the year. The temperature during summer touches a maximum of 37.2 °C and during winter minimum of 17 °C. Puri experiences cyclonic depressions and storms originating in the Bay of Bengal. Maximum temperature ever recorded for Puri is 39.1 °C on 05 May 1961 and minimum temperature is 17.0 °C in November 1972. While ever recorded maximum rainfall in 24 hrs for Puri is 318.8 mm on 28 July 1991.

Trend Analysis

- The average annual rainfall for Puri is increasing progressively with the years.
- Winter season shows a periodic trend of increasing and decreasing rainfall.
- No trend was observed for summer season.
- Average rainfall for the monsoon season lies around the 1000 mm line and also it does not show any remarkable trend for the last 44 yrs
- From the graph plots it is obvious that a heavy rainfall of 1500 mm or more have less frequencies and rainfall values below 1400 mm have high frequency.
- Like rainfall, temperature trend too is largely fluctuating with marginal increase over Puri. Temperature data analysis for period from 1969 to 2013 shows overall increasing trend for maximum temperature by 0.004 °C (per year). Rise in maximum temperature is most significant during monsoon season and post monsoon season. No significant trend is found in maximum temperatures in summer and winter seasons.
- Minimum temperature shows significant rising trend of 0.006 °C per year during post monsoon season and significant falling trend of 0.001 °C per year during the monsoon season. However minimum temperature shows insignificant increasing trend during winter and insignificant decreasing trend during summer season.





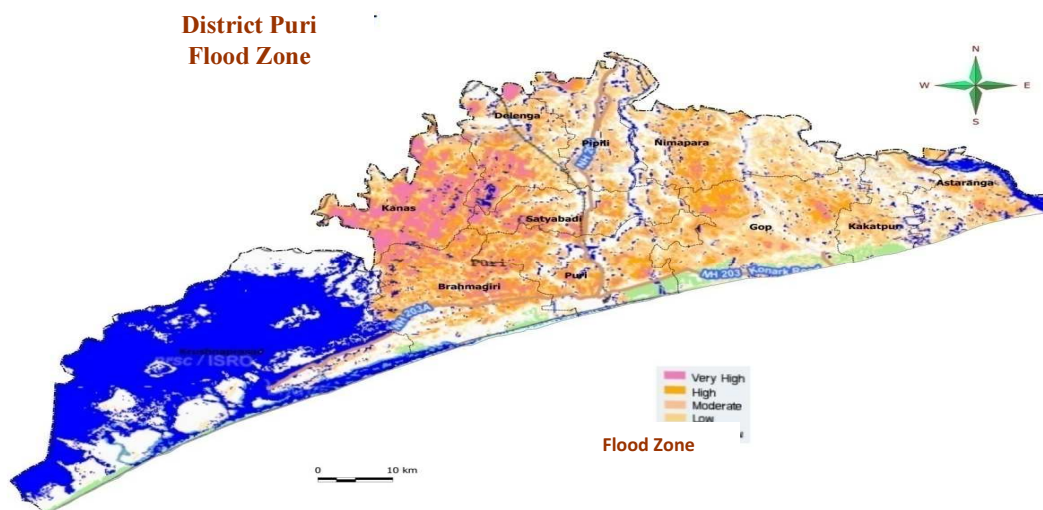
Future Climate Scenario

The methodology based on multiple regressions and fuzzy clustering thus developed is used for modelling monthly rainfall in Puri for 2026-2050 for A2 scenario, with a basic assumption that this regression relationship will not change in the future. A negative value generated by the regression is set to

zero. The result shows that there is a possibility of decrease in rainfall during the dry period (September–February). During the summer and monsoon (March–August) rainfall has an increasing trend, with an increase in the maximum/peak rainfall. The present analysis result shows trends in the predicted dry season and wet season rainfall. Under this scenario, drought conditions are indicated during the period 2026–50. The rainfall projection, based on A2 scenario, shows that there is a possibility of increase in hydrologic extremes in the area in future.

Hazards

Potential hazards in the Puri district are: Flood, Cyclone, Water-Logging, Drought, Hail Storm, Earthquake, Tsunami, Fire accidents and Heat Wave.



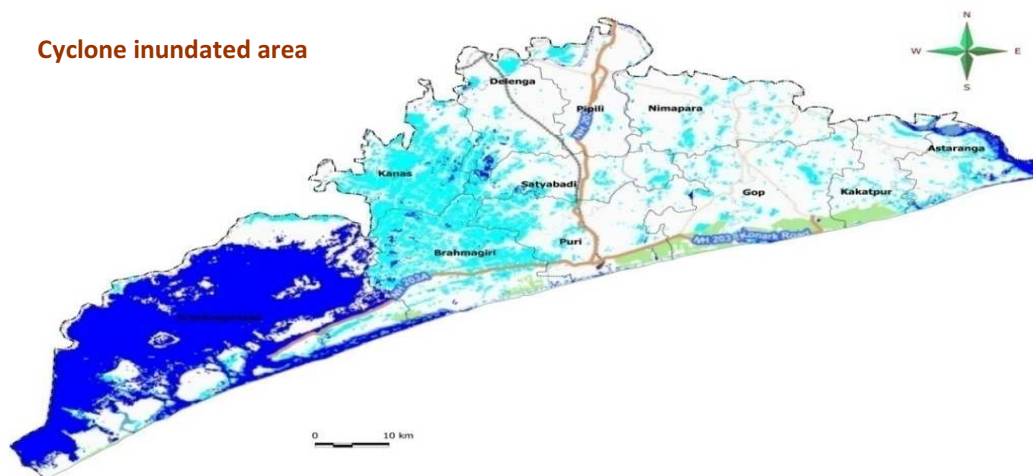
Major Events: Phailin 2013

District has observed few major episodes of natural as well as manmade disasters such as forest- fire and accidents. Phailin of year 2013 was one the major disasters in Puri in recent years. Following table gives a glimpse of the losses in the Phailin cyclone of 2013

Phailin 2013 Loss and Damage Data		
S. No.	Particulars	Extent/Details
1	No of Village Affected	1769
2	Population affected (In Lakhs)	17,50,975
3	Total cropped area totally Affected	137971 Hectare
4	Estimated cost of Crop Loss	41.00 Crore
5	Cropped area affected more than 50%	91820 hectare
6	Small and Marginal Land Holding Affected	63.3 percent
7	Fully Damaged Katcha House	4736
8	Severely Damaged Pakka House	570
9	Severely Damaged Katcha House	10642
10	Estimated Cost of House Damaged	25.95 Crore
11	Human deaths	4

12	No of big animals lost	339
13	No of small animals lost	156
14	Length of village roads damaged	385 km
15	Length of state roads damaged	11 km
16	No of school building damaged	650
17	Estimated cost of loss of public properties	56 Crore
18	Total Estimate cost of loss (houses, crops and public properties)	121 Crore

District Puri
Cyclone inundated area



Details of Hazards of the District:

Disaster Specific proneness to Various Types of Disasters:

Type of Hazards	Time of occurrence	Potential Impact	Vulnerable areas
Cyclone	May, September, October, & November	Loss of life, livestock, crop and infrastructure	All the Blocks
Drought	April to June	Crop Loss, Water scarcity	All the Blocks
Epidemics	June to December	Loss to human life	68 GPs in 11 blocks
Flood	June to November	Loss of life, crop, infrastructure and animals	All the Blocks
Fire Accidents	Summer & winter	Human Loss and house damage	All the blocks
Sunstroke	April to June	Loss of life of human being and livestock	All the blocks
Tsunami	Any time	Loss of life of human being and livestock	86 Villages of 33 GPs in 6 Blocks
Earthquake	Any time	Loss of life of human being and livestock	5 Blocks

Flood prone areas of the district:

NAME OF THE BLOCK/RIVERS	GRAM PANCHAYAT	NO. OF FLOOD PRONE VILLAGES	TOTAL
KRUSHNA PRASAD BLOCK	BAJRAKOTA	3	54
CHILKA LAKE	RAMA LENKA	3	
	MALUD	4	
	MANIKA	3	
	BADAANLA	3	
	ALANDA	3	
	PANASPADA	2	
	BUDHIBARA	2	
	SIALA	3	
	SIANDI	3	
	KRUSHNA PRASAD	3	
	BERHAMPUR	3	
	NUAPADA	3	
	ARAKHAKUDA	2	
	BADAJHADA	5	
	SATAPADA	2	
	TITIPA	1	
	GOMUNDIA	2	
	PIRIJIPUR	2	
GAMBHARI	2		
BRAHAMAGIRI BLOCK	KANDAGODA(Full)		
BHARGABI/LUNA/ RATNACHEERA	DIMIRISENA (Full)		
	TALAMALA (Full)		
	KAPILESWARPUR(P)		
	RAHADAMALA (P)		
	RAYBIDHAR (P)		
	MANAPADA (P)		
KUSUBENTI (P)			
SATYABADI BLOCK	KETAKIPATNA		
	BALARAMPURGADA		
	SUKALA		
	MADHUBANA		
	DASBIDYADHARPUR		
KAKATPUR BLOCK	KADUA NUAGAON		
KADUA/DEVI/PRACHI	KURAJANGA		
	ABADAN		
	BANGURIGAM		
	JALESWARAPADA		
	NASIKESWARA		
	KAKATPUR		
	KANTAPADA		
	POTHAKA		
	KUNDHEI		
	PATASUNDRAPUR		
LATAHARANA			

	KATAKANA		
ASTARANGA BLOCK	ASTARANGA	5	
DEVI/BHAUNRIA/KADUA PRACHI	PATALADA	3	65
	CHHURIANA	4	
	KORANA	5	
	SISUO	9	
	SARIPUR	2	
	KENDRAPATI	4	
	MANDUKI	2	
	NUAGAD	6	
	ALANGAPUR	4	
	ALASAH	5	
	NAGAR	6	
	NAIGUAN	5	
	TALADA	5	
PIPLI BLOCK	PAMASARA		
DAYA/BHARGABI	ORAKALA		
	BHARTIPUR		
	POPARANGA		
	KANTI		
	TUBASASAN		
	LAXMINARAYANPUR		
	JAGANNATHPUR		
	NUASASAN		
	RUPADEIPUR		
	SARASWATIPUR		
NIMAPARA BLOCK	ALANDA	6	
KUSHABHADRA/ PRACHI /DHANUA	BAMANAL	13	
	DHANUA	8	
	DENUA	2	
	BHILIGRAM	2	
	MITEIPUR	2	
	TERUNDIA	3	
	RENCHSASAN	7	
	SAINSA SASAN	2	
	SAGADA	12	
	BADASIRUBILA	5	
	KOTAKUSANGA	5	
	KALAPANCHANA	6	
	DHALESWAR	8	
	ANTUAR	4	
	NUASANTHA	4	
	TAMPALO	6	
	UCHHUPUR	1	
	CHANARPADA	4	
	SALANGA	7	
	ARISANDHA	2	
	BHODAR	1	
	CHANIJANGA	7	
PURI SADAR BLOCK	KERANDIPUR	5	
RATNACHIRA/ BHARGABI / DHANUA/LUNA	BASUDEVPUR	3	83
	BIRABALABHADRAPUR	3	

	HANTUKA	4	
	RAIGORADA	4	
	PRATAP PURUSHATAMPUR	5	
	BIRA NARASINGHAPUR	1	
	BIRA PRATAPPUR	3	
	CHANDANAPUR	1	
	MALITIPATPUR	2	
	TALAJUNG	1	
	CHALISIBATIA	5	
	BALIPADA	6	
	BALIPUT	8	
	JAMASUAN	3	
	GADAMURGASIRA	6	
	BIRA HARAKRUSHNAPUR	5	
	GOPINATHPUR	5	
	KHENIBIDYADHARPUR	5	
	BIJAYA RAMCHANDRAPUR	2	
	PRATAPRAMCHANDRAPUR	6	
GOP BLOCK	RAHANGORADA	12	
KUSABHADRA /DHANUA / MUGEI	NUAKHOLAMORA	7	45
	ANDARAICHHAPUR	3	
	GANESWARPUR	10	
	NAGPUR	4	
	BEDAPUR	1	
	BANTALIGRAM	1	
	KUNDAPADA	3	
	DHUALA	1	
	DESHALI	1	
	JANGALBORI	1	
		SORABHA	
KANAS BLOCK	PANDIAKERA		
MALA GUNI /RAJUA /DAYA LUNA /MAKARA	DOKONDA		
	GARHBADAPUT		
	GARHSANPUT		
	BIJIPUR		
	ALIBADA		
	DIBYASINGHPUR		
	KANAS		
	DEIPUR		
	SEREI		
	TRILOCHANPUR		
	GARHSAHI		
	SAHUPADA		
	CHUPRINGI		
	GOPINATHPUR		
	KADUA		
	BAKU		
	KHANDAHOTA		
	JAMALGODA		
BADAS			

	GADABALABHADRAPUR		
DELANG	ABHYAMUKHI		
DAYA / LUNA	ARISOL		
	CHAINPUR		
	DELANGAKOTHABADA		
	DHANKERA		
	GODIPUT MATIAPADA		
	HARIRAJPUR		
	JENAPUR		
	KALYANPUR		
	MUNINDA		
	GODAMOTARI		
	SUJANPUR		
	SINGHABERHAMPUR		
	SRIPURUSHOTTAMPUR		
	RENGAL		
SAURIA			
	TOTAL G.P = 230	TOTAL VILLAGE = 1769	

DISASTER PROBABILITY/SEASONALITY

Type of hazard	Month of occurrence											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Flood						←	→	→				
Cyclone				←	→				←	→		
Drought						←	→	→				
Sunstroke			←	→								
Village Fire			←	→	→							
Earthquake	●											●
Industrial Disaster	●											●

Ranking and Probability of Disaster Episodes in the District

Basing on the disasters experienced by the district in the last 15 years, probability of flood ranks first. Accordingly, the occurrence of other disasters such as cyclone, fire accident, drought, epidemic and earthquake.

FLOOD AND EPIDEMICS

The Hirakud reservoir discharges water into the Naraj that redistributes water into three major rivers of Puri that carry nearly 9 lakh cusec water in its course, as a result of which the district is prone to flood in the monsoon. Flood in its quake brings allied diseases, thus causing epidemics in all the blocks. Crop loss also occurs as a result of flood.

CYCLONE

As the district lies on the coastal belt of Bay of Bengal, the district tends to have threat to cyclone and tidal disasters. Cyclones ordinarily bring in their trail heavy rains causing severe floods and saline inundation

FIRE ACCIDENTS

House damage due to fire accidents present a serious problem in Puri district. This is mostly due to the peculiar housing pattern adopted in the villages. These houses have generally mud-built walls with thatched roofs made out of timber, bamboo and straw. They spring up in clusters. In summer and winter fire accident becomes frequent as it destroys houses and properties and causes serious distress to the affected people

DROUGHT

Sometimes want of rain at the proper time either defers commencement of agricultural operations or affects growth of crops. Occurrence of drought is not as frequent in Puri district as it lies on the coastal belt and further more the rivers are always full of water.

HAIL STORM

Hail Storms are common phenomena during summer season in this district.

EARTH QUAKE

Earth quake also occurs in some areas of this district.

Hazard Specific Vulnerabilities of Puri District					
No	Hazard	Vulnerabilities			Impact of Climate Change on vulnerabilities
		Life	Property	Environment	
1	Cyclone	<ul style="list-style-type: none"> Entire population (16,98,730) is vulnerable to cyclones Particularly women (8,33,350, 49%) and children 0-6 years (1,72,888, 10% of the total population)¹ Elderly and persons with disability Population in coastal villages (stretching across 150.4 km coastline in Puri) are highly vulnerable Households living Below poverty Line with limited economic capacity (163,639 as per 1997 Census) Households residing in 	<ul style="list-style-type: none"> Road (113 Nos. of roads with total length of 533.720 KM under PWD)& Tele. Communication network Private & Public Infrastructures Dwelling units (kutcha and semi-pucca which are approximately 75% of total housing types) Crop – Agriculture/ Horticulture. There are 1,47,402 cultivators and 79,505 agricultural laborers who are vulnerable² Irrigation Sources: <ul style="list-style-type: none"> Canals (70.8%) Bore wells/Dug 	<ul style="list-style-type: none"> Forests (14000 Ha⁴) Local Ecosystem Roadside plantations Air Water Saline inundation Soil 	The increasing frequency of Cyclones under the influence of climate change as witnessed over the past few years and projections for increasing extreme cyclones with higher wind speed with increased frequency in future poses higher threat.

¹Data Derived from Census Handbook of puri district (2011) available at http://www.censusindia.gov.in/2011census/dchb/2118_PART_B_DCHB_PURI.pdf

² Ibid

⁴ ibid

		<p>kucha and semi pukka houses (approx 75% of the total houses)</p> <ul style="list-style-type: none"> • Less number of Multipurpose shelters compared to total population vulnerable to floods (165 Nos) • Lack of awareness and unwillingness to evacuate in emergency • Lack of complete awareness and sensitization on understanding and adhering to warnings among communities • In adequate health infrastructure in interior areas. • Non-availability of youth (migrated) at the time of emergency for community based response 	<p>Wells (10.1%)</p> <ul style="list-style-type: none"> ○ Lift irrigation schemes (297 Nos) ○ Other Sources (11.2%)³ <ul style="list-style-type: none"> • Livestock and animal resources. • Drinking Water Sources i.e. hand pumps, Tube wells, Wells, PHD Stand Posts. • Livestock & animal resources • Other vulnerable assets i.e. Flood embankments, Canal embankments, Saline Embankments etc. • MSMEs since Puri is a tourist destination 		
2	Floods	<ul style="list-style-type: none"> • All Eleven Blocks are vulnerable to flood (1769 villages of 230 GPs) • Children, women, elderly and persons with disability are amongst most vulnerable to any disaster including and the population of children and women is high in the district. • Highly vulnerable are those residing near to the main rivers and near river/canal embankments and low lying villages near Chilika Lake (54 villages), • Less number of Multipurpose shelters 	<ul style="list-style-type: none"> • 97 places with weak/vulnerable points identified on the embankments of different rivers systems for the year 2015. • Pipili has the highest number of vulnerable/weak embankments (33 places) • Water logged areas in different blocks (15192 Ha in the district) especially in Brahmagiri, Astaranga, Gop, Kakatpur, Kanas and Krushnaprasad Blocks 	<ul style="list-style-type: none"> • Water logging • Water borne diseases due to contamination • Sedimentation • Contamination of water bodies and pond systems • Contamination of drinking water sources 	<ul style="list-style-type: none"> • Erratic nature of rainfall, delay in monsoon and unseasonal rain are likely to result in unseasonal floods and thereby resulting in increased loss and damage. • Increased low pressure formation and resulted

³ Data taken from agricultural contingency plan of Puri available at <http://agricoop.nic.in/Agriculture%20Contingency%20Plan/Orissa/Orissa%206-%20Puri%2031.05.2011.pdf>

		<p>compared to total population vulnerable to floods (165Nos)</p> <ul style="list-style-type: none"> • Population living BPL are exposed to severe impacts during and post flood. • Post flood epidemics and diseases poses severe threat • Lack of awareness on emergency medicine, WASH etc. • Lack of sufficient health infrastructure in rural areas 	<ul style="list-style-type: none"> • Agricultural crop in flood prone and water logged areas • Vulnerable dwelling units (kutchra and semi pucca houses) • Hand pumps, wells and other drinking water sources. • Tube wells, wells, lift irrigation, canal embankments and other irrigation infrastructures • Roads and bridges especially in flood prone areas, near river embankments, • Health and Education infrastructure in highly flood prone areas • Livestock and animal resources in flood prone areas 		rainfall to affect crop production
3	Fire	<ul style="list-style-type: none"> • Households residing in thatched and mud houses • Increased dry period with limited rainfall • Use of open fire-wood and open fire kitchen in rural areas • Interior areas not under the reach of fire tender • Fire tenders not enough to cover total population • Lack of complete awareness and sensitization on fire prevention • Gradual erosion of traditional coping measures 	<ul style="list-style-type: none"> • Residential buildings (particularly kucha and semi pucca) • Public Infrastructure (Schools with kitchen) • Micro and small business infrastructures (especially road-side dhabas, restaurants etc) • Crowded haats and markets • Other commercial establishments • Hospitals • Cultural heritage (<i>Jgannath Temple which has a huge kitchen in place</i>) • Government offices and infrastructure (electrical fire) particularly old buildings 	<ul style="list-style-type: none"> • Air pollution • Increased heat in summers and wind acting as fuel to fire accidents 	With increase in global temperature and increased duration of dry season, vulnerability to fire accidents can be high
4	Drought	<ul style="list-style-type: none"> • Drinking water crisis in 	<ul style="list-style-type: none"> • Agriculture (<i>as 44.31% of</i> 	<ul style="list-style-type: none"> • Drying of trees 	<ul style="list-style-type: none"> • Projections

		<p>already hard hit areas</p> <ul style="list-style-type: none"> • Vulnerability to famine and diseases 	<p><i>cultivated land is non-irrigated/ rain-fed)</i></p> <ul style="list-style-type: none"> • Horticulture • Limited access and availability of tapped water supply • In-adequate health infrastructure • Livestock diseases and deaths and possible famine 	<p>and shrubs</p> <ul style="list-style-type: none"> • Impact upon green fields • Contamination of air and air borne diseases 	<p>confirm further increase in magnitude and frequency of droughts with uncertainties associated with rainfall</p> <ul style="list-style-type: none"> • Agriculture health, water and sanitation will be highly affected with increased drought spell • Increased pressure upon water sources and demand for external water supply from outside sources
5	Heat-waves	<ul style="list-style-type: none"> • Cultivators and agricultural labors in open field • Workers, small businesses, street vendors and others having no shade for work • Particularly micro businessmen on the sea cost and traffic policemen • School children and elderly • Patients with heart, lung diseases, blood pressure etc 	<ul style="list-style-type: none"> • Standing crop vulnerable to heat stress • Livestock diseases and deaths • In-adequate health infrastructure to deal with heat waves in distant rural areas • Schools without green infrastructure and proper ventilation facilities • Drinking water facilities and sources 	<ul style="list-style-type: none"> • Aquatic ecosystems vulnerable to heat stress • Flora and fauna 	<p>With increasing global temperature and projections for increase even by “business as usual” model will leave sufficient stress upon human and animal mortality increasing vulnerability of elderly and diseased. Flor and fauna will also be severely affected through</p>

					increased magnitude and duration.
6	Tsunami	<ul style="list-style-type: none"> • Puri city and coastal blocks are highly vulnerable • Fishermen, micro businesses etc at sea coast are more vulnerable to life risk • Children, women, elderly and persons with disabilities 	<ul style="list-style-type: none"> • Boats and assets of fisherman • Water transport system • Coastal dwellings • Roads and communication network in coastal belt • Drinking water and sanitation facilities in coastal belt • Schools, colleges, hospitals and other private and public infrastructures in coastal belt • Cultural heritage and monuments in coastal belt including the Lord Jagannath Temple, 	<ul style="list-style-type: none"> • Coastal ecosystem • Freshwater sources • Saline intrusion 	Tsunami has no direct linkage with climate change.
7	Epidemic	<ul style="list-style-type: none"> • Vector borne diseases like malaria, dengue etc. • Population highly vulnerable are in 5 GPs in Astaranga block, 6 GPs in Brahmagiri block, 5 GPs in Delangablock, 7 GPs in Gopblock, 3 GPs in Kakatpur block, 8 GPs in Kanas block, 5 GPs in Krushnaprasad block, 6 GPs in Nimapara block, 6 GPs in Pipli block, 9 GPs in Puri block and 8 GPs in Satyabadi block • Children (under-nourished and mal-nourished), pregnant and lactating mothers and elderly are more vulnerable • Population in slums • Population in water logged areas 	<ul style="list-style-type: none"> • Increased pressure and limited capacity of health service delivery system • Lack of enough capacity at grass-root level to deal with epidemics • Limited facilities at Sub-centres • Lack of enough trained and potential manpower to manage health emergencies 	<ul style="list-style-type: none"> • Contamination of air and water and other components of local ecosystem 	Disease transmission window for malaria has been projected to increase. Emergence of new types of diseases with climatic changes increases vulnerability to severe health impacts.

8	Earthquake	<ul style="list-style-type: none"> Highly vulnerable are urban Population residing in multistoried buildings (<i>9th urbanised district in state having 15.60 percent of its population live in urban areas⁵</i>) Particularly urban women (1,27,763) and children (24,905) Slum dwellers Crowded areas of Puri, town with high rise buildings Risk of Tsunami Population in distant areas Risk of stampede in crowded places especially around Puri Temple Risk of fire and chemical accidents 	<ul style="list-style-type: none"> Residential multistoried buildings Jagannath Temple and other cultural monuments in the district Hospitals and Schools (multi-storied) Industrial infrastructure Embankments (River and saline) Drinking water supply (PWS) Energy infrastructure (Lamps, posts, pillars, grids etc) Roads and bridges 	<ul style="list-style-type: none"> Contamination of air Water Saline intrusion Changes in river flow Flora and fauna 	No direct linkage of earthquake exists with climate change. However, in the event of major earthquake loss of local ecosystem can further contribute to climatic changes
9	Stampede	<ul style="list-style-type: none"> Huge gathering during cart festival every year Risk of rumors Both internal and external population (tourist) Strong Religious sentiments 	<ul style="list-style-type: none"> Road side shops and structures 	Nil	Nil

HAZARD-SPECIFIC ANALYSIS

Block wise Hazard Vulnerability

Hazard→	Floods			
	Vulnerability			
Blocks	Very High	High	Medium	Low
Astarang				
Brahmagiri				
Delanga				
Gop				
Kakatpur				

Hazard→	Tsunami			
	Vulnerability			
Blocks	Very High	High	Medium	Low
Astarang				
Brahmagiri				
Delanga				
Gop				
Kakatpur				

⁵ Data taken from Census Handbook of Puri District available at http://www.censusindia.gov.in/2011census/dchb/2118_PART_B_DCHB_PURI.pdf

Kanas				
Krushnaprasad				
Nimapara				
Pipli				
Puri Sadar				
Satyabadi				

Kanas				
Krushnaprasad				
Nimapara				
Pipli				
PuriSadar				
Satyabadi				

Hazard→	Cyclone			
	Vulnerability			
Blocks	Very High	High	Medium	Low
Astarang				
Brahmagiri				
Delanga				
Gop				
Kakatpur				
Kanas				
Krushnaprasad				
Nimapara				
Pipli				
PuriSadar				
Satyabadi				

Hazard→	Earthquake			
	Vulnerability			
Blocks	Very High	High	Medium	Low
Astarang				
Brahmagiri				
Delanga				
Gop				
Kakatpur				
Kanas				
Krushnaprasad				
Nimapara				
Pipli				
PuriSadar				
Satyabadi				

Hazard→	Heat Waves			
	Vulnerability			
Blocks	Very High	High	Medium	Low
Astarang				
Brahmagiri				
Delanga				
Gop				
Kakatpur				
Kanas				
Krushnaprasad				
Nimapara				
Pipli				
PuriSadar				
Satyabadi				

Hazard→	Drought			
	Vulnerability			
Blocks	Very High	High	Medium	Low
Astarang				
Brahmagiri				
Delanga				
Gop				
Kakatpur				
Kanas				
Krushnaprasad				
Nimapara				
Pipli				
PuriSadar				
Satyabadi				

Hazard→	Epidemics			
	Vulnerability			
Blocks	Very High	High	Medium	Low
Astarang				
Brahmagiri				
Delanga				
Gop				
Kakatpur				
Kanas				
Krushnaprasad				
Nimapara				
Pipli				
PuriSadar				
Satyabadi				

Hazard→	Industrial Disasters			
	Vulnerability			
Blocks	Very High	High	Medium	Low
Astarang				
Brahmagiri				
Delanga				
Gop				
Kakatpur				
Kanas				
Krushnaprasad				
Nimapara				
Pipli				
PuriSadar				
Satyabadi				

Hazard→	Conflicts/Riots			
	Vulnerability			
Blocks	Very High	High	Medium	Low
Astarang				
Brahmagiri				
Delanga				
Gop				
Kakatpur				
Kanas				
Krushnaprasad				
Nimapara				
Pipli				
PuriSadar				
Satyabadi				

Hazard→	Road Accident			
	Vulnerability			
Blocks	Very High	High	Medium	Low
Astarang				
Brahmagiri				
Delanga				
Gop				
Kakatpur				
Kanas				
Krushnaprasad				
Nimapara				
Pipli				
PuriSadar				
Satyabadi				

Hazard→	Cold wave			
	Vulnerability			
Blocks	Very High	High	Medium	Low
Astarang				
Brahmagiri				
Delanga				
Gop				
Kakatpur				
Kanas				

Hazard→	Lightning			
	Vulnerability			
Blocks	Very High	High	Medium	Low
Astarang				
Brahmagiri				
Delanga				
Gop				
Kakatpur				
Kanas				

Krushnaprasad				
Nimapara				
Pipli				

Krushnaprasad				
Nimapara				
Pipli				
PuriSadar				
Satyabadi				

A. Major Disasters/ Incidents during 2006-2015

A brief profile of major disasters/ incidents occurred in the district during last 10 years (2006 to 2015):

Table No. : 1

Sl. No.	Disaster/ Incident	No. of incidents during (2006-2015)	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	2014	1			4138					
2	Drought	2015	0	-	0	0	0	0	0	0	2465
3	Fire	2013	1								
4	Hail Storm										
5	Cyclone	2013	4	1750975	495	15948	650		390		137971
		2014	1	3255							
6	Earth Quake										
7	Tsunami										
8	Landslide										
9	Avalanche										
10	Cloud Burst										
11	Pest Attack										
12	Cold Wave/ Frost										

State Specific Disasters as per Notification No.1936 Dt. 01.06.2015											
13	Lightning	2011	5								
		2012	4								
		2013	11								
		2014	4								
		2015	8								
		2016	2								
14	Heat wave	2014	1								
15	Whirlwind										
16	Tornado										
17	Heavy Rain										
18	Boat Accidents (Other than during Flood)	2014	1								
19	Drowning (Other than during Flood)	2015	2								
		2016	2								
20	Snake Bite(Other than during Flood)	2015	15								
		2016	7								
Other Disasters											
21	Animal Menace										
22	Building Collapse										
23	Stampede										
24	Epidemics										
25	Industrial/ Chemical Accidents										
26	Road Accidents										

27	Railway Accidents										
28	Hooch Incidents										
29	Communal Riot										
30	Dam Break/ Spill Way related flood.										
31	Soil/ Coastal erosion										

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

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

Table: 02

Sl. No.	Disaster/ Incident	No. of incidents during 2016	No. of Deaths	Affected Population	Livestock Loss	Houses Damaged	Damage to Infrastructure				Damage and loss of Crop Area (in Hectares)
							AWC/ School Buildings	Hospitals	Road in Km.	Other Critical Infrastructure	
1											
2											
3											
4											
5											

No major disasters held in the district during 2016.

Vulnerability and Risk Assessment related to disasters:

Vulnerability Factors	Vulnerable Areas
Geographical Vulnerability	All the GPs are approachable during (flood) rainy season
Flood Prone	From total 1714 villages of 268 GPs, out of which 760 villages in 160 GPs.
Cyclone Prone	All 1714 villages, 268 GPs and 11 Blocks of the district
Fire Prone	All 1714 villages, 268 GPs and 11 Blocks of the district
Epidemic Prone	5 GPs in Astaranga block, 6 GPs in Brahmagiri block, 5 GPs in Delanga block, 7 GPs in Gop block, 3 GPs in Kakatpur block, 8 GPs in Kanas block, 5 GPs in Krushnaprasad block, 6 GPs in Nimapara block, 6 GPs in Pipli block, 9 GPs in Puri block and 8 GPs in Satyabadi block
Water Logged Area	Entire block of Brahmagiri , Nuagarh, Nagar, Balipantal, Dakhinpantal GPs of Astaranga block, Nuapada, Tichhini, and Krushnaprasad GPs of K.P. , Ganeswarpur, Andhra Ichhapur, Gadabhingura, Itibhuan, Chhaitana, Rahangagorada, Nuakholamara G.Ps of Gop block, Patasundarpur, Suhagpur, Kantapada, Lataharana, Kakatpur, Kundhei, Nasikeswar, Bangurugan, Jaleswarpur, Kadua Nuagaon, Parts of Othaka, Abadan, and Kurujanga G.Ps of Kakatpur block, Almost all the G.Ps of Kanas block especially Dokanda, Gadabalabhadrapur, Gadabadaput, Chupuringi, Pandiakera, Badas, Gopinathpur, Kadua.
Accident Prone	Road side villages
Economical Vulnerability	BPL family, small and marginal farmers and fishing Community
Infrastructure Vulnerability	75% mud wall houses, community structure, 80% saline embankment breaches, forests,
Social Vulnerability	SC/ST family, aged men and women, disabled persons, pregnant and lactating mothers, children, sick persons and fishing community

3.1 Cyclone:

As the district lies on the coastal belt of Bay of Bengal, the district tends to have threat to cyclone and tidal disasters. Cyclones ordinarily bring in their trail heavy rains causing severe floods and saline inundation

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

Sl. No.	Name of the Block/ ULB	No. of susceptible Gram Panchayats	No. of susceptible Villages/ Wards	Vulnerab le Population in Nos.	Milch and Draught animals	Hou ses	Vulnerable Infrastructure			
							Schoo l/ AWC Buildi ngs	Hospita ls	Roa ds (in Km)	Oth er Crit ical Infr astr uct ure

1	Puri Sadar	26	156	396252	31823	-	348	5	-	-
2	Satyabadi	22	96	196136	24633	-	176	5	-	-
3	Delang	18	134	109291	21391	-	190	6	-	-
4	Krushnaprasad	20	129	57505	19785	-	184	6	-	-
5	Nimapara	28	240	208139	48024	-	350	6	-	-
6	Kakatpur	14	114	100525	28600	-	185	5	-	-
7	Astarang	14	102	67748	24763	-	150	3	-	-
8	Brahmagiri	18	167	132319	24366	-	253	4	-	-
9	Gop	29	223	199195	34466	-	300	9	-	-
10	Kanas	22	139	71870	28312	-	230	6	-	-
11	Pipili	19	204	159750	34021	-	232	6	-	-
	Total	230	1704	1698730	320184	-	2598	61	-	-

[Note: Based on historical data the table to be filled up. Only concerned Blocks/ ULBs to be mentioned.]

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

Electrical Infrastructure and cyclone Vulnerability:

Table No. 04

Sl. No	Name of the Block	No of Grid Stations	No of 33/11KV Substation	No. of Distributing Transformers			Conductor / Electrical lines- 11 KV (Length in Kms.)	No of Electrical Poles	Conductor / Electrical lines- LT (Length in Kms.)	No of Electrical Poles	No of High Tension Towers	High Tension Lines above 11KV (Length in Kms.)
				11KV or Less	11KV < and < 60KV	60KV & Above						
1	Puri Sadar	2	7	90	395	547	555.83	9450	654	16340	0	110.79
2	Brahmagiri	1	3	177	431	254	457.24	7773	194	4855	0	34.3
3	Satyabadi	0	1	156	268	155	406.24	6906	296	7389	0	8.2
4	Delang	0	1	73	172	127	224.56	3818	219	5471	0	13
5	Kanas	0	1	19	211	141	214.226	3641	124.36	3109	0	14
6	Pipili	0	1	163	369	613	139.9	2378	140.39	3510	0	32.1
7	Astarang	0	1	91	192	143	302.25	5138	244.9	6122	0	10

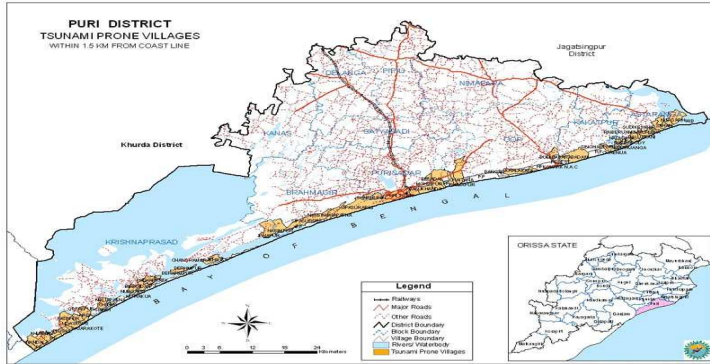
8	Kakatapur	0	1	185	305	192	430.2	7313	447.22	5235	0	27
9	Nimapara	1	1	112	390	126	450.71	7662	526.31	6512	0	6
10	Gop	1	3	185	315	241	437.6	7439	464.05	5420	0	45.2
	Total	5	20	1251	3048	2539	3618.8	61518	3309.46	63963	0	300.59

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

Sl. No.	Name of the Block	Total No. of Functional Tube Wells	Total No. of Sanitary Wells	Pipe Water Supply				Other Drinking Water Sources If any
				Total No.	Length in Mtrs.	No. of Over Head tanks	No. of Stand Points	
1	2	3	4	5	6	7	8	9
1	Astaranga	751	86	9	-	-	-	
2	Brahmagiri	1254	5	30	-	-	-	
3	Delanga	1184	1	24	-	-	-	
4	Gop	1514	34	35	-	-	-	
5	Kakatpur	1208	54	16	-	-	-	
6	Kanas	916	60	20	-	-	-	
7	Krushnaprasad	819	28	24	-	-	-	
8	Nimapada	1870	3	31	-	-	-	
9	Pipili	1635	0	28	-	-	-	
10	Purisadar	1273	64	54	-	-	-	
11	Satyabadi	1332	94	24	-	-	-	
	TOTAL	13756	429	295		-	-	

3.2 Tsunami:

As the district is located in the coast of Bay of Bengal, it is prone to Tsunami. Preparedness measures to handle emergency situations in the event of occurrence of tsunami, is a part of the District Disaster Management Plan.



Vulnerability of Puri District				
Name of the District	Coastline with Bay of Bengal	No. of Block	No of G.P	No of Village
Ganjam	62	4	15	44
Puri	138	6	33	88
Jagatsinghpur	72	3	10	27
Kendrapada	79	2	13	64
Bhadrak	52	2	13	41
Balasore	87	5	29	63
Total	490	22	113	327

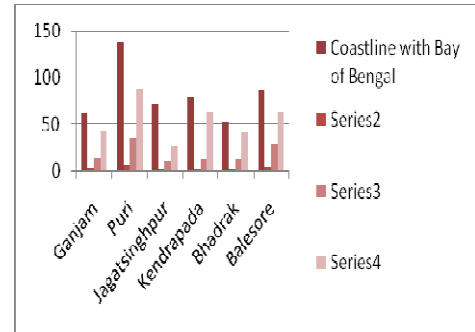


Table No. 06 : Tsunami vulnerable areas of the district:

Sl. No.	Name of the Block/ ULB	No. of susceptible Gram Panchayats	No. of susceptible Villages/ Wards	Vulnerable Population in Nos.	Milch and Draught animals	Houses	Vulnerable Infrastructure			
							School Buildings/ Anganwadis	Hospitals	Roads (in Km)	Other critical Infrastructure
1	Astaranga	6	25	-	-	-	34	-	-	-
2	Kakatpur	3	7	-	-	-	13	-	-	-

3	Gop	4	8	-	-	-	36	-	-	-
4	Puri Sadar	2	5	-	-	-	5	-	-	-
5	Brahmagiri	4	6	-	-	-	8	-	-	-
6	Krushnaprasad	14	37	-	-	-	54	-	-	-
	Total	33	88	-	-	-	150	-	-	-

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

3.3 Flood:

The Hirakud reservoir discharges water into the Naraj that redistributes water into three major rivers of Puri that carry nearly 9 lakh cusec water in its course, as a result of which the district is prone to flood in the monsoon. Flood in its wake brings allied diseases, thus causing epidemics in all the blocks. Crop loss also occurs as a result of flood.

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

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	Krushnaprasad	20	114	89370	-	-	175	-	-	-
2	Brahmagiri	8	8	-	-	-	240	-	-	-
3	Satyabadi	11	38	46466	-	-	143	-	-	-
4	Kakatpur	3	8	12667	-	-	24	-	-	-
5	Astarang	14	65	-	-	-	80	-	-	-
6	Pipili	11	11	-	-	-	64	-	-	-
7	Nimapara	23	111	99325	-	-	142	-	-	-
8	Puri Sadar	30	145	150799	-	-	29	-	-	-

9	Gop	11	45	-	-	-	24	-	-	-
10	Kanas	22	132	142624	-	-	210	-	-	-
11	Delang	13	83	74188	-	-	22	-	-	-
	To-tal	166	760	615439	-	-	1153	-	-	-

[Note: Based on historical data the tables to be filled up. Only relevant blocks to be mentioned.]

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

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

Sl. No.	Causing agent- Rivers/ Water bodies/Tidal Wave/ Others	No. of Susceptible Blocks/ ULB	No. of Susceptible GPs	No. of Susceptible Villages/ Wards	Vulnerable Population	Milch and Draught animals	Houses	Vulnerable Infrastructure			
								School/ AWC Buildings	Hospitals	Roads (in Km)	Other Critical Infra.
1	Devi Left	Kakatpur	-	2	-	-	-	-	-	-	-
2	Bhargabi Right	Satyabadi, Puri Sadar & Pipli	-	27	-	-	-	-	-	-	-
3	Bhargabi Left	Nimapara	-	3	-	-	-	-	-	-	-
4	Malaguni Left	Kanas	-	2	-	-	-	-	-	-	-
5	Malaguni Right	Kanas	-	7	-	-	-	-	-	-	-
6	Rajua Right	Kanas	-	2	-	-	-	-	-	-	-
7	Daya Right	Kanas & Pipli	-	13	-	-	-	-	-	-	-
8	Daya Left	Pipli & Delang	-	10	-	-	-	-	-	-	-
9	Siarcut Left	Puri Sadar	-	1	-	-	-	-	-	-	-
10	Gabkund Cut Left	Puri Sadar	-	2	-	-	-	-	-	-	-
11	Gabkund Cut Right	Puri Sadar	-	3	-	-	-	-	-	-	-
12	Makara	Kanas	-	3	-	-	-	-	-	-	-

	Right										
13	Kushabhadr a Left	Nimapara	-	9	-	-	-	-	-	-	-
14	Kushabhadr a Right	Nimapara & Gop	-	6	-	-	-	-	-	-	-
15	Dhanua Left	Gop	-	1	-	-	-	-	-	-	-
	Total	-	-	92	-	-	-	-	-	-	-

[Note: Based on historical the tables to be filled up. Only relevant blocks to be mentioned. The causing agents outside district boundary, having vulnerability should also be mentioned]

Table No. 09: Agriculture and Flood Vulnerability

Sl. No.	Name of the Block	Cultivable Area (Hectares)		Area susceptible to Flood (Hectares)	
		Paddy	Non Paddy	Paddy	Non Paddy
1	Astaranga	10915	-	10915	-
2	Brahmagiri	17402	-	17402	-
3	Delang	18014	-	18014	-
4	Gop	25325	-	25325	-
5	Kakatpur	9406	-	9406	-
6	Kanas	17023	-	17023	-
7	Krushnaprasad	14708	-	14708	-
8	Nimapara	26205	-	26205	-
9	Pipili	19305	-	19305	-
10	Puri Sadar	16482	-	16482	-
11	Satyabadi	13398	-	13398	-
	Total	188183	-	188183	-

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

Sl. No	Name of the Block	No of Grid Stations	No of 33/1 KV Substation	No. of Distributing Transformers			Conductor / Electrical lines- 11 KV (Length in Kms.)	No of Electrical Poles	Conductor / Electrical lines- LT (Length in Kms.)	No of Electrical Poles	No of High Tension Towers	High Tension Lines above 11KV (Length in Kms.)
				11KV or Less	11KV < and < 60 KV	60KV & Above						
1	Puri Sadar	2	7	90	395	547	555.83	9450	654	16340	0	110.79
2	Brahmagiri	1	3	177	431	254	457.24	7773	194	4855	0	34.3
3	Satyabadi	0	1	156	268	155	406.24	6906	296	7389	0	8.2
4	Delang	0	1	73	172	127	224.56	3818	219	5471	0	13
5	Kanas	0	1	19	211	141	214.226	3641	124.36	3109	0	14
6	Pipili	0	1	163	369	613	139.9	2378	140.39	3510	0	32.1
7	Astarang	0	1	91	192	143	302.25	5138	244.9	6122	0	10
8	Kakatapur	0	1	185	305	192	430.2	7313	447.22	5235	0	27
9	Nimapara	1	1	112	390	126	450.71	7662	526.31	6512	0	6
10	Gop	1	3	185	315	241	437.6	7439	464.05	5420	0	45.2
	Total	5	20	1251	3048	2539	3618.8	61518	3309.46	63963	0	300.59

Table No.11 : Drinking water and Flood Vulnerability:

Sl. No.	Name of the Block	Total No. of Functional Tube Wells	Total No. of Sanitary Wells	Pipe Water Supply				Other Drinking Water Sources If any
				Total No.	Length in Mtrs.	No. of Over Head tanks	No. of Stand Points	
1	2	3	4	5	6	7	8	9
1	Astaranga	751	86	9	-	-	-	
2	Brahmagiri	1254	5	30	-	-	-	
3	Delanga	1184	1	24	-	-	-	
4	Gop	1514	34	35	-	-	-	

5	Kakatpur	1208	54	16	-	-	-	
6	Kanas	916	60	20	-	-	-	
7	Krushnaprasad	819	28	24	-	-	-	
8	Nimapada	1870	3	31	-	-	-	
9	Pipili	1635	0	28	-	-	-	
10	Purisadar	1273	64	54	-	-	-	
11	Satyabadi	1332	94	24	-	-	-	
TOTAL		13756	429	295		-	-	

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

Table No. 12

Sl. No.	Name of the Event/ Festival/ Function	Place (Block & Gram Panchayat)	Duration of the event (in 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	New Year	Puri	1 day	January	2,00,000	
2	Chilika Mahostav	Satapada Krushnaprasad Block & Satapada Panchayat	3 days	January	20,000	
3	Republic day	Puri	1 day	January	10,000	Parade ground

4	Magha Mela	Chandrabhaga / Konark Gop Block & Konark NAC	1 day	January/February	1,00,000	
5	Jhamu Yatra	Kakatpur Kakatpur Block & GP	Each Tuesday in the month	March/April	50,000	
6	Pana Sankranti	Krushnaprasad Krushnaprasad Block & GP	5 days	April	50,000	
7	Jagar Jatra	Lokanath Temple, Puri	1 day	February/March	1,00,000	
8	Snanapurnima	Sri Jagannath Temple, Puri	1 day	May/June	2,00,000	
9	Anabasara	Alarnath Temple, Brahmagiri Brahmagiri Block & GP	15 days	May/June	10,000	
10	Naba Jouvan Darshan	Sri Jagannath Temple, Puri	1 day	June/July	2,00,000	
11	Car Festival	Puri	1 day	June/July	10,00,000	For one day and average 1 lakh for 8 days
12	Sandhya Darshan	Gundicha Temple, Puri	1 day	June/July	4,00,000	
13	Bahuda Yatra	Puri	1 day	June/July	4,00,000	
14	Sunabesha	Puri	1 day	June/July	10,00,000	
15	Adhara & Niladri Bije	Puri	2 days	June/July	1,00,000	
16	Independence Day	Saradhabali, Puri	1 day	August	10,000	

17	Bhasani Ustav	Puri	1 day	October	1,00,000	
18	Anla Navami	Sakhigopal Satyabadi Block	1 day	October/November	30,000	
19	Kali Puja	Biragobindpur, Satyabadi Block	1 day	October/November	1,00,000	
20	Kartik Purnima	Puri	5 days	November	1,00,000	For five days & average 50,000 per day in the entire month
21	Konark Mahostav	Konark Gop Block & Konark NAC	5 days	December	30,000	
22	X-mas	Puri	1 day	December	1,00,000	

3.5 Boat operation points:

Table No. 13:

Sl.No	Name of the Block	Name of the Ghat/Boat Operation Point	Name of the Water Body	No.of Panchayat	Name of the Villages Connected	Daily to & from movement of people in Nos.(Approx)	Type of Boats operating in Nos.	
							Mechanised	Non-Mechanised
1	2	3	4	5		6	7	8
1	Delang	During Flood Operation	Luna & Daya River	Muninda G.P.	Muninda , Sana Muninda, Belapada	Nil	1	Nil
2	Delang	During Flood Operation	Luna & Daya River	Kalyanpur	Radhua,Kalyanpur, Balihunka, Sisupada	Nil	1	Nil
3	Delang	During Flood Operation	Luna & Daya River	Ghanipur	Jorakani, Bitipur,Tigiria	Nil	1	Nil
4	Delang	During Flood Operation	Luna & Daya River	Dhankera	Dhankera,Nimaker a,Saradhapur	Nil	1	Nil
5	Delang	During Flood Operation	Luna & Daya River	Sujanpur	Patanapur,Ratanpur, Gunuputu	Nil	1	Nil
6	Delang	During Flood Operation	Luna & Daya River	Singhberhampur	Neepur.Maligaon, Tailasahi	Nil	1	Nil

7	Delang	During Flood Operation	Luna & Daya River	Chainpur	Chainpur, Ratapada, Pathardih a, Danapada	Nil	1	Nil
8	Delang	During Flood Operation	Luna & Daya River	Gualipada	Huruhura	Nil	1	Nil
9	Kakatpur	Patharapak a & Bhandisahi	Devi River	2 Villages of 1 G.P (Patasundar pur G.P) daily		100	2	0
10	Kakatpur	College square ,Kakatpur	Prachi River	Kakatpur G.P, Othaka G.P, Kundhei G.P (During flood time)		150	3	0
11	Kakatpur	Asijanga	Kadua River	Kadua Nuagaon G.P, Bangurigaon G.P (During flood time)		100	1	0
12	Kanas	Dokanda	Daya River	10		No	-	-
13	Krushnaprasad	krushnaprasad to Balunga	Chilika	14 G.p/50 Villages		225	3	0
14	Krushnaprasad	Nuapada to Balunga	Chilika	2 G.P /5 Villages		50	1	0
15	Krushnaprasad	Gurubai to Balunga	Chilika	2G.P /4villages		45	1	0
16	Krushnaprasad	Janhikuda to satapada	Chilika	21G.p/126 Villages		1200	3	0
17	Krushnaprasad	Berhampur to satapada	Chilika	1 G.P/2 villages		215	2	0
18	Krushnaprasad	satapada to Balunga	Chilika	7 G.P/25 Village		45	1	0
19	Nimapara	Bamanal	Dhanua River	Bamanal G.P	Barimunda, Saderia ,Bada Ninigaon, Pipalia, B hutapada, Tihula, Botei, Pati, Paika Sahi, Bamanal	7000	Yes	
20	Nimapara	Toriha Bandha	Dhanua River	Sains Sasan	Toriha Bandha & Rabena Sahi	3000	Yes	
21	Nimapara	Gada Torihan	Dhanua River	Kotakusanga	Baku, Kajipur & Maham	4000	Yes	
22	Nimapara		Dhanua River	Badasiribila	Gada torihan Chhaka	4000	Yes	

23	Nimapara	Kajipatna	Dhanua River	Alanda	Juanlo,Badhei Sahi,Porokana&Chingudiakanta	6000	Yes	
24	Nimapara		Dhanua River	Sagada	Kerendiabindha,Jainabada,Ankaspur, Ghoddasalia & Kanapur	10000	Yes	
25	Nimapara		Dhanua River	Dhanua	Sunugorodi,Dihasa hi,Barihapada,Dekhata&Bhuan	7000	Yes	
26	Puri Sadar	Luna River, KBD Pur GP	Luna River	KBD Pur	KBD Pur	4335		1
					Kulia Pada			
					Sujanpur			
					Siruli			
					Parakhanda			
27	Puri Sadar	Ratnachira River, Goudakera GP	Ratnachira River	Goudakera	Jatipur	3473		1
					Pandaswar			
					Goudakera			
					Khandighar			
					Sateisi Batia			
					Atharapa			
					Kalika Nuapada			
28	Puri Sadar	Ratnachira River, Bhailipur GP	Ratnachira River	Bhailipur	Bedarpada	5189		2
					Olla			
					Bhailipur			
					Arihna			
					Antikera			
					Rua			
29	Puri Sadar	Luna River, PRC Pur GP	Luna River	Pratap Ramachandrapur	Inipina	3167		1
					Arol Patana			
					Ankia			
					Karadi			
30	Puri Sadar	Bhargavi River, PP PurGP	Bhargavi River	Pratap Purusottampur	Siuli Tota	4451		1
					Siuli			
					Kurushnajan Pur			
31	Puri Sadar	Luna River, BRC PurGP	Luna River	Bijaya Ramachandrapur	BRC Pur	2419		1
					Puruna Koranga			
32	Puri Sadar	Ratnachira River, Hantuka GP	Ratnachira River	Hantuka	Koupala	3539		1
					Baniakera			
					Kurunti			
					Hantuka			

33	Puri Sadar	Ratnachira River, Basudebpu r GP	Ratnachira River	Basudebpur	Gokulpur	1140		1
34	Puri Sadar	Ratnachira River, Kerandipur GP	Ratnachira River	Kerandipur	Kerandipur	5176		2
					Balabhadrapur Utterhan			
					Naudikera			
					Kamasasan			
35	Puri Sadar	Dhanua River, Baliput GP	Dhanua River	Baliput	Laxmi Narayanpur	3383		1
					Palli			
					Amuri			
					Siaro			
36	Puri Sadar	Bhargavi River, Chalisibati a GP	Bhargavi River	Chalisibatia	Tadasa Ramahansapur	5899		2
					Paikerapur			
					Odasamalla			
					Bhikaripada			
					Chalisibatia			
					Kanchi Sasan			
					Balia			
Dasa Goba								
37	Puri Sadar	Bhargavi River, Balipada GP	Bhargavi River	Balipada	Banguruba Gadadharpur	5514		2
					Balipada			
					Dhola Biranchidaspur			
					Kaliakera			
					Jhinkiria			
					Gopinathpur			
38	Puri Sadar	Bhargavi River, Talajanga GP	Bhargavi River	Talajanga	Talajanga	3729		1
39	Puri Sadar	Bhargavi River, Gadamurgasira GP	Bhargavi River	Gadamurgasira	Gadamurgasira	4689		1
					Patajoshipur			
					Alapur			
					Sundar			
					Bagha			
40	Puri Sadar	Bhargavi River, Jamarsuan GP	Bhargavi River	Jamarsuan	Jamarsuan	2674		1
					Dailibati			
					Malikera			
41	Puri Sadar	Bhargavi	Bhargavi	BHK Pur	Rahagiria	3710		1

		River, BHK Pur GP	River		Rendua			
					Jagannath Ballava			
					Purusottam Ballava			
42	Puri Sadar	Bhargavi River, Baliguali GP	Bhargavi River	Baliguali	Balukhanda	5789		2
43	Puri Sadar	Bhargavi River, Beladal GP	Bhargavi River	Beladal	Ura	1136		1
					Alatunga			
44	Puri Sadar	Bhargavi River, Samagara GP	Bhargavi River	Samagara	Balukhanda	5070		2
45	Puri Sadar	Bhargavi River, Samanga GP	Bhargavi River	Samanga	Kashi Jagannathpur	759		1
46	Puri Sadar	Bhargavi River, Sasan Damodarpu r GP	Bhargavi River	Sasan Damodarpu r	Utter Kona	759		1
47	Puri Sadar	Nuanai, Beladal	Nuanai River	Beladal			4	
48	Satyabadi	Pahadachul a	Bhargabi		1 GP 4 Village	2000	4	Nil
49	Satyabadi	Ketaki-pata na	Dhanua		1 GP 3 Village	1000	3	Nil
50	Satyabadi	Sukal	Ratnachira		1 GP 5 Village	2000	4	Nil

3.6 Land Slide Vulnerability:

Table No. 14

Sl. No.	Land Slide Zone/ Area/ Location	Area in Sq. Km	No. of susceptible Villages/ Wards	Vulnerable Population in Nos.	Houses	Vulnerable Infrastructure			
						School / AWC Buildings	Hospitals	Roads (in Km)	Other Critical Infrastructure
1	-NA-	-	-	-	-	-	-	-	-
2	-NA-	-	-	-	-	-	-	-	-
3	-NA-	-	-	-	-	-	-	-	-
4	-NA-	-	-	-	-	-	-	-	-
5	-NA-	-	-	-	-	-	-	-	-

Puri district is not vulnerable to landslide.

3.7 Lightning:

Table No. 15-

Sl. No.	Name of the Block/ ULB	Identifiable incidents of lightning hit in last 5 years		No. of Lightning events	No. fatality/ Deaths	Injured Persons
		No. GPs	No. of Villages/ Wards			
1	Puri District				34	
2						
3						
4						
5						

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

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

Sl. No.	Name of the Industry/Unit	Complete Postal Address	Telephone Number	Manufacturing Item
1.	M/s Vijaya Impex	Chakratirtha Road, Puri		Prawn Fishing
2.	M/s Vijaya Marine Products	Atharanala, Puri		Prawn Fishing
3.	M/s S. Chanchala Combines	Atharanala, Puri		Prawn Fishing
4.	M/s Jagannath Export & Import	Atharanala, Puri		Prawn Fishing
5.	M/s Utkal Marine	Gokhara, Brahmagiri		Prawn Fishing
6.	M/s Utkal Udyog	Gokhara, Brahmagiri		Prawn Fishing
7.	M/s Hindustan Ice Factory	Gokhara, Brahmagiri		Ice Blocks
8.	M/s Neelachal Ice Factory	Chakratirtha Road, Puri		Ice Blocks
9.	M/s Utkal Ice Factory	Puri		Ice Blocks
10.	M/s Ice Producers	Puri		Ice Blocks

Table No. 16-

Sl. No.	Name & location of the Industry/ Storage point	Department/ Ownership	Name of hazardous materials stored	Quantity	Total no. of workers in the establishment	No. of adjacent Villages/ Habitations within 2 Kms. radius	Susceptible Population	House	Vulnerable Infrastructure		
									School Buildings & AWC	Hospitals	Other Critical Infra.
1											
2											
3											
4											
5											

[Detailed vulnerable habitations list and other critical infrastructure is at Table No. 3.2 of Volume II of the DDMP]

3.9 Drought:

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

Table No.- 17

Sl. No.	Name of the Block	Average Annual Rain Fall (2016)	Ground Water Level	Cultivated Area (In Hectares)			
				Paddy		Non- Paddy	
				Rain fed Area	Irrigated area	Rain fed Area	Irrigated area
1	Astarang	139.23	-	5714	5201	-	-
2	Brahmagiri	84.16	-	10546	6856	-	-
3	Delang	70.08	-	7047	10967	-	-
4	Gop	111.98	-	9434	15891	-	-
5	Kakatpur	117.03	-	1793	7613	-	-
6	Kanas	84.59	-	7378	9645	-	-

7	Krushnaprasad	95.20	-	13543	1165	-	-
8	Nimapara	112.75	-	3656	22549	-	-
9	Pipili	94.73	-	4732	14573	-	-
10	Puri Sadar	119.39	-	6002	10480	-	-
11	Satyabadi	93.08	-	2083	11315	-	-
	Total	1122.22	-	71928	116255	-	-

Sl. No.	NAME OF THE BLOCK	Autumn			Winter			Kharif			Summer			Total		
		Area	Yield- rate	Produ-ction	Area	Yield- rate	Produ-ction	Area	Yield- rate	Produ-ction	Area	Yield- rate	Produ-ction	Area	Yield- rate	Produ-ction
Year : 1990-91																
1	KRUSHNAPRASAD	168	7.18	1207	11512	1.46	16817	11680	1.54	18024	22	28.00	616	11702	1.59	18640
2	BRAHMAGIRI	77	9.31	717	13688	1.27	17342	13765	1.31	18059	2742	29.59	81136	16507	6.01	99195
3	PURI-SADAR	129	19.97	2576	15217	5.19	79019	15346	5.32	81595	1170	26.44	30935	16516	6.81	112530
4	GOP	653	23.18	15135	16207	14.46	234343	16860	14.80	249478	1206	21.83	26327	18066	15.27	275805
5	KAKATPUR	1104	31.57	34858	7586	17.37	131740	8690	19.17	166598	571	31.34	17895	9261	19.92	184493
6	ASTARANG	953	21.25	20254	5443	14.95	81368	6396	15.89	101622	200	30.89	6178	6596	16.34	107800
7	NIMAPARA	673	28.69	19308	17577	26.85	471982	18250	26.92	491290	758	33.42	25332	19008	27.18	516622
8	SATYABADI	107	19.36	2072	11782	10.99	129450	11889	11.06	131522	873	24.23	21153	12762	11.96	152675
9	KANASA	38	10.13	385	18006	3.45	62032	18044	3.46	62417	1693	36.33	61507	19737	6.28	123924
10	DELANGA	173	25.88	4477	14766	13.98	206481	14939	14.12	210958	368	28.01	10308	15307	14.46	221266
11	PIPILI	500	23.78	11890	11198	29.42	329435	11698	29.18	341325	571	31.35	17901	12269	29.28	359226
DISTRICT TOTAL		4575	24.67	112879	142982	12.31	1760009	147557	12.69	1872888	10174	29.42	299288	157731	13.77	2172176

Year : 1991-92																
1	KRUSHNAPRASAD	338	19.06	6443	9222	14.42	132977	9560	14.58	139420	13	30.00	390	9573	14.60	139810
2	BRAHMAGIRI	171	18.37	3141	16855	3.59	60509	17026	3.74	63650	7841	37.72	295763	24867	14.45	359413
3	PURI-SADAR	112	30.65	3433	16956	12.47	211492	17068	12.59	214925	4091	29.20	119457	21159	15.80	334382
4	GOP	424	19.44	8244	18069	15.77	285002	18493	15.86	293246	7201	29.00	208829	25694	19.54	502075
5	KAKATPUR	636	27.44	17452	6925	30.36	210260	7561	30.12	227712	2021	33.64	67986	9582	30.86	295698
6	ASTARANG	681	24.25	16516	6799	24.29	165115	7480	24.28	181631	802	26.20	21012	8282	24.47	202643
7	NIMAPARA	418	27.15	11349	18732	36.28	679586	19150	36.08	690935	12144	39.91	484667	31294	37.57	1175602
8	SATYABADI	70	25.99	1819	12294	25.46	312976	12364	25.46	314795	2975	34.27	101953	15339	27.17	416748
9	KANASA	98	23.49	2302	17572	8.08	142068	17670	8.17	144370	3047	30.35	92476	20717	11.43	236846
10	DELANGA	77	28.78	2216	13612	28.10	382462	13689	28.10	384678	4524	27.34	123686	18213	27.91	508364
11	PIPILI	397	30.14	11966	11657	38.23	445639	12054	37.96	457605	6888	40.49	278895	18942	38.88	736500

DISTRICT TOTAL	3422	24.80	84881	148693	20.36	3028086	152115	20.46	3112967	51547	34.82	1795114	203662	24.10	4908081
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**Year :
1992-93**

1	KRUSHNAPRASAD	1201	14.06	16887	7675	14.29	109676	8876	14.26	126563	52	10.98	571	8928	14.24	127134
2	BRAHMAGIRI	431	15.08	6499	15703	9.72	152560	16134	9.86	159059	10373	27.76	287954	26507	16.86	447013
3	PURI-SADAR	138	22.86	3155	12427	15.28	189861	12565	15.36	193016	4718	20.45	96483	17283	16.75	289499
4	GOP	1255	14.22	17844	18190	12.64	229879	19445	12.74	247723	3996	20.35	81319	23441	14.04	329042
5	KAKATPUR	544	21.51	11700	6086	10.13	61627	6630	11.06	73327	1006	31.44	31629	7636	13.74	104956
6	ASTARANG	487	21.41	10426	7762	12.29	95385	8249	12.83	105811	45	20.51	923	8294	12.87	106734
7	NIMAPARA	497	15.35	7628	18331	23.50	430807	18828	23.29	438435	7632	36.53	278797	26460	27.11	717232
8	SATYABADI	172	24.00	4128	11501	17.32	199207	11673	17.42	203335	1849	22.91	42361	13522	18.17	245696
9	KANASA	72	18.88	1359	16345	10.66	174170	16417	10.69	175529	4411	8.40	37052	20828	10.21	212581
10	DELANGA	120	20.06	2407	14505	19.96	289548	14625	19.96	291955	507	21.96	11134	15132	20.03	303089
11	PIPILI	222	18.76	4165	12610	31.20	393423	12832	30.98	397588	1077	28.82	31039	13909	30.82	428627
	URBAN	36	16.78	604	1821	20.42	37185	1857	20.35	37789	956	26.01	24866	2813	22.27	62655
	DISTRICT TOTAL	5175	16.77	86802	142956	16.53	2363328	148131	16.54	2450130	36622	25.23	924128	184753	18.26	3374258

**Year :
1993-94**

1	KRUSHNAPRASAD	531	6.29	3338	9979	15.77	157397	10510	15.29	160735	15	30.13	452	10525	15.31	161187
2	BRAHMAGIRI	339	23.61	8004	17465	15.43	269487	17804	15.59	277491	5573	20.71	115417	23377	16.81	392908
3	PURI-SADAR	108	19.20	2074	16282	12.01	195545	16390	12.06	197619	5209	23.69	123401	21599	14.86	321020
4	GOP	1159	25.40	29436	16321	27.73	452578	17480	27.58	482014	2811	27.52	77359	20291	27.57	559373
5	KAKATPUR	504	26.86	13536	8996	32.66	293831	9500	32.35	307367	2259	35.19	79494	11759	32.90	386861
6	ASTARANG	885	25.57	22631	6618	25.95	171715	7503	25.90	194346	1016	26.02	26436	8519	25.92	220782
7	NIMAPARA	673	22.02	14820	18143	31.73	575735	18816	31.39	590555	3081	36.44	112272	21897	32.10	702827
8	SATYABADI	47	17.66	830	10357	17.98	186193	10404	17.98	187023	3671	30.06	110350	14075	21.13	297373
9	KANASA	189	19.56	3696	16745	21.49	359850	16934	21.47	363546	3313	18.24	60429	20247	20.94	423975
10	DELANGA	55	22.75	1251	13292	26.53	352631	13347	26.51	353882	2260	25.27	57110	15607	26.33	410992
11	PIPILI	606	22.12	13407	12345	34.37	424296	12951	33.80	437703	6077	35.22	214032	19028	34.25	651735
	URBAN	50	22.18	1109	1890	23.47	44356	1940	23.44	45465	946	27.68	26185	2886	24.83	71650

DISTRICT TOTAL	5146	22.18	114132	148433	23.47	3483614	153579	23.43	3597746	36231	27.68	1002937	189810	24.24	4600683
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**Year :
1994-95**

1	KRUSHNAPRASAD	39	7.82	305	6276	6.13	38495	6315	6.14	38800	4	19.25	77	6319	6.15	38877
2	BRAHMAGIRI	550	9.01	4954	11098	7.83	86897	11648	7.89	91851	4585	30.83	141356	16233	14.37	233207
3	PURI-SADAR	58	13.81	801	11117	4.71	52335	11175	4.75	53136	5208	22.35	116399	16383	10.35	169535
4	GOP	730	8.05	5874	11621	7.89	91634	12351	7.89	97508	5549	24.76	137393	17900	13.12	234901
5	KAKATPUR	289	14.51	4194	8351	14.56	121608	8640	14.56	125802	2910	16.17	47055	11550	14.97	172857
6	ASTARANG	432	14.16	6119	5083	10.53	53530	5515	10.82	59649	108	19.77	2135	5623	10.99	61784
7	NIMAPARA	413	15.67	6473	17240	16.38	282350	17653	16.36	288823	8361	21.47	179511	26014	18.00	468334
8	SATYABADI	92	13.15	1210	7027	3.95	27757	7119	4.07	28967	5103	18.35	93640	12222	10.03	122607
9	KANASA	-	-	-	7276	1.07	7760	7276	1.07	7760	2096	15.40	32278	9372	4.27	40038
10	DELANGA	26	15.85	412	10637	12.19	129665	10663	12.20	130077	4290	11.43	49035	14953	11.98	179112
11	PIPILI	257	21.83	5610	11466	20.41	234040	11723	20.44	239650	7423	17.10	126933	19146	19.15	366583
	URBAN	20	12.45	249	1532	10.50	16085	1552	10.52	16334	1223	20.29	24815	2775	14.83	41149
DISTRICT TOTAL	2906	12.46	36201	108724	10.51	1142156	111630	10.56	1178357	46860	20.29	950627	158490	13.43	2128984	

**Year :
1995-96**

1	KRUSHNAPRASAD	65	12.63	821	12782	11.88	151879	12847	11.89	152700	284	29.91	8494	13131	12.28	161194
2	BRAHMAGIRI	367	16.10	5908	5473	13.03	71306	5840	13.22	77214	6115	22.65	138505	11955	18.04	215719
3	PURI-SADAR	149	18.99	2830	12297	14.55	178946	12446	14.61	181776	3746	32.21	120659	16192	18.68	302435
4	GOP	486	19.18	9322	16790	20.87	350460	17276	20.83	359782	5913	30.26	178927	23189	23.23	538709
5	KAKATPUR	882	15.17	13384	7511	21.60	162245	8393	20.93	175629	2435	26.11	63578	10828	22.09	239207
6	ASTARANG	845	13.86	11709	5695	22.98	130881	6540	21.80	142590	292	28.27	8255	6832	22.08	150845
7	NIMAPARA	231	17.39	4016	19059	26.54	505845	19290	26.43	509861	10974	34.64	380139	30264	29.41	890000
8	SATYABADI	74	15.11	1118	10475	16.38	171537	10549	16.37	172655	4459	24.92	111118	15008	18.91	283773
9	KANASA	54	12.91	697	17262	16.24	280272	17316	16.23	280969	3534	27.75	98069	20850	18.18	379038
10	DELANGA	197	9.90	1950	15025	17.92	269224	15222	17.81	271174	1906	26.32	50166	17128	18.76	321340
11	PIPILI	265	19.00	5035	11510	28.55	328557	11775	28.33	333592	7968	36.00	286848	19743	31.43	620440
	URBAN	26	18.23	474	1915	21.82	41794	1941	21.78	42268	1276	29.91	38165	3217	25.00	80433
DISTRICT TOTAL	3641	15.73	57264	135794	19.46	2642946	139435	19.37	2700210	48902	30.32	1482923	188337	22.21	4183133	

**Year :
1996-97**

1	KRUSHNAPRASAD	-	-	-	10622	0.75	7967	10622	0.75	7967	6	28.17	169	10628	0.77	8136
2	BRAHMAGIRI	491	4.51	2216	10516	7.47	78533	11007	7.34	80749	3314	16.72	55410	14321	9.51	136159
3	PURI-SADAR	70	9.41	659	15483	12.64	195683	15553	12.62	196342	6367	23.42	149115	21920	15.76	345457
4	GOP	320	10.88	3483	18023	16.90	304634	18343	16.80	308117	7152	29.61	211771	25495	20.39	519888
5	KAKATPUR	326	4.44	1447	5149	7.72	39726	5475	7.52	41173	1594	38.86	61943	7069	14.59	103116
6	ASTARANG	324	9.57	3101	5022	11.68	58643	5346	11.55	61744	483	22.69	10959	5829	12.47	72703
7	NIMAPARA	56	18.07	1012	18600	28.76	534894	18656	28.73	535906	12805	30.01	384278	31461	29.25	920184
8	SATYABADI	22	16.95	373	11279	15.92	179530	11301	15.92	179903	5142	27.38	140788	16443	19.50	320691
9	KANASA	36	11.92	429	16943	11.17	189222	16979	11.17	189651	2431	22.79	55402	19410	12.63	245053
10	DELANGA	63	1.67	105	13674	19.70	269370	13737	19.62	269475	2634	36.68	96615	16371	22.36	366090
11	PIPILI	166	18.24	3028	12210	27.61	337083	12376	27.48	340111	6953	28.17	195866	19329	27.73	535977
	URBAN	13	14.23	185	1967	15.25	30002	1980	15.25	30187	1378	28.15	38791	3358	20.54	68978
	DISTRICT TOTAL	1887	8.50	16038	139488	15.95	2225287	141375	15.85	2241325	50259	27.88	1401107	191634	19.01	3642432

**Year :
1997-98**

1	KRUSHNAPRASAD	109	13.79	1503	7684	15.21	116874	7793	15.19	118377	-	-	-	7793	15.19	118377
2	BRAHMAGIRI	382	15.04	5745	12802	8.67	110993	13184	8.85	116738	6673	24.78	165357	19857	14.21	282095
3	PURI-SADAR	30	18.23	547	14446	10.62	153442	14476	10.64	153989	3526	27.82	98093	18002	14.00	252082
4	GOP	301	22.07	6643	14570	19.57	285087	14871	19.62	291730	1672	25.12	42001	16543	20.17	333731
5	KAKATPUR	425	21.40	9095	8698	19.67	171076	9123	19.75	180171	582	22.09	12856	9705	19.89	193027
6	ASTARANG	434	23.06	10008	6911	14.25	98483	7345	14.77	108491	151	26.28	3968	7496	15.00	112459
7	NIMAPARA	26	17.46	454	15952	25.57	407826	15978	25.55	408280	1568	29.77	46679	17546	25.93	454959
8	SATYABADI	62	15.31	949	11161	19.16	213875	11223	19.14	214824	830	25.86	21464	12053	19.60	236288
9	KANASA	6	12.33	74	17059	4.64	79164	17065	4.64	79238	4197	24.44	102575	21262	8.55	181813
10	DELANGA	2	29.00	58	15037	11.41	171561	15039	11.41	171619	1257	35.86	45076	16296	13.30	216695
11	PIPILI	110	23.02	2532	12756	25.62	326814	12866	25.60	329346	1146	30.59	35056	14012	26.01	364402
	URBAN	25	15.12	378	1960	15.72	30811	1985	15.71	31189	609	27.36	16662	2594	18.45	47851
	DISTRICT TOTAL	1912	19.87	37986	139036	15.58	2166006	140948	15.64	2203992	22211	26.55	589787	163159	17.12	2793779

**Year :
1998-99**

1	KRUSHNAPRASAD	-	-	-	5517	5.60	30894	5517	5.60	30894	62	11.23	696	5579	5.66	31590
2	BRAHMAGIRI	76	11.64	885	16648	9.31	155023	16724	9.32	155908	8620	23.17	199725	25344	14.03	355633
3	PURI-SADAR	19	15.16	288	15405	9.12	140467	15424	9.13	140755	4258	27.44	116840	19682	13.09	257595
4	GOP	290	17.41	5048	14832	22.03	326795	15122	21.94	331843	5521	27.16	149950	20643	23.34	481793
5	KAKATPUR	347	24.67	8559	6524	24.04	156828	6871	24.07	165387	841	31.84	26777	7712	24.92	192164
6	ASTARANG	263	24.87	6542	3958	22.16	87712	4221	22.33	94254	57	26.47	1509	4278	22.38	95763
7	NIMAPARA	23	21.91	504	19309	21.42	413589	19332	21.42	414093	7974	28.19	224787	27306	23.40	638880
8	SATYABADI	35	16.14	565	12616	17.31	218424	12651	17.31	218989	1771	21.82	38643	14422	17.86	257632
9	KANASA	1	12.00	12	15720	12.51	196583	15721	12.51	196595	4126	14.56	60075	19847	12.93	256670
10	DELANGA	18	12.44	224	12759	13.75	175436	12777	13.75	175660	1464	20.87	30554	14241	14.48	206214
11	PIPILI	69	23.19	1600	11432	26.91	307676	11501	26.89	309276	2659	28.29	75223	14160	27.15	384499
	URBAN	8	19.88	159	1927	17.85	34392	1935	17.86	34551	1053	27.80	29273	2988	21.36	63824
	DISTRICT TOTAL	1149	21.22	24386	136647	16.42	2243819	137796	16.46	2268205	38406	24.84	954052	176202	18.29	3222257

**Year :
1999-00**

1	KRUSHNAPRASAD	-	-	-	13104	4.17	54644	13104	4.17	54644	650	21.37	13891	13754	4.98	68535
2	BRAHMAGIRI	52	8.42	438	12098	4.56	55151	12150	4.58	55589	9027	28.98	261602	21177	14.98	317191
3	PURI-SADAR	13	12.46	162	11456	7.89	90389	11469	7.90	90551	6201	29.19	181007	17670	15.37	271558
4	GOP	344	9.23	3176	20208	2.62	52905	20552	2.73	56081	6892	36.40	250869	27444	11.18	306950
5	KAKATPUR	525	14.46	7592	8422	0.98	8292	8947	1.78	15884	2990	34.37	102766	11937	9.94	118650
6	ASTARANG	393	15.81	6213	7570	0.93	7059	7963	1.67	13272	693	34.27	23749	8656	4.28	37021
7	NIMAPARA	25	14.52	363	18624	2.50	46503	18649	2.51	46866	16132	33.11	534131	34781	16.70	580997
8	SATYABADI	43	10.79	464	10019	4.93	49409	10062	4.96	49873	4253	39.35	167356	14315	15.17	217229
9	KANASA	42	10.62	446	14601	2.85	41593	14643	2.87	42039	3134	24.00	75216	17777	6.60	117255
10	DELANGA	4	22.00	88	13653	7.55	103127	13657	7.56	103215	6078	29.49	179240	19735	14.31	282455
11	PIPILI	73	25.49	1861	11548	7.53	86956	11621	7.64	88817	8022	34.30	275155	19643	18.53	363972
	URBAN	36	13.44	484	1257	5.20	6534	1293	5.43	7018	1262	33.56	42353	2555	19.32	49371
	DISTRICT TOTAL	1550	13.73	21287	142560	4.23	602562	144110	4.33	623849	65334	32.25	2107335	209444	13.04	2731184

Year :

2000-01

1	KRUSHNAPRASAD	-	-	-	6148	9.65	59329	6148	9.65	59329	151	21.00	3171	6299	9.92	62500
2	BRAHMAGIRI	62	10.26	636	8824	8.95	79012	8886	8.96	79648	961	15.38	14780	9847	9.59	94428
3	PURI-SADAR	89	18.21	1621	9131	17.18	156860	9220	17.19	158481	1902	30.86	58696	11122	19.53	217177
4	GOP	421	17.83	7506	19231	18.50	355704	19652	18.48	363210	2860	30.63	87602	22512	20.03	450812
5	KAKATPUR	375	16.31	6116	8486	17.18	145811	8861	17.15	151927	813	27.65	22479	9674	18.03	174406
6	ASTARANG	573	8.62	4939	6981	7.75	54101	7554	7.82	59040	229	26.76	6128	7783	8.37	65168
7	NIMAPARA	63	17.14	1080	17746	25.95	460445	17809	25.92	461525	1859	30.17	56086	19668	26.32	517611
8	SATYABADI	8	14.88	119	10232	25.46	260524	10240	25.45	260643	191	24.55	4689	10431	25.44	265332
9	KANASA	105	19.63	2061	14077	8.81	124048	14182	8.89	126109	2516	19.91	50094	16698	10.55	176203
10	DELANGA	25	19.88	497	13659	19.99	273083	13684	19.99	273580	2043	25.48	52056	15727	20.71	325636
11	PIPILI	209	21.20	4431	10936	26.21	286666	11145	26.12	291097	1235	35.55	43904	12380	27.06	335001
	URBAN	47	18.66	877	1116	20.90	23323	1163	20.81	24200	291	31.42	9143	1454	22.93	33343
	DISTRICT TOTAL	1977	15.12	29883	126567	18.01	2278906	128544	17.96	2308789	15051	27.16	408828	143595	18.93	2717617

**Year :
2001-02**

1	KRUSHNAPRASAD	102	8.45	862	7535	9.80	73863	7637	9.78	74725	196	32.92	6452	7833	10.36	81177
2	BRAHMAGIRI	98	17.39	1704	2526	9.83	24831	2624	10.11	26535	5578	14.85	82833	8202	13.33	109368
3	PURI-SADAR	22	22.36	492	7287	13.74	100118	7309	13.77	100610	6676	34.75	231991	13985	23.78	332601
4	GOP	362	20.98	7595	16652	20.19	336150	17014	20.20	343745	7088	27.56	195345	24102	22.37	539090
5	KAKATPUR	397	24.37	9675	6096	27.22	165930	6493	27.05	175605	1484	26.66	39563	7977	26.97	215168
6	ASTARANG	523	20.66	10805	5719	24.33	139117	6242	24.02	149922	145	25.25	3661	6387	24.05	153583
7	NIMAPARA	52	19.62	1020	17744	26.55	471189	17796	26.53	472209	5792	31.85	184475	23588	27.84	656684
8	SATYABADI	59	27.12	1600	10315	35.36	364752	10374	35.31	366352	724	33.66	24370	11098	35.21	390722
9	KANASA	-	-	-	2214	5.87	12986	2214	5.87	12986	6401	30.27	193758	8615	24.00	206744
10	DELANGA	5	28.20	141	11263	22.87	257530	11268	22.87	257671	885	32.79	29019	12153	23.59	286690
11	PIPILI	427	26.33	11243	11149	38.22	426115	11576	37.78	437358	1147	32.89	37725	12723	37.34	475083
	URBAN	49	22.43	1099	876	23.88	20919	925	23.80	22018	711	31.24	22212	1636	27.04	44230
	DISTRICT TOTAL	2096	22.06	46236	99376	24.09	2393500	101472	24.04	2439736	36827	28.55	1051404	138299	25.24	3491140

**Year :
2002-03**

1	KRUSHNAPRASAD	42	6.71	282	9053	6.90	62470	9095	6.90	62752	174	17.34	3017	9269	7.10	65769
2	BRAHMAGIRI	113	15.45	1746	5463	5.25	28699	5576	5.46	30445	8545	9.66	82545	14121	8.00	112990
3	PURI-SADAR	-	-	-	12565	5.79	72712	12565	5.79	72712	1419	27.00	38313	13984	7.94	111025
4	GOP	193	17.03	3287	18682	12.55	234419	18875	12.59	237706	1550	29.11	45121	20425	13.85	282827
5	KAKATPUR	384	19.03	7307	7320	10.32	75530	7704	10.75	82837	256	27.88	7137	7960	11.30	89974
6	ASTARANG	519	11.59	6013	5756	14.25	82027	6275	14.03	88040	51	26.97	1375	6326	14.13	89415
7	NIMAPARA	'S'	0.00	0	17386	18.89	328408	17386	18.89	328408	505	37.76	19069	17891	19.42	347477
8	SATYABADI	1	21.00	21	10932	11.85	129579	10933	11.85	129600	379	35.47	13443	11312	12.65	143043
9	KANASA	-	-	-	14942	8.68	129760	14942	8.68	129760	1817	24.24	44044	16759	10.37	173804
10	DELANGA	-	-	-	13573	15.32	207879	13573	15.32	207879	193	30.67	5919	13766	15.53	213798
11	PIPILI	50	20.80	1040	11937	21.32	254489	11987	21.32	255529	867	35.32	30622	12854	22.26	286151
	URBAN	31	16.77	520	1136	13.56	15407	1167	13.65	15927	310	18.44	5716	1477	14.65	21643
	DISTRICT TOTAL	1333	15.17	20216	128745	12.59	1621379	130078	12.62	1641595	16066	18.44	296321	146144	13.26	1937916

**Year :
2003-04**

1	KRUSHNAPRASAD	-	-	-	6904	10.01	69088	6904	10.01	69088	126	16.14	2034	7030	10.12	71122
2	BRAHMAGIRI	5	3.80	19	5849	2.81	16424	5854	2.81	16443	5930	17.38	103079	11784	10.14	119522
3	PURI-SADAR	-	-	-	9788	6.75	66095	9788	6.75	66095	6050	31.19	188694	15838	16.09	254789
4	GOP	69	7.16	494	16019	8.45	135395	16088	8.45	135889	3267	32.30	105539	19355	12.47	241428
5	KAKATPUR	282	9.85	2777	8185	12.58	102961	8467	12.49	105738	280	23.71	6639	8747	12.85	112377
6	ASTARANG	175	8.88	1554	3623	17.91	64898	3798	17.50	66452	33	27.02	892	3831	17.58	67344
7	NIMAPARA	15	22.53	338	18304	23.78	435280	18319	23.78	435618	8642	34.78	300596	26961	27.31	736214
8	SATYABADI	-	-	-	12492	16.44	205387	12492	16.44	205387	3168	34.73	110019	15660	20.14	315406
9	KANASA	-	-	-	16478	2.63	43408	16478	2.63	43408	6312	29.36	185320	22790	10.04	228728
10	DELANGA	-	-	-	11438	14.76	168793	11438	14.76	168793	3027	30.46	92212	14465	18.04	261005
11	PIPILI	103	29.37	3025	12550	34.85	437325	12653	34.80	440350	4750	31.97	151874	17403	34.03	592224
	URBAN	6	15.83	95	1071	15.63	16740	1077	15.63	16835	391	32.79	12819	1468	20.20	29654
	DISTRICT TOTAL	655	12.67	8302	122701	14.36	1761794	123356	14.35	1770096	41976	30.01	1259717	165332	18.33	3029813

**Year :
2004-05**

1	KRUSHNAPRASAD	-	-	-	10181	4.46	45409	10181	4.46	45409	12	17.58	211	10193	4.48	45620
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2	BRAHMAGIRI	14	4.82	67	4966	5.16	25613	4980	5.16	25680	7054	12.54	88470	12034	9.49	114150
3	PURI-SADAR	-	-	-	9584	20.78	199155	9584	20.78	199155	3573	29.00	103631	13157	23.01	302786
4	GOP	71	18.35	1303	13522	27.86	376773	13593	27.81	378076	4246	31.90	135432	17839	28.79	513508
5	KAKATPUR	493	14.00	6904	8626	25.76	222199	9119	25.12	229103	2407	29.29	70493	11526	25.99	299596
6	ASTARANG	349	12.21	4260	4866	13.27	64586	5215	13.20	68846	83	28.45	2361	5298	13.44	71207
7	NIMAPARA	4	28.70	115	17902	28.49	510016	17906	28.49	510131	8701	32.58	283478	26607	29.83	793609
8	SATYABADI	-	-	-	11811	34.04	402061	11811	34.04	402061	1709	39.58	67637	13520	34.74	469698
9	KANASA	-	-	-	16724	11.73	196141	16724	11.73	196141	4157	24.54	102025	20881	14.28	298166
10	DELANGA	-	-	-	14201	15.00	213007	14201	15.00	213007	5453	31.62	172439	19654	19.61	385446
11	PIPILI	103	27.98	2882	13086	38.48	503575	13189	38.40	506457	6747	33.86	228461	19936	36.86	734918
	URBAN	9	22.54	203	1103	25.99	28662	1112	25.96	28865	415	32.08	13314	1527	27.62	42179
	DISTRICT TOTAL	1043	15.09	15734	126572	22.02	2787197	127615	21.96	2802931	44557	28.46	1267952	172172	23.64	4070883

**Year :
2005-06**

1	KRUSHNAPRASAD	20	10.46	209	7905	14.10	111474	7925	14.09	111683	67	26.74	1791	7992	14.20	113474
2	BRAHMAGIRI	-	-	-	9214	9.71	89452	9214	9.71	89452	13473	30.63	412680	22687	22.13	502132
3	PURI-SADAR	-	-	-	10369	17.35	179863	10369	17.35	179863	9197	27.97	257254	19566	22.34	437117
4	GOP	95	18.48	1756	20699	21.63	447783	20794	21.62	449539	5078	27.95	141916	25872	22.86	591455
5	KAKATPUR	273	12.87	3513	5780	23.92	138235	6053	23.42	141748	2321	33.61	78014	8374	26.24	219762
6	ASTARANG	310	14.49	4492	6602	28.08	185401	6912	27.47	189893	478	31.29	14954	7390	27.72	204847
7	NIMAPARA	109	17.25	1880	16479	22.27	366983	16588	22.24	368863	10485	32.43	340008	27073	26.18	708871
8	SATYABADI	-	-	-	8182	14.85	121482	8182	14.85	121482	4777	30.53	145827	12959	20.63	267309
9	KANASA	-	-	-	16276	6.83	111096	16276	6.83	111096	3411	33.72	115028	19687	11.49	226124
10	DELANGA	-	-	-	13709	18.13	248599	13709	18.13	248599	3915	34.37	134545	17624	21.74	383144
11	PIPILI	43	19.83	853	11394	32.79	373618	11437	32.74	374471	6717	34.21	229764	18154	33.28	604235
	URBAN	9	14.89	134	1114	21.20	23622	1123	21.15	23756	563	30.94	17421	1686	24.42	41177
	DISTRICT TOTAL	859	14.94	12837	127723	18.77	2397608	128582	18.75	2410445	60482	31.24	1889202	189064	22.74	4299647

**Year :
2006-07**

1	KRUSHNAPRASAD	-	-	-	6020	2.59	15597	6020	2.59	15597	228	29.14	6645	6248	3.56	22242
2	BRAHMAGIRI	-	-	-	4916	2.19	10785	4916	2.19	10785	10714	34.59	370611	15630	24.40	381396

3	PURI-SADAR	-	-	-	9499	9.84	93424	9499	9.84	93424	9090	35.89	326234	18589	22.58	419658
4	GOP	19	18.16	345	19050	17.18	327348	19069	17.18	327693	5881	31.65	186128	24950	20.59	513821
5	KAKATPUR	282	16.79	4734	6355	16.96	107769	6637	16.95	112503	1497	30.64	45863	8134	19.47	158366
6	ASTARANG	178	14.71	2618	6547	19.12	125148	6725	19.00	127766	373	31.12	11609	7098	19.64	139375
7	NIMAPARA	36	19.55	704	16883	17.86	301491	16919	17.86	302195	12599	34.46	434138	29518	24.95	736333
8	SATYABADI	-	-	-	8231	16.64	136979	8231	16.64	136979	5748	34.74	199693	13979	24.08	336672
9	KANASA	-	-	-	15500	0.93	14489	15500	0.93	14489	6833	32.88	224701	22333	10.71	239190
10	DELANGA	-	-	-	11791	9.63	113599	11791	9.63	113599	3301	33.01	108959	15092	14.75	222558
11	PIPILI	61	19.49	1189	10592	25.04	265175	10653	25.00	266364	6588	34.37	226423	17241	28.58	492787
	URBAN	6	19.14	115	1016	16.68	16943	1022	16.69	17058	591	33.91	20040	1613	23.00	37098
	DISTRICT TOTAL	582	16.68	9705	116400	13.13	1528747	116982	13.15	1538452	63443	34.06	2161044	180425	20.50	3699496

**Year :
2007-08**

1	KRUSHNAPRASAD	20	10.50	210	12511	23.52	294259	12531	23.50	294469	-	-	-	12531	23.50	294469
2	BRAHMAGIRI	65	15.06	979	4683	5.50	25776	4748	5.64	26755	10311	30.93	318945	15059	22.96	345700
3	PURI-SADAR	-	-	-	11790	16.53	194854	11790	16.53	194854	3324	34.53	114782	15114	20.49	309636
4	GOP	88	18.51	1629	18457	18.08	333792	18545	18.09	335421	3717	31.35	116542	22262	20.30	451963
5	KAKATPUR	254	16.90	4292	7386	22.82	168578	7640	22.63	172870	3154	32.93	103851	10794	25.64	276721
6	ASTARANG	69	13.64	941	3037	24.93	75726	3106	24.68	76667	477	34.18	16302	3583	25.95	92969
7	NIMAPARA	1	16.33	16	18989	24.29	461233	18990	24.29	461249	6584	38.63	254335	25574	27.98	715584
8	SATYABADI	-	-	-	10288	13.74	141317	10288	13.74	141317	5149	30.19	155461	15437	19.23	296778
9	KANASA	-	-	-	10154	8.57	86989	10154	8.57	86989	6720	31.63	212537	16874	17.75	299526
10	DELANGA	-	-	-	12476	14.71	183575	12476	14.71	183575	1769	28.75	50860	14245	16.46	234435
11	PIPILI	40	19.52	781	12710	28.40	360988	12750	28.37	361769	6009	35.30	212126	18759	30.59	573895
	URBAN	5	18.86	94	1077	20.19	21749	1082	20.19	21843	444	35.18	15621	1526	24.55	37464
	DISTRICT TOTAL	542	16.50	8942	123558	19.01	2348836	124100	19.00	2357778	47658	32.97	1571362	171758	22.88	3929140

**Year :
2008-09**

1	KRUSHNAPRASAD	-	-	-	7007	24.52	171813	7007	24.52	171813	175	27.23	4765	7182	24.59	176578
2	BRAHMAGIRI	509	22.64	11525	5457	2.68	14612	5966	4.38	26137	10361	30.60	317011	16327	21.02	343148
3	PURI-SADAR	46	25.23	1161	11279	9.54	107566	11325	9.60	108727	5374	29.04	156056	16699	15.86	264783

4	GOP	76	19.71	1498	14201	18.11	257225	14277	18.12	258723	1611	34.77	56017	15888	19.81	314740
5	KAKATPUR	355	25.68	9116	8106	23.00	186425	8461	23.11	195541	2279	25.94	59118	10740	23.71	254659
6	ASTARANG	221	23.75	5249	5682	22.24	126354	5903	22.29	131603	445	32.45	14442	6348	23.01	146045
7	NIMAPARA	-	-	-	16919	19.17	324373	16919	19.17	324373	8439	35.20	297061	25358	24.51	621434
8	SATYABADI	-	-	-	10523	4.72	49644	10523	4.72	49644	4629	23.73	109837	15152	10.53	159481
9	KANASA	-	-	-	11348	3.54	40118	11348	3.54	40118	4619	24.76	114350	15967	9.67	154468
10	DELANGA	-	-	-	13581	6.91	93882	13581	6.91	93882	6645	27.24	181002	20226	13.59	274884
11	PIPILI	-	-	-	12528	10.65	133381	12528	10.65	133381	6935	29.39	203791	19463	17.32	337172
	URBAN	9	20.55	185	909	13.37	12149	918	13.44	12334	500	32.54	16271	1418	20.17	28605
	DISTRICT TOTAL	1216	23.63	28734	117540	12.91	1517542	118756	13.02	1546276	52012	29.41	1529721	170768	18.01	3075997

**Year :
2009-10**

1	KRUSHNAPRASAD	-	-	-	6972	21.61	150696	6972	21.61	150696	17	26.80	456	6989	21.63	151152
2	BRAHMAGIRI	-	-	-	3181	3.82	12154	3181	3.82	12154	11903	41.69	496219	15084	33.70	508373
3	PURI-SADAR	'S'	18.40	'S'	7782	17.92	139463	7782	17.92	139463	4168	33.70	140474	11950	23.43	279937
4	GOP	55	27.11	1491	14283	27.22	388812	14338	27.22	390303	1797	32.47	58347	16135	27.81	448650
5	KAKATPUR	252	23.60	5948	6149	32.07	197175	6401	31.73	203123	898	33.81	30360	7299	31.99	233483
6	ASTARANG	204	24.26	4949	6428	25.20	161975	6632	25.17	166924	96	36.69	3523	6728	25.33	170447
7	NIMAPARA	43	16.81	723	18355	27.10	497430	18398	27.08	498153	1412	36.81	51982	19810	27.77	550135
8	SATYABADI	-	-	-	9887	26.37	260689	9887	26.37	260689	963	21.74	20931	10850	25.96	281620
9	KANASA	-	-	-	12623	10.20	128760	12623	10.20	128760	6858	28.29	194015	19481	16.57	322775
10	DELANGA	-	-	-	11667	22.65	264284	11667	22.65	264284	1049	27.62	28978	12716	23.06	293262
11	PIPILI	16	23.38	374	12129	28.73	348482	12145	28.72	348856	1116	30.48	34010	13261	28.87	382866
	URBAN	4	23.35	93	853	24.27	20703	857	24.27	20796	294	33.41	9824	1151	26.60	30620
	DISTRICT TOTAL	574	23.66	13578	110309	23.30	2570623	110883	23.31	2584201	30571	34.97	1069119	141454	25.83	3653320

**Year :
2010-11**

1	KRUSHNAPRASAD	-	-	-	10371	18.17	188417	10371	18.17	188417	439	31.40	13786	10810	18.71	202203
2	BRAHMAGIRI	1	18.25	18	2112	11.09	23418	2113	11.09	23436	12027	37.16	446905	14140	33.26	470341
3	PURI-SADAR	-	-	-	10858	15.56	168913	10858	15.56	168913	4389	31.19	136907	15247	20.06	305820
4	GOP	72	27.65	1991	19033	33.27	633149	19105	33.24	635140	1407	40.90	57552	20512	33.77	692692

5	KAKATPUR	271	29.73	8058	9016	25.90	233555	9287	26.02	241613	595	34.44	20493	9882	26.52	262106
6	ASTARANG	284	23.67	6723	6680	21.83	145794	6964	21.90	152517	469	45.01	21109	7433	23.36	173626
7	NIMAPARA	12	28.36	340	18276	26.21	479047	18288	26.21	479387	1746	36.42	63596	20034	27.10	542983
8	SATYABADI	5	17.93	90	7688	17.39	133726	7693	17.39	133816	2617	28.00	73271	10310	20.09	207087
9	KANASA	-	-	-	10026	13.55	135862	10026	13.55	135862	5829	37.83	220525	15855	22.48	356387
10	DELANGA	-	-	-	13553	17.58	238275	13553	17.58	238275	1754	19.15	33595	15307	17.76	271870
11	PIPILI	18	24.28	437	11467	31.54	361723	11485	31.53	362160	1152	35.22	40573	12637	31.87	402733
	URBAN	4	27.26	109	929	24.43	22697	933	24.44	22806	315	36.81	11594	1248	27.56	34400
	DISTRICT TOTAL	667	26.64	17766	120009	23.04	2764576	120676	23.06	2782342	32739	34.82	1139906	153415	25.57	3922248

**Year :
2011-12**

1	KRUSHNAPRASAD	6	23.85	143	14030	8.65	121318	14036	8.65	121461	415	31.18	12941	14451	9.30	134402
2	BRAHMAGIRI	-	-	-	780	11.70	9126	780	11.70	9126	10631	37.24	395945	11411	35.50	405071
3	PURI-SADAR	-	-	-	10797	16.39	176948	10797	16.39	176948	2863	37.60	107650	13660	20.83	284598
4	GOP	44	30.60	1346	13727	27.90	382943	13771	27.91	384289	1672	39.72	66416	15443	29.19	450705
5	KAKATPUR	74	21.85	1617	7308	30.22	220867	7382	30.14	222484	860	40.95	35218	8242	31.27	257702
6	ASTARANG	78	24.46	1908	3533	35.10	124001	3611	34.87	125909	123	42.62	5243	3734	35.12	131152
7	NIMAPARA	2	35.68	71	19192	22.29	427816	19194	22.29	427887	3389	38.07	129023	22583	24.66	556910
8	SATYABADI	8	12.91	103	10173	16.57	168568	10181	16.57	168671	447	32.91	14711	10628	17.25	183382
9	KANASA	-	-	-	13991	3.61	50461	13991	3.61	50461	5932	45.61	270559	19923	16.11	321020
10	DELANGA	-	-	-	13408	11.17	149797	13408	11.17	149797	2912	39.29	114402	16320	16.19	264199
11	PIPILI	13	31.89	415	12255	29.29	358930	12268	29.29	359345	455	40.03	18213	12723	29.68	377558
	URBAN	1	31.07	31	930	18.38	17094	931	18.39	17125	288	38.49	11084	1219	23.14	28209
	DISTRICT TOTAL	226	24.93	5634	120124	18.38	2207869	120350	18.39	2213503	29987	39.40	1181405	150337	22.58	3394908

**Year :
2012-13**

1	KRUSHNAPRASAD	-	-	-	8525	20.63	175849	8525	20.63	175849	-	-	-	8525	20.63	175849
2	BRAHMAGIRI	-	-	-	2276	10.46	23812	2276	10.46	23812	15121	50.19	758861	17397	44.99	782673
3	PURI-SADAR	-	-	-	6887	21.90	150813	6887	21.90	150813	4192	34.33	143918	11079	26.60	294731
4	GOP	81	31.22	2529	21747	37.06	805919	21828	37.04	808448	2767	40.97	113373	24595	37.48	921821
5	KAKATPUR	136	33.04	4494	6139	43.62	267783	6275	43.39	272277	1048	43.96	46072	7323	43.47	318349

6	ASTARANG	62	37.84	2346	4554	44.48	202570	4616	44.39	204916	124	50.43	6253	4740	44.55	211169
7	NIMAPARA	37	32.51	1203	17155	47.24	810341	17192	47.20	811544	2221	50.15	111373	19413	47.54	922917
8	SATYABADI	19	15.91	302	8064	31.79	256350	8083	31.75	256652	503	31.81	15999	8586	31.76	272651
9	KANASA	-	-	-	8616	14.86	127995	8616	14.86	127995	5345	42.66	227992	13961	25.50	355987
10	DELANGA	-	-	-	10174	36.62	372603	10174	36.62	372603	697	43.75	30495	10871	37.08	403098
11	PIPILI	-	-	-	11528	41.40	477277	11528	41.40	477277	712	46.75	33287	12240	41.71	510564
	URBAN	2	33.38	67	824	32.54	26811	826	32.54	26878	317	45.43	14402	1143	36.12	41280
	DISTRICT TOTAL	337	32.47	10941	106489	34.73	3698123	106826	34.72	3709064	33047	45.45	1502025	139873	37.26	5211089

**Year :
2013-14**

1	KRUSHNAPRASAD	60	2.15	129	5626	0.42	2381	5686	0.44	2510	104	43.05	4477	5790	1.21	6987
2	BRAHMAGIRI	-	-	-	4667	0.53	2491	4667	0.53	2491	16377	57.66	944352	21044	44.99	946843
3	PURI-SADAR	5	1.96	10	7777	10.02	77926	7782	10.01	77936	3001	48.60	145861	10783	20.75	223797
4	GOP	17	18.32	311	18994	18.15	344735	19011	18.15	345046	3418	40.57	138652	22429	21.57	483698
5	KAKATPUR	33	9.99	330	5144	29.41	151277	5177	29.28	151607	600	39.82	23889	5777	30.38	175496
6	ASTARANG	62	7.07	438	6123	12.41	76004	6185	12.36	76442	307	47.29	14518	6492	14.01	90960
7	NIMAPARA	13	16.08	209	16852	13.87	233659	16865	13.87	233868	2441	44.65	108980	19306	17.76	342848
8	SATYABADI	-	-	-	6836	8.66	59179	6836	8.66	59179	1614	27.61	44561	8450	12.28	103740
9	KANASA	-	-	-	9654	1.33	12871	9654	1.33	12871	2693	48.97	131881	12347	11.72	144752
10	DELANGA	-	-	-	9329	19.44	181352	9329	19.44	181352	1100	41.81	45993	10429	21.80	227345
11	PIPILI	-	-	-	10550	20.98	221368	10550	20.98	221368	599	41.31	24745	11149	22.07	246113
	URBAN	1	16.51	17	792	12.91	10225	793	12.92	10242	313	46.44	14535	1106	22.40	24777
	DISTRICT TOTAL	191	7.56	1444	102344	13.42	1373468	102535	13.41	1374912	32567	50.43	1642444	135102	22.33	3017356

**Year :
2014-15**

1	KRUSHNAPRASAD	-	-	-	3926	36.95	145083	3926	36.95	145083	224	41.21	9231	4150	37.18	154314
2	BRAHMAGIRI	10	8.32	83	1175	16.12	18938	1185	16.05	19021	8698	61.12	531655	9883	55.72	550676
3	PURI-SADAR	-	-	-	9942	26.53	263784	9942	26.53	263784	3473	43.01	149357	13415	30.80	413141
4	GOP	5	32.01	160	18934	23.26	440340	18939	23.26	440500	4416	42.18	186248	23355	26.84	626748
5	KAKATPUR	57	27.63	1575	9045	35.85	324228	9102	35.79	325803	708	38.89	27536	9810	36.02	353339
6	ASTARANG	94	32.17	3024	7384	42.07	310678	7478	41.95	313702	274	45.15	12372	7752	42.06	326074

7	NIMAPARA	4	36.41	146	17963	26.14	469630	17967	26.15	469776	2401	45.65	109598	20368	28.45	579374
8	SATYABADI	-	-	-	4401	28.54	125596	4401	28.54	125596	1151	34.30	39482	5552	29.73	165078
9	KANASA	-	-	-	5527	15.59	86147	5527	15.59	86147	7248	34.76	251971	12775	26.47	338118
10	DELANGA	-	-	-	9976	14.28	142495	9976	14.28	142495	2231	33.30	74296	12207	17.76	216791
11	PIPILI	-	-	-	10354	39.76	411652	10354	39.76	411652	581	41.28	23986	10935	39.84	435638
	URBAN	1	29.30	29	769	27.99	21525	770	27.99	21554	305	47.33	14437	1075	33.48	35991
	DISTRICT TOTAL	171	29.34	5017	99396	27.77	2760096	99567	27.77	2765113	31710	45.10	1430169	131277	31.96	4195282

**Year :
2015-16**

1	KRUSHNAPRASAD	-	-	-	4646	1.22	5683	4646	1.22	5683	1	46.00	46	4647	1.23	5729
2	BRAHMAGIRI	-	-	-	1666	2.34	3895	1666	2.34	3895	13160	43.05	566495	14826	38.47	570390
3	PURI-SADAR	-	-	-	8663	18.91	163821	8663	18.91	163821	4572	38.78	177281	13235	25.77	341102
4	GOP	6	27.12	163	15324	33.35	511006	15330	33.34	511169	1128	36.47	41142	16458	33.56	552311
5	KAKATPUR	30	31.94	958	8155	46.46	378862	8185	46.40	379820	758	41.55	31493	8943	45.99	411313
6	ASTARANG	15	30.27	454	5607	48.83	273763	5622	48.78	274217	61	45.61	2782	5683	48.74	276999
7	NIMAPARA	-	-	-	18431	36.44	671679	18431	36.44	671679	1877	44.18	82917	20308	37.16	754596
8	SATYABADI	-	-	-	8749	18.65	163134	8749	18.65	163134	320	52.46	16787	9069	19.84	179921
9	KANASA	-	-	-	9680	12.33	119329	9680	12.33	119329	3650	49.93	182232	13330	22.62	301561
10	DELANGA	-	-	-	12345	29.17	360076	12345	29.17	360076	472	36.61	17281	12817	29.44	377357
11	PIPILI	1	23.16	23	11162	31.24	348722	11163	31.24	348745	411	43.96	18068	11574	31.69	366813
	URBAN	-	-	-	814	24.17	19675	814	24.17	19675	256	41.20	10546	1070	28.24	30221
	DISTRICT TOTAL	52	30.73	1598	105242	28.69	3019645	105294	28.69	3021243	26666	43.02	1147070	131960	31.59	4168313

Table No. 18: Drought Vulnerability.

Sl. No.	Name of the Block	Year- 2013			Year – 2014			Year- 2015			Year- 2016		
		No. of GPs experien	No. of Villages	Agricultural Crop Area lost (in Hectares)	No. of GPs experi	No. of Villages	Agricultural Crop Area lost (in Hectares)	No. of GPs experi	No. of Villa	Agricultural Crop Area lost (in Hectares)	No. of GPs experi	No. of Villa	Agricultural Crop Area lost (in Hectares)

		ced drought		Paddy	Non- Paddy	enced drough t		Paddy	Non- Paddy	enced drough t	ges	Padd y	Non- Paddy	enced drough t	ges	Paddy	Non- Paddy
1	Brahma giri	-	-	-	-	-	-	-	-	6	29	625	-	-	-	-	-
2	Krushna prasad	-	-	-	-	-	-	-	-	14	85	1840	-	-	-	-	-
3	Astarang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Delang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Gop	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Kanas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Kakatpu r	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Nimapar a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Pipili	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Puri Sadar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Satyaba di	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	20	114	2465	-	-	-	-	-

[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]

3.10 Drinking Water Crisis:

Table No. 19:

Sl. No.	Name of the Block/ ULB	Villages/ Wards without proper source of drinking water		Villages/ Wards having crisis of drinking water during summer season		Fluoride Contamination		Others Arsenic/ Saline/ Iron If any
		No. of Villages/ Wards	Population	No. of Villages/ Wards	Population	No. of Villages/ Wards	Population	
1	Astarang	0	0	-	-	0	0	0
2	Brahmagiri	0	0	-	-	0	0	0
3	Delang	0	0	-	-	0	0	0
4	Gop	0	0	-	-	0	0	0
5	Kakatpur	0	0	-	-	0	0	0
6	Kanas	0	0	-	-	0	0	0
7	Krushnaprasad	0	0	-	-	0	0	0
8	Nimapara	0	0	-	-	0	0	0
9	Pipili	0	0	-	-	0	0	0
10	Puri Sadar	0	0	-	-	0	0	0
11	Satyabadi	0	0	-	-	0	0	0
	Total	0	0	-	-	0	0	0

[Block wise village list is at Table No. 3.2 of Volume II of the DDMP]

3.11 Railway Line Exposed different Hazards:

One of the major transport services of Puri district is Railways as all parts of the country have been directly connected through railways. East Coast Railways having Head Quarters at Bhubaneswar and Divisional Head Quarters at Khurda Road is serving to the district with following 10 nos of Railway stations

- 1. Puri:** Puri Railway station is one of the major railway stations of Indian Railways. The average annual outward and inward passenger dealt at the station is 58 lakhs approximately. Various Passenger Amenities like Passenger Reservation System, Automatic Ticket Vending Machines, PNR KIOSK, Upper class Waiting Room separately for Gents and Ladies, AC and Non-AC Retiring Rooms, Dormitories, Food Plaza ,etc have been provided at Puri station.
- 2. Maltipatpur:** Maltipatpur Railway station is coming under Puri district which is only about 07 KMs from Puri station. Unreserved Ticketing System (UTS) is available at the station.
- 3. Janakdeipur Passenger Halt:** It is a Passenger Halt station in Puri district between Sakhigopal and Malatipatpur Railway stations. The base station of Janakideipur Passenger Halt is Malatipatpur station.
- 4. Sakhigopal:** Sakhigopal Railway station is in between Janakideipur Passenger Halt and Birapurushottampur railway stations. Passenger Reservation system(PRS) facility and Unreserved Ticketing System(UTS) have been provided at this station.
- 5. Birapurushottampur:** This railway station is situated in between Sakhigopal and Jenapur Road Passenger Halt. Unreserved Ticketing System (UTS) is available at the station.
- 6. Jenapur Road Passenger Halt:** It is a Passenger Halt station. The base station of this Passenger Halt is Delang station.
- 7. Delang:** . This railway station is situated in between Jenapur Road Passenger Halt and Kanas Road railway stations. Passenger Reservation system facility and Unreserved Ticketing System(UTS) have been provided at this station.
- 8. Kanas Road:** This railway station is situated in between Delang and Motari railway stations. Passenger Reservation facility and Unreserved Ticketing System(UTS) have been provided at this station.
- 9. Motari:** This railway station is situated in between Kanas Road and Haripurgram Passenger Halt stations. Unreserved Ticketing System (UTS) is available at the station.
- 10. Haripurgram Passenger Halt:** It is a Passenger Halt station. The base station of this Passenger Halt is Khurda Road station.

Table No. 20-

Sl. No.	Hazard	Length of Railway line exposed(in Km.)	Location
1	Flood		
2	Land Slide		
3	Storm Surge		
4	Tsunami		

3.12 Road Accidents:

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

Table No- 21:

Sl. No.	Stretch of Road (From - to)	Length in Kms.	No. of Traffic Congestion Areas	No. of Accident Prone Areas	No. of villages/ habitations adjacent to accident prone areas
1					
2					
3					
4					
5					

3.13 Population Requiring Special Care:

Table No: 22-

Sl. No.	Block / ULB	No. of HHs headed by Women	No. of HHs headed by PWD	No. of Persons With Disability		No. of Widows	No. of Children		No. of Orphans		No. of Aged Persons (60 and above)		No. of Pregnant and lactating mothers
				M	F		0-5 Years	6-14 Years	M	F	M	F	
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													

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

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.

4.2 National Executive Committee (NEC)

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

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

(Please refer Figure ___ of Volume –II (Page no. _) for Central Government Notification on constitution of NEC)

4.3 State Disaster Management Authority (SDMA)

The State Disaster Management Authority (SDMA) has to constitute by every state government under the Sub-section (1) & (2) of Section 14 of Disaster Management Act, 2005. The Hon'ble Chief Minister of the state are the Chairperson (*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.

(Please refer Figure ___ of Volume –II (Page no. _)for Odisha Government Notification on reconstitution of SDMA)

4.4 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 SDMA's 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.

(Please refer Figure __ of Volume –II (Page no.) for Odisha Government Notification on constitution of SEC)

4.5 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.

4.6 Special Relief Organization:

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

4.7 Odisha State Disaster Management Authority (OSDMA):

Odisha State Disaster Mitigation Authority (OSDMA) was established by the Government of Odisha as an autonomous organization vides 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.

4.8 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 -:

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

(Please refer Figure ___ of Volume –II (Page no.) for Odisha Government Notification on reconstitution of SLCNC)

4.9 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:-

- The Collector or District Magistrate or Deputy Commissioner of the District is the Chairperson (*ex-officio*) of DDMA.
- The elected representative of local authority is the Co-chairperson (*ex-officio*) of DDMA.
- Provided that in the Tribal Areas, as referred to in the Sixth Schedule to the Constitutions, the Chief Executive Member of the district council of autonomous district, shall be the co-Chairperson, *ex officio*
- The Chief Executive of the District Authority, *ex officio*;
- The Superintendent of Police, *ex officio*;
- The Chief Medical Officer of the district, *ex officio*;
- 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.

(Please refer Figure ___ of Volume –II (Page no.) for Odisha Government Notification on constitution of DDMA)

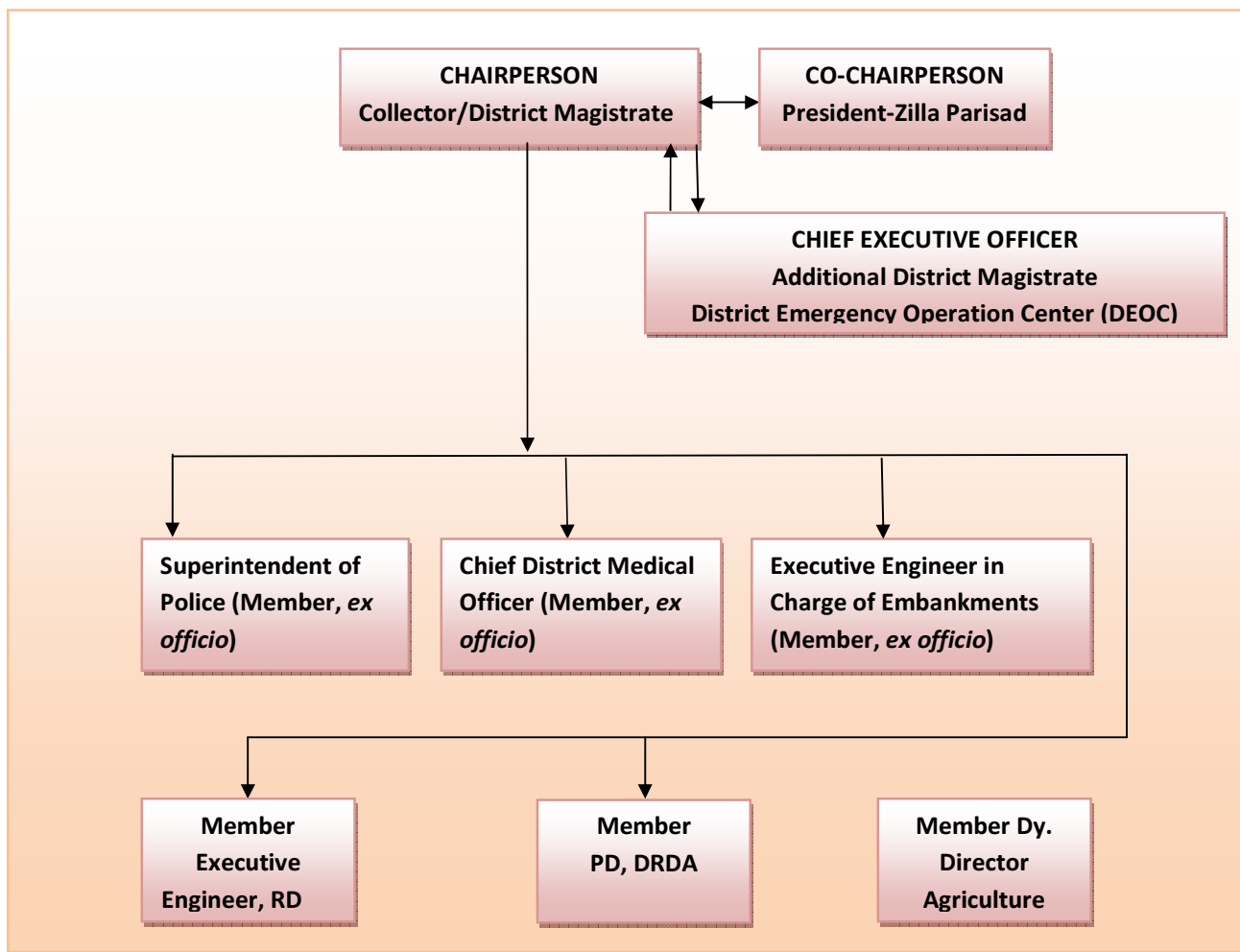
Table __ : Structure of District Disaster Management Authority

Sl No.	Name of the Officer	Designation	Position in DDMA	Contact No.
1.	Shri. Arvind Agarwal, IAS	Collector & District Magistrate, Puri	Chairperson, <i>ex-officio</i>	
2.	Shri. Jyotirmaya Dalai	Chairman, Zilla Parishad	Co-Chairperson,	9937458957

3.	Dr. Sarthak Sarangi, IPS	Superintendent of Police	ex-officio Member, ex-officio	8280382804
4.	Dr. J.K. Samantaray	Chief District Medical Officer	Member, ex-officio	9439994708
5.	Shri. Artatrana Sahoo	The Executive Engineer in charge of embankments	Member, ex-officio	9438363902
6.	Shri. Bibhuti Bhusan Das, OAS (S)	ADM in charge of Emergency	Chief Executive Officer, ex-officio	9438162021
7.	Shri. Anadi Charan Sahoo	Executive Engineer, Rural Development	Member	9437255349
8.	Dr. U. C. Majhi, OAS	Project Director, DRDA	Member	9437032322
9.	Shri. S.Chandrasekhar Rao	Deputy Director, Agriculture	Member	9437434784

(Note: The above table should be District Specific)

Figure _ : Organogram of District Disaster Management Authority



Organogram of DDMA, Puri

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 thereof;
- 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 an 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.

Specific task assigned to members of DDMA by the Chairperson

Collector and District Magistrate, Puri:

- Overall supervision of preparedness and response activities
- Monitoring the activities at different level and departments

Superintendent of Police, Puri:

- Ensure 24*7 Control Room Operation
- Ensure the law and order situation in the district at the time of emergency.
- Ensure necessary protection for the supply of relief materials.

Additional District Magistrate, Puri

- Monitoring the activities at different level and departments
- Ensure preparedness and response activities at the district level

Project Director, DRDA, Puri:

- Ensure 24*7 control room operation at different blocks
- Ensure all the block staff will be in readiness
- Ensure timely preparedness and response activities at the block level
- Ensure and monitor timely evacuation if required from the low lying areas

CDMO, Puri:

- CDMO ensure the necessary medical arrangement at the Dist. / PHC / CHC level.
- Ensure that necessary medicines with anti snake venoms are piled at different health units.
- Mobile health unit needs to be in readiness.

Executive Engineer, Irrigation, Puri

- Ensure the status of weak embankments and safe guarding of the same
- Liaison with the Deputy Collector and report the status of the embankments
- Stock piling of the flood fighting materials
- Preparation of flood contingency plan
- Monitoring the control room and close watch on the situation

Deputy Director, Agriculture, Puri:

- Flood contingency planning and monitoring
- Drought management planning
- Capacity building of the farmers as and when required for alternative cropping

District Level Committee on Natural Calamity (DLCNC)

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

Table__ : Structure of District Level Committee on Natural Calamity

Sl No.	Name of the Member	Designation	Contact No.
1	Shri. Arvind Agarwal, IAS	District Collector & District Disaster Manger	9437077034 06752-222034
2	Shri. Pinaki Mishra	MP, Puri	9437033059 0674-2596238
3	Shri. Kulamani Samal	MP, Jagatsinghpur	9437036205
4	Shri. Pradeep Kumar Maharathy	Minister, Agriculture & MLA, Pipili	9437036805

5	Shri. Sanjay Dasburma	Minister, FS&CW & MLA, Brahmagiri	9777600321
6	Shri. Maheswar Mohanty	MLA, Puri	9437023069
7	Shri. Samir Ranjan Dash	Hon'ble Chairman DPC-cum- MLA, Nimapara	9437052207
8	Shri. Umakanta Samantaray	MLA, Satyabadi	9937153010
9	Shri. Surendra Sethy	MLA, Kakatpur	9861015430
10	Dr. Sarthak Sarangi, IPS	Superintendent of Police	8280382804
11	Shri. Bibhuti Bhusan Das	Addl. District Magistrate	9438162021
12	Dr. U.C. Majhi	Project Director, DRDA/ CADA	9437032322
13	Shri. Madhusudan Das	Sub Collector	9437332498 06752-222059
14		Suptd. Engineer	
15	Dr. J.K. Samantaray	CDMO	9439994708
16	Dr. Girija Prasad Pattnaik	CDVO	06752-222009
17	Shri. Prasanna Kumar Dash	District Emergency Officer	943702440
18		Chairperson/ Vice Chairperson of Zilla Parishad	
19		Chairperson of Panchayat Samities	
20		District Development Officer	
21	Sri. S.Chandrasekhar Rao	Dy. Director, Agriculture/ Dist. Agriculture Officer	9437434784
22	Sri. Binod Kumar Swain	BDO, Astaranga	9437445663 06758-230305
23	Sri. Jitendra Kumar Sahoo	BDO, Brahmagiri	9437306664 06752-235522
24	Sri. Bijaya Kumar Nayak	BDO, Puri Sadar	9437216731 06752-223369
25	Sri. Shyam Sundar Tudu	BDO, Gop	9437736112 06758-257425
26	Sri. Santosh Kumar Sahu	BDO, Kakatpur	8895565071 06758-231138
27	Sri. Ashok Kumar Mohanty	BDO, Krushnaprasad	9437283745 06756-261033
28	Sri. Ajay Kumar Parida	BDO, Delang	9438803754 06758-242230
29	Smt. Prativa Sahu	BDO, Kanas	9437211691 06752-240022
30	Sri. Khirod Pradhan	BDO, Nimapara	9938694114 06758-250236
31	Sri. Sridhar Biswal	BDO, Pipili	9437530577 06758-240746
32	Sri. Manas Ranjan Ray	BDO, Satyabadi	9437512561 06752-272253
33	Sri. Binod Kumar Swain	Tahasildar, Astaranga	9437445663 06758-230388
34	Sri. Niti Ranjan Sen	Tahasildar, Brahmagiri	9439537399 06752-235522
35	Sri. Prabir Kumar Khilar	Tahasildar, Puri Sadar	9437314721 06752-223240

36	Smt. Sonia Behera	Tahasildar, Gop	9861071294 06758-257885
37	Smt. Rojina Das	Tahasildar, Kakatpur	9437631729 06758-231122
38	Sri. Ashok Kumar Mohanty	Tahasildar, Krushnaprasad	9437283745 06756-261022
39	Sri. Pabitra Mohan Das	Tahasildar, Delang	9861116626 06758-242100
40	Sri. Sanjay Kumar Pratihari	Tahasildar, Kanas	9438500038 06752-240165
41	Sri. Shyam Sundar Mohapatra	Tahasildar, Nimapara	9438133465 06758-250222
42	Sri. Mahendra Kumar Badhai	Tahasildar, Pipili	9437133213 06758-240728
43	Smt. Kajol Pradhan	Tahasildar, Satyabadi	8895266340 06752-272253
44		Executive Engineers, Irrigation / PHED/ PWD/ Rural Works Division/ Minor Irrigation/ Lift Irrigation/ RWSS Division/	
45		All Executive Officers of ULBs	
46		C.S.O/ R.T.O/D.I. & P.R.O/C.I/D.I. of Schools	
47		Leading NGO Representatives nominated by Chairman	
48	Sri. Benudhar Mishra	DET	9437564500

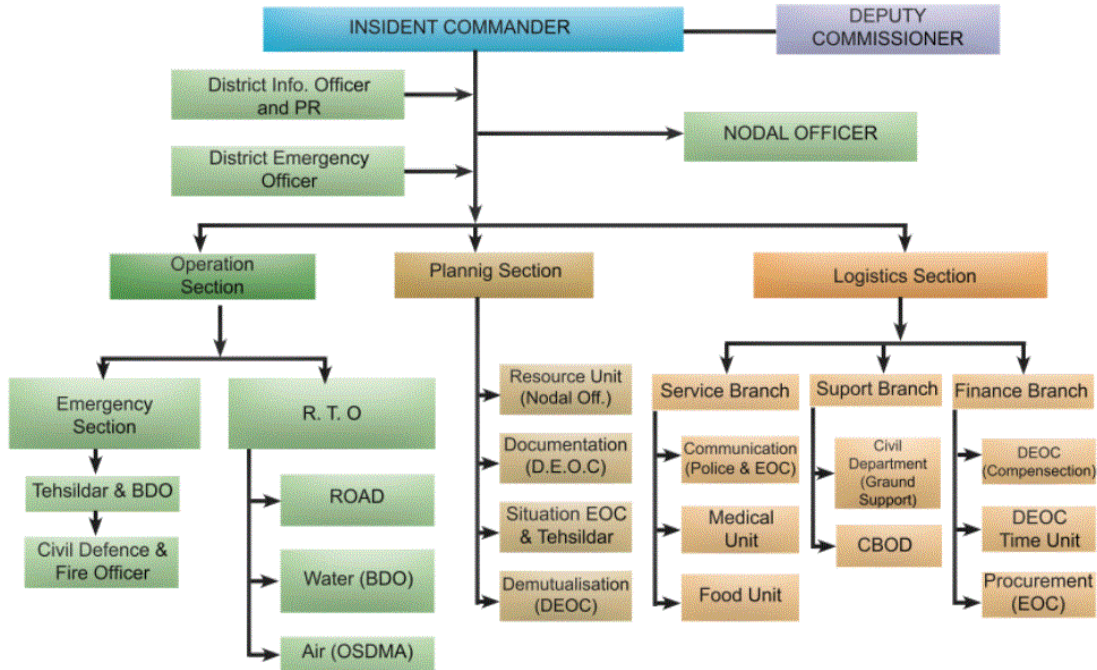
District Crisis Group, Puri

SI No	Functionaries	Designation
1	Collector & District Magistrate, Puri	Chairperson
2	The Assistant Director of Factories and Boilers ,Bhubaneswar Zone –II	Member Secretary
3	District Emergency Officer	Member
4	District Fire Officer, Puri	Member
5	The District Information and Public Relation Officer, Puri	Member
6	Deputy Controller of Civil Defense Bhubaneswar	Member
7	The Controller of Explosives	Member
8	The Superintendent Of Police, Puri	Member
9	The Commandant National Disaster Response Force, Munduli	Member
10.	The Chief District Medical Officer	Member
11.	The Executive Officer, Puri Municipality	Member
12.	The Executive Engineer, PHD Puri	Member
13.	The Regional Officer Odisha State Pollution Control Board, Puri	Member
14.	The District Agriculture Officer, Puri	Member
15.	Secy. National Safety Council Odisha Chapter	Member
16.	Siksha O Anushandhan University	Member
17.	Regional Transport Officer, Puri	Member

18.	The Sub Collector, Puri	Member(Chairperson Local Crisis Group)
19.	The District Civil Supply Officer, Puri	Member

INCIDENT RESPONSE SYSTEM, PURI

INCIDENT RESPONSE SYSTEM- INCIDENT RESPONSE TEAM (Kendrapara)



4.10 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 Tibbet Boarder 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.

Table __ : Location of National Disaster Response Forces

SI No.	Battalion, Location	State	Man power drawn from	Contact Person	Contact No.	E-Mail
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1	01 Bn, NDRF, Guwahati	Assam	BSF	Sh. S. K. Shastri, Commandant	9401307887/ 0361-2840284 / 09401048790 09435117246	assam01-ndrf@nic.in
2	02 Bn, NDRF, Kolkata	West Bengal	BSF	Sh. Nitish Upadhyay, Commandant	9434742836 / 033-25875032 09474061104 09474116775	wb02-ndrf@nic.in
3	03 Bn, NDRF, Munduli	Odisha	CISF	Sri M.K. Yadav, Commandant	09439103170/ 09437964571/067 1- 2879710/2879711	ori03-ndrf@nic.in
4	04 Bn, NDRF, Arakkonam	Tamil Nadu	CISF	Ms. Rekha Nambiyar, Commandant	9442105169 / 04177-246594 / 09442140269	tn04-ndrf@nic.in
5	05 Bn, NDRF, Pune	Maharashtra	CRPF	Sh. Anupam Srivastava, Commandant	9423506765/ 02114-247000 09422315628	mah05-ndrf@nic.in
6	06 Bn, NDRF, Gandhinagar	Gujrat	CRPF	Sh.R.S Joon, Commandant	9428826445 / 079-23201551 09723632166	guj06-ndrf@nic.in
7	07 Bn, NDRF, Ghaziabad	Uttar Pradesh	ITBP	Sh. P.K.Srivastava, Commandant	9968610014 / 0120-2766618 09412221035	up08-ndrf@nic.in
8	08 Bn, NDRF, Bhatinda	Punjab	ITBP	-	0164-2246193 / 2246570	pun07-ndrf@nic.in
9	09,Bn,NDRF, Patna	Bihar	BSF	Shri Vijay Sinha, Commandant	07762884444 06115-253939 08544415050 09525752125	patna-ndrf@nic.in
10	10 Bn, NDRF, Vijayawada	Andhra Pradesh	CRPF	Sh. Parshant Dar, Commandant	7382299621 / 0863-2293050 08333068559	ap10-ndrf@nic.in
11	11Bn,NDRF, Varanasi	Uttar Pradesh	SSB	Sh. A.K.Singh, Commandant	9455511107 / 0542-2501101 08004931410	up-11ndrf@gov.in
12	12 Bn, NDRF, Itanagar	Arunachal Pradesh	SSB	Sh. Angom Kiran Chand Singh, Commandant	9485236141 / 0360-2277106 0360-2277104	bn12.ndrf@gov.in

4.11 Odisha Disaster Rapid Action Force (ODRAF)

The Government of Odisha formed Odisha Disaster Rapid Action Force (ODRAF) vide notification no.939/CD dated 07.06.2001. ODRAF is a multi-disciplinary, multi-skilled, high-tech force for all types

of disasters. ODRAF aims at reducing casualties, clearance of communication channels, quick deployment of personnel and equipments and minimize expenditure and time lag and support institutional arrangement. In 3 phases, ten units of ODRAF have been set up. The ODRAF units are strategically located throughout Orissa. Locations of these units are identified on the basis of vulnerability profile to cut down the response time for their deployment. The ODRAF Units do not have any geographical /territorial restrictions in terms of area of operation.

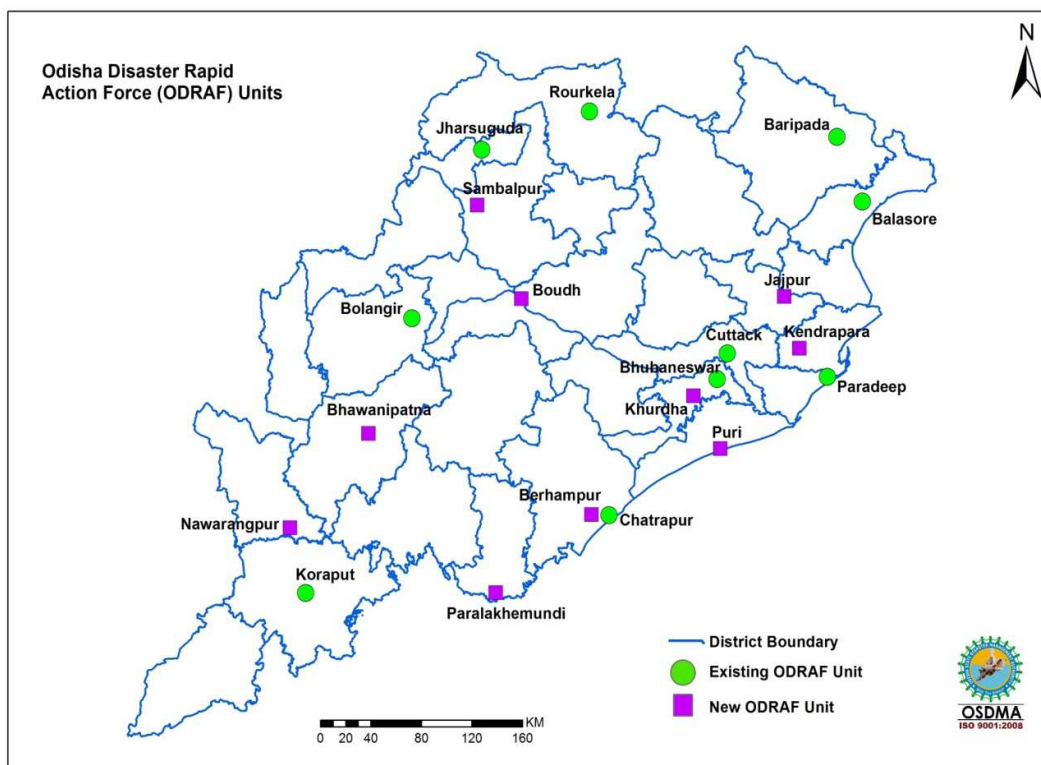
10 new units of ODRAF have been proposed to set up at different locations like Sambalur, Boudh, Kalahandi, Nawarangpur, Gajapati, Berhampur, Puri, Khorda, Kendrapada and Jajpur

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

Sl No.	Place	Personnel drawn from	Name of the Commandant	Contact No.	Name of Subedar	Contact No.
1	Cuttack	OSAP 6 th Bn, Cuttack	Mr. Lingaraj Parida	9861039267 0671-2442148	Sri. Mahatang Hansda	9439457443
2	Jharsuguda	OSAP 2 nd Bn, Jharsuguda	Mr Mohammed Zahid	9437176264	Sri. Kul Bahadur Thapa	9658630354
3	Koraput	OSAP 3 rd Bn, Koraput	Sri. Subash Chandra Nayak, OAPS-(I)	9437250194	Sri. Ramesha Chandra Hati	9938406905
4	Chatrapur	OSAP 8 th Bn, Chatrapur	Shri B.N.Mishra, OPS	94370-87055	I/C ODRAF SI(A) C.R.Bisoi	8280033508
5	Balasore	Armed Police Reserve (APR), Balasore district	Shri Nithi Sekhar,IPS	9438153309	I/C ODRAF Sgt.P.K.Ransingh	9439379619
6	Bhubaneswar	OSAP 7 th Bn, Bhubaneswar	Shri Biren Ku. Sasmal, OPS	9437081266	I/C ODRAF ACP D.K.Dehuri	9437185548
7	Baripada	OSAP 5 th Bn,Baripada	Abinash kumar IPS	9438153308	Sri. Chandamani Bag	9861986183

8	Rourkela	OSAP 4 th Bn, Rourkela	Khageswar Goud	9437358292	Sri. Ashok Behera	9437419436
9	Balangir	Armed Police Reserve (APR), Balangir district	Ashish Kumar Singh, IPS	8895046814	M Laxmiranjan,	9439268154
10	Jagatsinghpur at Paradeep	Armed Police Reserve (APR), Jagatsinghpur district	Shri J.N. Pankaj, IPS	9437102020	I/C ODRAFDSI P.K.Routray	9438436188

Map__ : Location of ODRAF Units



4.12 Other Disaster Response Teams in the district

Table__ : List of other Disaster Response Teams in the District

Sl. No.	Name of the Institutions	Name of the Chief Coordinator of the Organization	Designation	Contact Number	Alternate Contact Number	Number of Volunteers

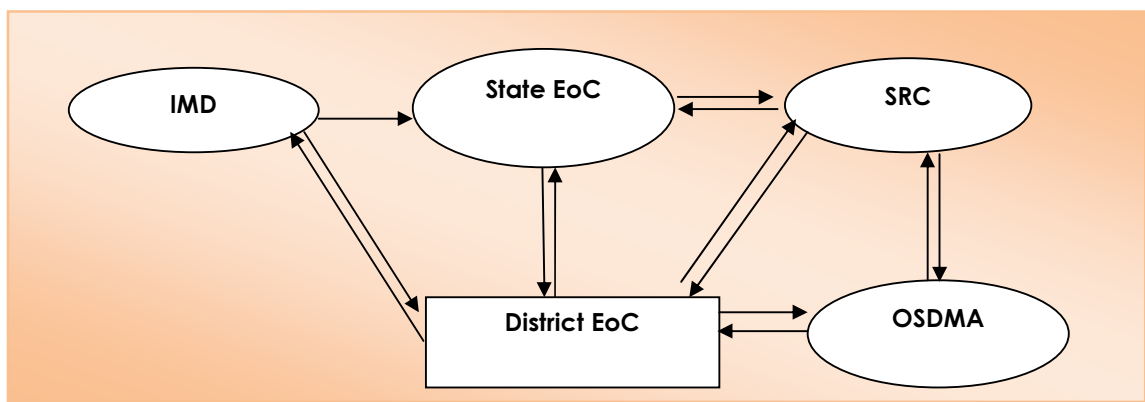
1	Civil Defence					
2	Home Guards					
3	National Service Scheme (NSS)	Dr. Pyari Mohan Patnaik	Programme Coordinator	06752-251660		1550
4	National Cadet Corps (NCC)					
5	Nehru Yuva Kendra (NYK)					
6	Red Cross					
7	NGOs					
8	VOs					

4.13 Emergency Communication System

4.13.1 State Emergency Operation Center (SEOC)

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

Figure __: Information flow chart from SEOC to Districts



4.13.2 District Emergency Operation Centers (DEOC)

DISTRICT EMERGENCY OPERATION CENTER (DEOC), PURI

TEL: 06752- 223237

Email id: deocpuri.od@gov.in and emergencypuri@yahoo.in

Address: Collectorate Building, Puri.

Sri Prasanna Kumar Dash, OAS I Dy. Collector, Emergency is in charge of Emergency Section w.e.f 17.12.2013. The DEOC landline no is 06752-223237 is also connected with Fax. Apart from this 1077 toll free number is also available in the DEOC, Puri. The DEOC is equipped with all communication equipment along with the Rescue & Search kits which includes: Mobile, Satellite Phone, Thermometer, Lifebuoy, Life Jackets, stretcher, Cutter, Aska Light, Siren and Search Light etc. which is regularly checked by the service providers/engineers by the State Nodal Agency OSDMA.

DEOC, Puri ensuring the following:-

- Implementation of all policies and plans of state govt.
- Implementation of all NDMA guidelines
- Implementation of all instructions of Revenue & Disaster Management department
- Department should ensure that all schemes based on the parameters of mitigation, relief and rehabilitation to be identified and implemented
- Implementation of all guidelines/ instructions related to disasters from GoI and state govt.
- All officers to be trained in Disaster Management.
- Implementation of National bylaws
- Implementation of Fire-safety bylaws
- Implementation of all on-site plans of the respective industries
- functionality of Emergency operation Center (EOC), Puri
- Co-ordination with the different deptts. in the district.
- Preparation of DDMP and SoPs.
- Mock Drill
- IRS
- MFS/MCS monitoring and Mock Drill
- Training & Capacity Building
- Co-ordination with state level agency i.e OSDMA, Bhubaneswar.
- Conducting GO-NGO co-ordination meeting
- Compensation to the victims and ex-gratia assistance during Natural Calamity as per the SRC norms
- Early Warning –Pre During and Post

DISTRICT CONTROL ROOM

Check	District Control Room
	Vulnerability map of the Block.
	Resource Inventory, Capacity analysis.
	List of cut off areas with safe route map for communication.
	List of storage facilities, dealers of food.
	Control room setup / assignment of control room duty.

	Pre-positioning of staff for site operation centers.
	Arrangement of alternative communication/generator sets etc.
	Arrangement of vehicles of for evacuation.
	Dissemination of warning / coordination with District control room

Communication Network/Early Warning Dissemination, Puri

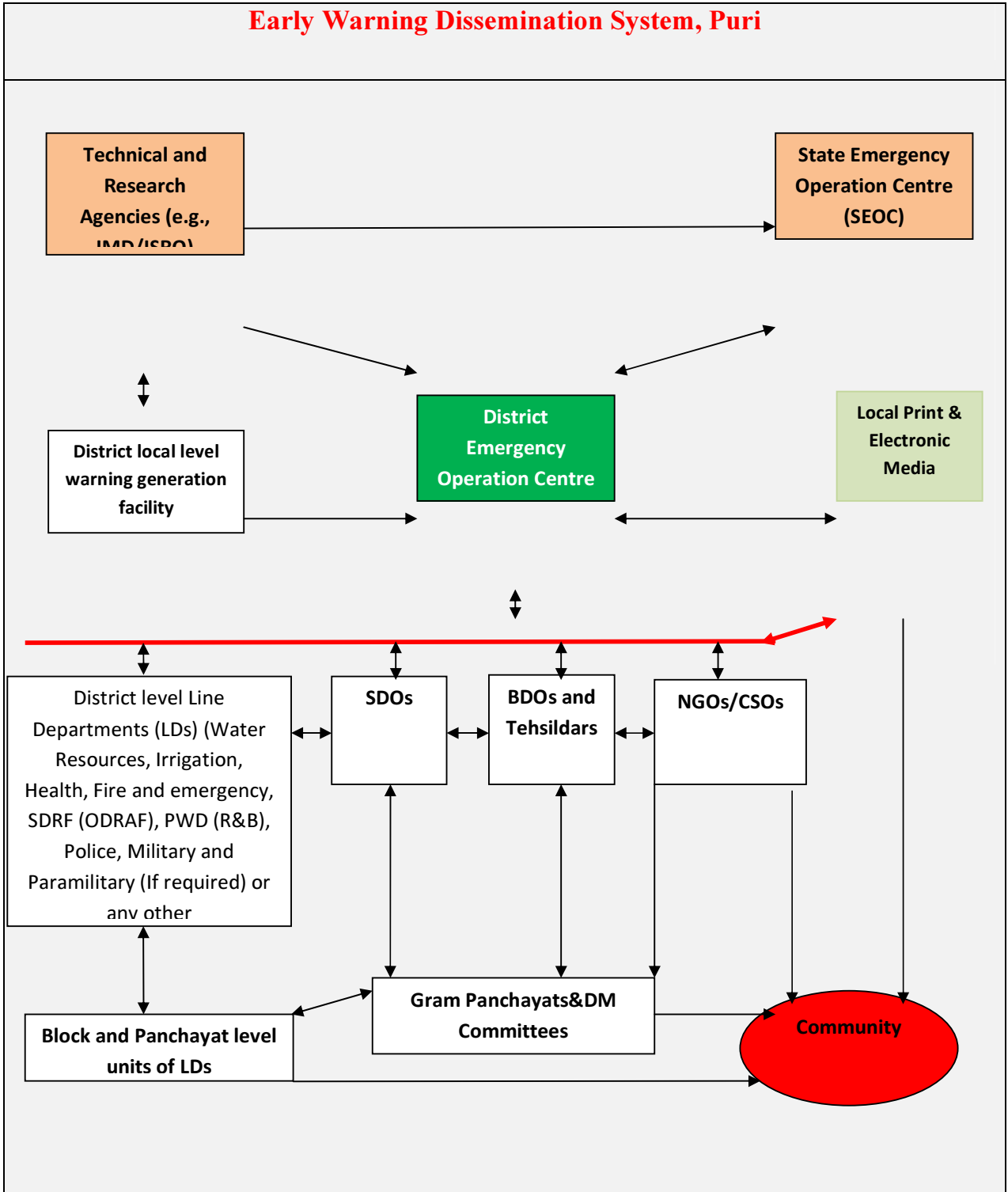


Table: 3 Equipments provided to DEoC and their operational status

SI No.	Equipments	Unit	Status		Remarks
			Operational	Non-Operational	
1	Desktop Computer	02			
2	Laser Printer	02			
3	UPS	02			
4	Scanner	01			
5	Fax	01			
6	Ink Jet Printer	00			
7	Multi Utility Machine (Printer, Scanner, Fax, copy)	01			
8	Laptop	00			
10	LCD Projector	01		Non-Operational	
11	Photocopier	00			
12	GPS Unit	00			
13	Satellite Phone	01			
14	VHF Sets	01		Non-Operational	
15	VHF Mobile Station	01		Non-Operational	
16	Walkie-Talkie (VHF hand Set)	01		Non-Operational	
17	Portable Diesel Generator	01		Non-Operational	
18	Inverter with Battery	01			
19	Inflatable Tower Light	00			
20	Power Saw	01		Non-Operational	
21	Life Jacket	04			
22	Life Buoy	04			
23	Aluminum Ladder	00			
24	Fire Extinguisher	02		Non-Operational	
25	Siren	01			
26	Megaphone	00			
27	Colour TV/Stand	00			
28	Mobile Phone	00			
29	Display Board	00			
30	White Broad	01			
31	Computer Table/Chair	00			
32	Rack	00			
33	Book Case	00			
34	GI Trunk	08			
35	Commando Search Light	01		Non-Operational	
36	Steel Almirah	02			

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

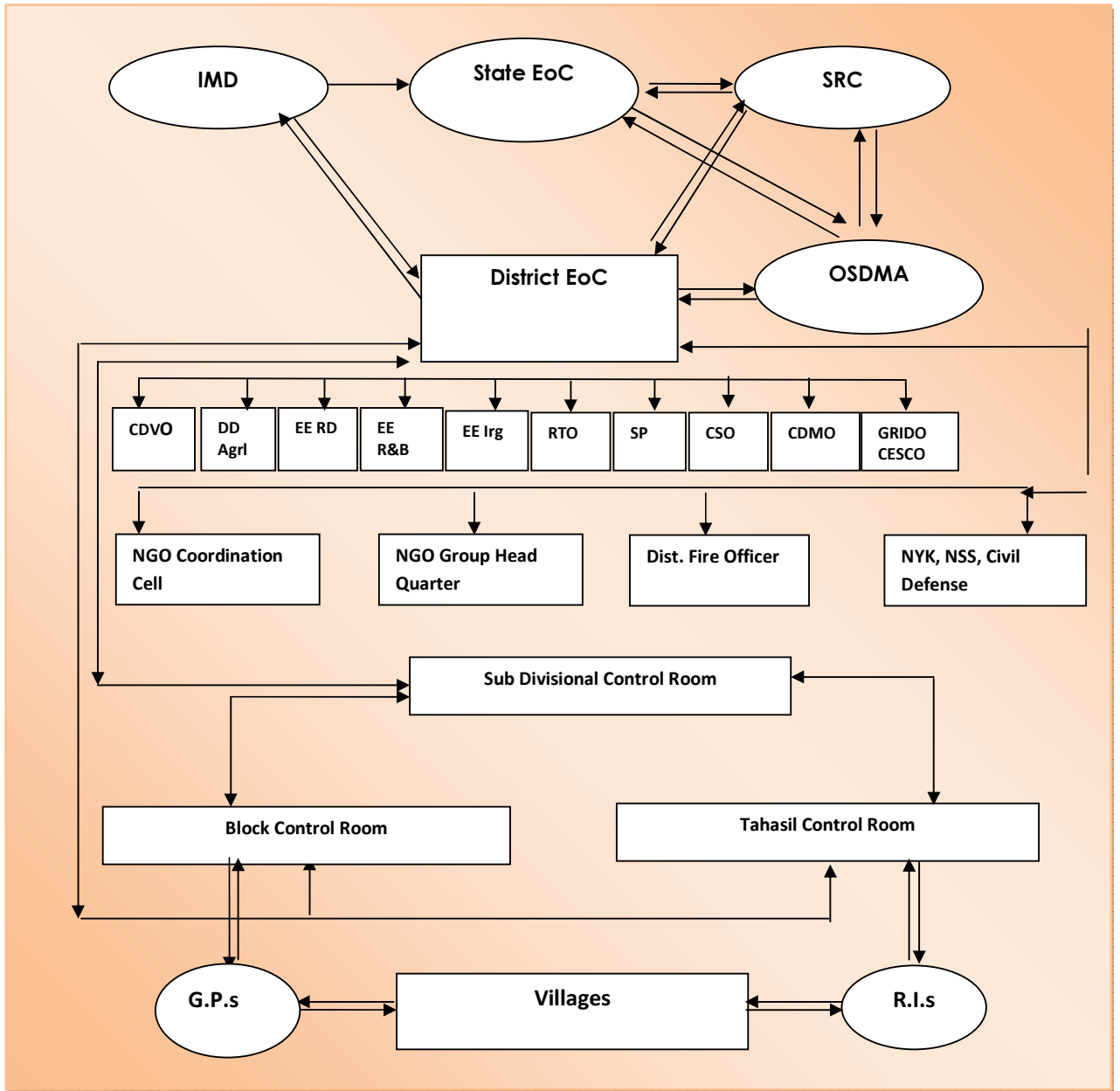
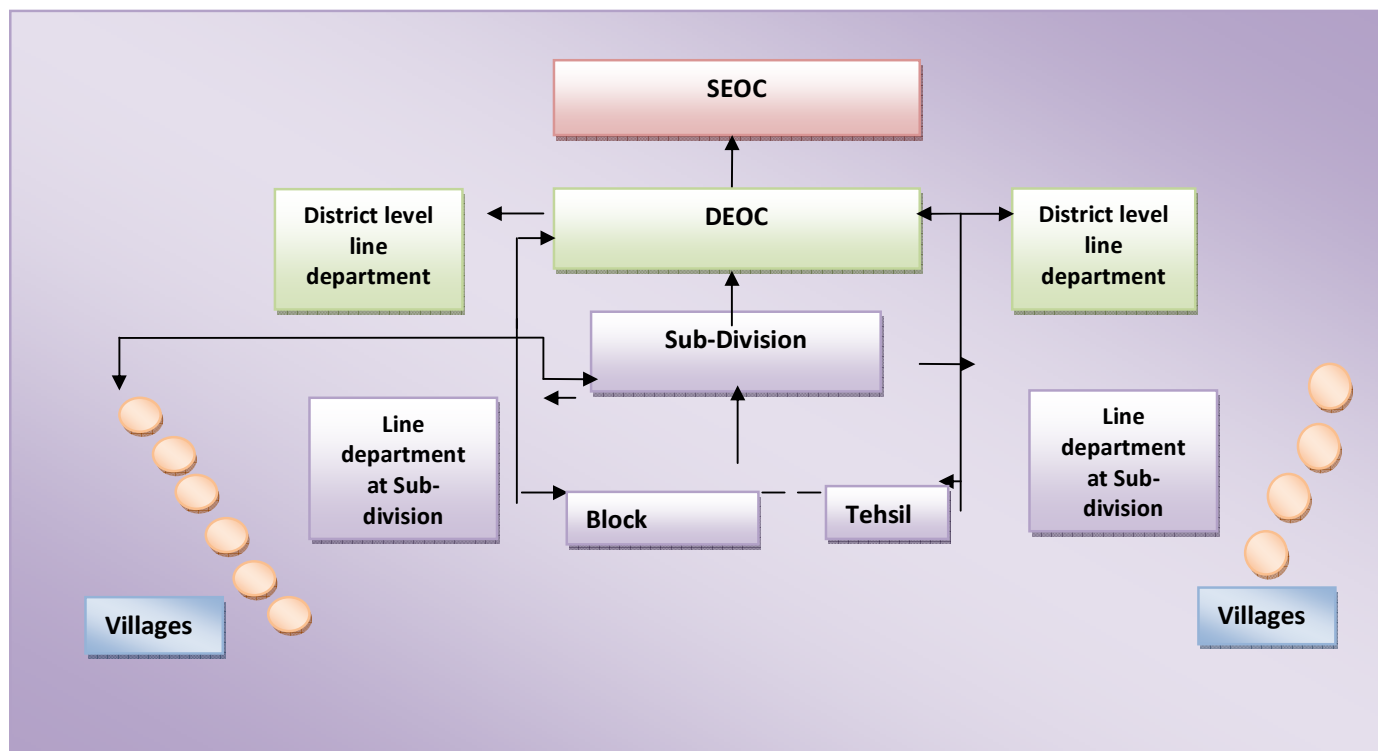


Figure __: Information flow chart from Villages to District Emergency Operation Center (DEoC) without early warning



4.13.3 Block Emergency Operation Center (BEoC)

(Note: BEOC of the District to be elaborated Structure and Function)

Table __ Important Line Departments at the Block

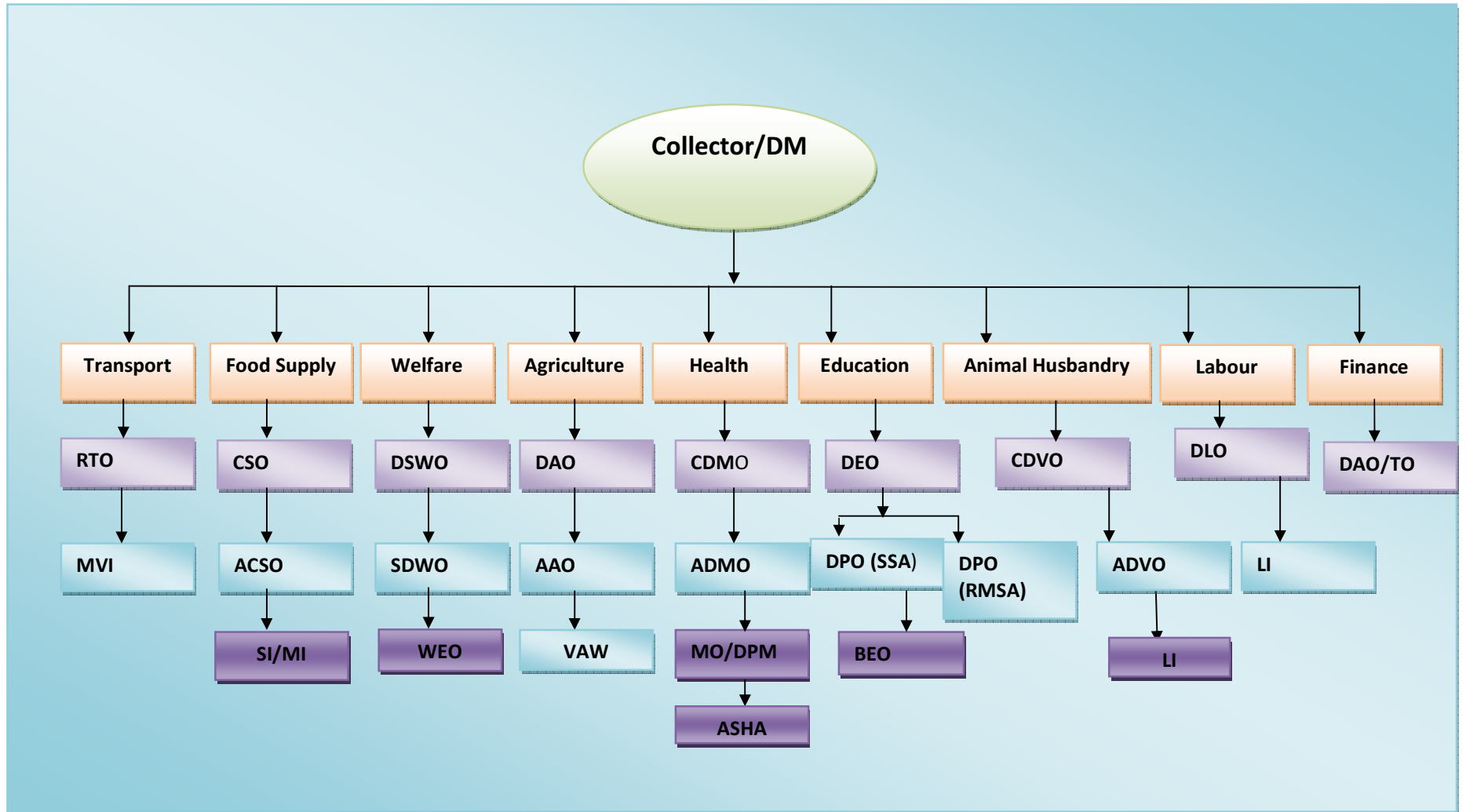
Sl No.	Department	Head of the Department at Block	Name of the Nodal Officer	Contact No.
1	Health	MO I/C, CHC, Gop	Dr. Lalatendu Mishra	9439994726
2	Health	MO I/C, CHC, Konark	Dr. Smitanjali Samal,	9438048771
3	Health	MO I/C, CHC, Kanas	Dr. Biswaranjan Sahoo	9439985449 9438148757
4	Health	MO I/C, CHC, Bangurigaon	Dr. Asis Ku. Mohapatra	9439994721
5	Health	MO I/C, CHC, Astarang	Dr. Santanu Das	9439984728
6	Health	MO I/C, CHC, Delang	Dr. N. Sunita Devi	9439994018
7	Health	MO I/C, CHC, Chandanpur	Dr. Devi Prasad Mohapatra	9439994722
8	Health	MO I/C, CHC,	Dr. Dilip Kumar Biswal	9439985428

		Mangalpur		
9	Health	MO I/C, CHC, Pipili	Dr. Subrat Kumar Mohapatra	9439994160
10	Health	MO I/C, CHC, Rabana Nuagaon	Dr. Sriharsa Das	9439994209
11	Health	MO I/C, CHC, Charichhak	Dr. Ramani ranjan Sahoo	9439994724
12	Health	MO I/C, CHC, Nimapara	Dr. Suresh Ch. Sahoo	9437233127
13	Health	MO I/C, CHC, Algum	Dr. Basudev Mohapatra	9439993765
14	Health	MO I/C, CHC, Sakhigopal	Dr. Lalatendu Nayak	
15	Health	MO I/C, CHC, Chilika Nuapada	Dr. Janardana Barala	9439994723

4.13.4 Any other Alternative Emergency Operation Center in the district

(Note: Structure and function to be elaborated)

4.14 Coordination structure at the District level and down the line



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

The Go-NGO Co-ordination Cell is very actively participating in the disaster smart development initiatives i.e. preparedness, planning and prevention. SOLAR a leading NGO of Konark under Gop, Puri is the coordinating agency of the district for the Go-NGO cell. Each block is equally represented by the NGOs who have active participation in community development and disaster planning activities. The cell always plays a proactive role in the Mock Drill, Disaster Planning, Early Warning Dissemination, Training and Capacity Building, Planning with Community, Management and supportive services in the MCS and MFS in the district. The Dy. Collector Emergency is the Nodal Officer and member convener of the Go-NGO cell.

4.16 Role of Corporate Sector in the district relating to Disaster Management (1 page)

4.17 Public Private Partnership: Public & Private Emergency service facilities available in the district. (1/2 Page)

(Note: Brief description on Public and Private emergency service facilities in the district may be given)

Table__Contact Details of Private emergency services

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

4.18 Multi Purpose Cyclone Shelters (MCS) in the district

- (GIS Maps for location of MCS may be incorporated)*
- (Details of Cyclone Shelter Management and Maintenance Committee (CSMMC) may be incorporated)*

List of flood and cyclone shelters of Puri district constructed by different agencies

PMNRF

Sl. No.	Block	Village/ Panchayat	Name of the cyclone shelters	Plinth Area in Sq. Ft	Funding Agency
1	Astrang	Astaranga	Astaranga H.S.	2000	PMNRF
2		Naiguan	B.D. High School	2000	PMNRF
3		Bantilo, Korana	Bantilo HS	2000	PMNRF
4		Patalada	Patalada HS	2000	PMNRF

5		Edabansa, Talada	Padhihari Bidyapitha	2000	PMNRF
6		Jhadaling, Nuagarh	Jhadalinga HS	2000	PMNRF
7		Sundar , Chhuriana	Sundar HS	2000	PMNRF
8	Brahmagiri	Mudirath, Badabenakudi	Govt. HS	2000	PMNRF
9		Bentapur	B.K.Girls' HS	2000	PMNRF
10		Sunamuhin, Gadarotanga	Krushak Bidyapitha	2000	PMNRF
11		Gorual	Palakeswari HS	2000	PMNRF
12		Kapileswarpur	A J Das Bidyapitha	2000	PMNRF
13		Rahadmalla	Brundaban HS	2000	PMNRF
14		Gadokokala, Raibidhar	Gadokokala HS	2000	PMNRF
15	Gop	Gadajhinkiria, Achutpur	Kochileswar HS	2000	PMNRF
16		Dihuda	Nilakantheswar HS	2000	PMNRF
17		Dasbatia, Banakhandi	Dasbatia HS	2000	PMNRF
18		Jaunlipokhari, Baniasahi	Rusipada HS	2000	PMNRF
19		Chadheigaon	Sri J N HS	2000	PMNRF
20		Balia	S N Bidyapitha	2000	PMNRF
21		Dalanai. BAntaligram	Bantaligram Panchayat HS	2000	PMNRF
22		Kursipanchan	Dasabandhu HS	2000	PMNRF
23		Birtunga	Saraswati Bidyapitha	2000	PMNRF
24		Chhaitana	HCM HS	2000	PMNRF
25		Nayahat, Dhumalo	Nayahat HS	2000	PMNRF
26		Erabanga	Erabanga HS	2000	PMNRF
27		Ganeswarpur	Ganeswarpur HS	2000	PMNRF
28		Gop	Girls' HS	2000	PMNRF
29		Gop	NN HS	2000	PMNRF
30		Konark NAC	Konark HS	2000	PMNRF
31		Orei, Mahakalapada	Jogeswari Bidyapitha	2000	PMNRF
32		Olandi, Rahanagorada	UG HS	2000	PMNRF
33		Anasara, Simili	Rudrani HS	2000	PMNRF
34		Sutan	Balikapileswar HS	2000	PMNRF
35		Sutan	Sutan HS	2000	PMNRF

36	Kakatpur	Balidokan,Kurajunga	Bateswar HS	2000	PMNRF
37		Chitreswari, Abadan	Chitreswari HS	2000	PMNRF
38		Patapur, Kundhei	Barunei HS	2000	PMNRF
39		Bijapur, kundhei	Bajapur HS	2000	PMNRF
40		Lataharana	Lataharan HS	2000	PMNRF
41		Kakatpur	Kakatpur Girls' HS	2000	PMNRF
42		Mahadevbasta	Trilochanpur HS	2000	PMNRF
43		Bhandisahi	UGMS Bidyapitha	2000	PMNRF
44		Bangurikan	Bangurigan Girls' HS	2000	PMNRF
45		Bangurigan	Birabhadra Bidyapitha	2000	PMNRF
46	Kanas	Adalbadal	Kulamani Bidyapitha	2000	PMNRF
47		K.Khani	Kaduaghat Academy	2000	PMNRF
48		Khandahota	AGC Bidyapitha	2000	PMNRF
49		Gadisagoda	Gopinath HS	2000	PMNRF
50		Karamala	SA Bidyapitha	2000	PMNRF
51		Gadakharada	Sri Chandaneswar HS	2000	PMNRF
52	Krushnaprasad	Badajhad	Kamaleswar Bidyapitha	2000	PMNRF
53		Parikud	PLC Bidyapitha	2000	PMNRF
54		C.Nuapada	Narayani Bidyapitha	2000	PMNRF
55		Panaspada	Harihar Bidyapitha	2000	PMNRF
56		Gambhari	Dwarsuni Bidyapitha	2000	PMNRF
57		Nandala	Dr. MM HS	2000	PMNRF
58		B.Nuagaon	Basudev HS	2000	PMNRF
59		Ora, Siandi	Sansima HS	2000	PMNRF
60	Purisadar	Biraharekrushnapur	Biraharekrishnapur HS	2000	PMNRF
61		B.N. Pur	Bhargavi HS	2000	PMNRF
62		Baliguali	S.B. HS	2000	PMNRF
63		Baliput	Panchayat HS	2000	PMNRF
64		Bira P. Pur	Bhargavi Girls' HS	2000	PMNRF
65		Chalisbasta	Katyayani HS	2000	PMNRF
66		K.B.Pur	M.S. HS	2000	PMNRF
67		Siruli	Mahavir HS	2000	PMNRF
68		Pratap P.Pur	Pratap P Pur HS	2000	PMNRF
69		Puri	Bholanath Bidyapith	2000	PMNRF
70		Puri	Biswambar Bidyapith	2000	PMNRF
71		Puri	GBP Hadagadasahi HS	2000	PMNRF
72		Puri	Gadadhar HS	2000	PMNRF
73		Puri	K.D. High School	2000	PMNRF

74		Puri	Govt. Girls' HS	2000	PMNRF
75		Puri	Police HS	2000	PMNRF
76		Puri	Zilla HS	2000	PMNRF
77		Puri	S.M. Girls' HS	2000	PMNRF
78		Puri	Samagera HS	2000	PMNRF

CMRF

79	Astarang	Athatira	Aisaneswar Bidyapitha	2125	CMRF (executed by IDCO)
80	Brahmagiri	Khajuria	Balunkeswar Bidyapitha	2125	CMRF
81	Delanga	Delanga	Govt. Girls High School	2125	CMRF
82	Gop	Gadabangar	Govt. HS	2125	CMRF
83	KakatPur	Kakatpur	Govt. HS	2125	CMRF
84	Kanas	Jharada, Radhakrishnapur	UG High School	2125	CMRF
85	Krushnaprasad	Alupatna	Chilika HS	2125	CMRF
86	Nimapara	Bamanala	Bamanala HS	2125	CMRF
87	Pipili	Gobindpur	Gobindpur HS	2125	CMRF
88	Puri sadar		Charishree HS	2125	CMRF
89	Satyabadi	Sukal	Trutiyadev Bidyaniketan	2125	CMRF

German KFW/IRCS

90	Astarang	Nagar	MPCS	1750	German KFW/ IRCS
91		Nuagarh	MPCS	1750	German KFW/ IRCS
92	KakatPur	Tentulia	MPCS	1750	German KFW / IRCS
93	Astarang	Kania	Nasikeswar U.P. School	1550	IRCS
94	Astarang	Kania	Saraswati Academy	1550	IRCS

CARE

95	Astarang	Udaypur, Korana	Udaypur HS	1952	CARE
96	Astarang	Sudhikeswar`	Churiana MPCS	2636	CARE
97	Astarang	Korana	Korana MPCS	2636	CARE
98	Astarang	Sisua	Belanga MPCS	1952	CARE

99	Astarang	Patalada	Timora MPCS	1952	SDC (executed by CARE)
100	Astarang	Deruna, Naiguan	Deruna P.S./M.E. School	1952	SDC (executed by CARE)

SDC (executed by LWS)

101	Astarang	Anakana, Chhuriana	Pipra Pry. School	2317	SDC (executed by LWS)
102	Gop	Ogalpur, Badatara	Ogalpur M.E. School	2317	SDC (executed by LWS)
103	Gop	Simuli	Nuagan HS	2317	SDC (executed by LWS)
104	Gop	Birtunga	Garhkarmal HS	2317	SDC (executed by LWS)
105	Gop	Desthali	Suhanasasan HS	2317	SDC (executed by LWS)

OJS & XIMB

106	Astarang	Birudi pantala	MPCS	630	OJS & XIMB
107	Astarang	Dakhinapantala	MPCS	630	OJS & XIMB
108	Astarang	Balipantala	MPCS	630	OJS & XIMB
119	Astarang	Nua Kaliakana	MPCS	630	OJS & XIMB
110	Astarang	Madhupur	MPCS	630	OJS & XIMB
111	Astarang	Nampur	MPCS	630	OJS & XIMB
112	Astarang	Jhadaling	MPCS	630	OJS & XIMB
113	Astarang	Damasuna	MPCS	630	OJS & XIMB
114	Astarang	Bahudiha	MPCS	630	OJS & XIMB
115	Astarang	Gandalaba	MPCS	630	OJS & XIMB

ENRON & XIMB

116	Astarang	Balidiha	MPCS	630	ENRON & XIMB
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117	Astarang	Sribantapur	MPCS	630	ENRON & XIMB
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NFCR/CRF

118	Brahmagiri	Brahmagiri	Brahmagiri H.S.	2227.77	NFCR/CRF
119	Brahmagiri	Rebana Nuagan	Rebana Nuagaon HS	2227.77	NFCR/CRF
120	Delanga		Sadangoi HS	2227.77	NFCR/CRF
121	Delanga	Delanga	Mahatab HS	2227.77	NFCR/CRF
122	Delanga	Station Bazar	R.K. Bidyapitha	2227.77	NFCR/CRF
123	Delanga	Gangapur Patana	R.M. Bidyapitha	2227.77	NFCR/CRF
124	Nimapara	Balanga	107ota107za Girls' HS	2227.77	NFCR/CRF
125	Nimapara	Amareswar	Amareswar HS	2227.77	NFCR/CRF
126	Kanas	Kanas	Govt. HS	2227.77	NFCR/CRF
127	Kanas	Olhan	G.B. HIGH SCHOOL	2227.77	NFCR/CRF
128	Pipili	Dandmukundpur	G.M. HIGH SCHOOL	2227.77	NFCR/CRF
129	Pipili	Kanti	Kanti G.P. HS	2227.77	NFCR/CRF
130	Pipili	Sampur	Astasambhu HS	2227.77	NFCR/CRF
131	Pipili	107ota Sahi	Utkalmani S Bidyapitha	2227.77	NFCR/CRF
132	Puri sadar	Sundar	Tarayan HS	2227.77	NFCR/CRF
133	Puri sadar	Sasan damodarpur	Ramahari Bidyapitha	2227.77	NFCR/CRF
134	Satyabadi	Satyabadi	Raichakradharpur HS	2227.77	NFCR/CRF
135	Satyabadi	Gabakunda	Jayadurga HS	2227.77	NFCR/CRF

MPLAD

136	Gop	Nagapur	Nagarpur HS	3347	MPLAD
137	Pipili	Pipli	Jawahar Bidyapitha	3228	MPLAD
138	Pipili	Pipli	Pipli HS	3196	MPLAD
139	Puri sadar	Chandanpur	MG Hogh School	3648	MPLAD
140	Satyabadi	Sakhigopal	Satyabadi HS	3207	MPLAD
141	Delang	Gadamotari	Biswanath Dev HS		MPLAD
142	Nimapara	Balanga	Govt. HS Balanga		MPLAD

UNICEF

143	KakatPur	Bangurigan Pr.S.	Bangurigan Pr. S.		UNICEF
144	KakatPur	Lataharana	Amunihapayna Pr.S.		UNICEF
145	KakatPur	Othaka	Somnathpur Pr. S.		UNICEF

R.K.Math

146	KakatPur	Chitreswari	Kotanga Pr. S.	1380	R.K. Math
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147	KakatPur	Chitreswari	Nilakantheswar MES	2269	R.K. Math
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OSDMA

148	Krushnaprasad	Satapara	Satapada Village	2000	OSDMA
149	Krushnaprasad	Arakhakuda	Manikpatna Village	3000	OSDMA
150	Krushnaprasad	Arakhakuda	Gopinathpur Village	2000	OSDMA
151	Krushnaprasad	Siandi	Siandi villaje	1000	OSDMA
152	Krushnaprasad	Bajrakot	Talatala Village	1000	OSDMA
153	Krushnaprasad	Ramalenka	Kumarpara Village	1000	OSDMA
154	Krushnaprasad	Panaspada	Panaspada Village	3000	OSDMA
155	Krushnaprasad	Berhampur	Berhampur Village		OSDMA
156	Krushnaprasad	Malud	Malud Village		OSDMA
157	Krushnaprasad	Nuapada	Nuapada Village		OSDMA
158	Astarang	Talada	Talada Village		OSDMA
159	Brahmagiri	Ambapada	Ambapada Village		OSDMA
160	Kakatpur	Abadan	Singarpal Village		OSDMA
161	Puri sadar	Baliguali	Beladala Village	1000	OSDMA
162	Puri sadar	Baliput	Baliput Village		OSDMA
163	Puri sadar	Puri Municipality	Penthakota		OSDMA

Govt. of Maharashtra

164	Nimapara	Charichhak	Charichhak HS		Govt. of Maharashtra
165	Nimapara	Thakurpatna, Kalapanchan	Ratnapur HS		Govt. of Maharashtra

Newly Constructed Multipurpose Cyclone Shelter (MCS) & Multipurpose Flood Shelter (MFS),Puri

Sl. No	Name of the District	Name of the Block	Name of the G.P.	Name of the Village	MFS/ MCS	Under Scheme
166	Puri	Brahmagiri	Bentapur	Satikapuri (Nagochia Chaka)	MCS	CMRF
167	Puri	Brahmagiri	Champamanik	Champamanik	MCS	NCRMP
168	Puri	Brahmagiri	Gorual	Balabhadrapur Patna	MCS	NCRMP(AF)
169	Puri	Brahmagiri	Bentapur	Matamatpur	MCS	NCRMP(AF)

170	Puri	Brahmagiri	Talamala	Talamala	MCS	NCRMP(AF)
171	Puri	Krushnaprasad	Malud	Fatepur	MCS	NCRMP
172	Puri	Krushnaprasad	Gomundia	Gomundia	MCS	NCRMP
173	Puri	Krushnaprasad	Siala	Morada	MCS	NCRMP
174	Puri	Krushnaprasad	Siala	Siala	MCS	NCRMP
175	Puri	Puri Sadar	Hantak	Hantak	MCS	NCRMP(AF)
176	Puri	Puri Sadar	Jamarsuan	Jamarsuan	MCS	NCRMP
177	Puri	Puri Sadar	Chalisibatia	Kantashila	MCS	NCRMP
178	Puri	Kanas	Deipur	Deipur	MCS	NCRMP(AF)
179	Puri	Kanas	Kadua	Sahaspur	MCS	NCRMP(AF)
180	Puri	Kanas	Deipur	Gadakharada-I	MCS	NCRMP(AF)
181	Puri	Pipili	Kanti	Kakudia	MFS	State Plan
182	Puri	Astaranga	Korana	Bandarikaral	MFS	State Plan
183	Puri	Astaranga	Korana	Ratanpur	MCS	NCRMP(AF)
184	Puri	Astaranga	Kendarapati	Namaro	MCS	NCRMP(AF)
185	Puri	Astaranga	Sarifpur	Kundeswar	MCS	NCRMP(AF)
186	Puri	Gop	Baniasahi	Inchula	MCS	NCRMP (AF)
187	Puri	Gop	Bantiligaon	Tarahan	MCS	NCRMP (AF)

Table : Details of CSMMC

<i>Sl No.</i>	<i>Name of the MCS</i>	<i>Location</i>	<i>Name of President</i>	<i>Contact No.</i>	<i>Name of Secretary</i>	<i>Contact No.</i>

c) *Equipments provided to the MCS*

Sl.No.	ITEMS	UNIT PER SHELTER	Utility
1	5 KVA Diesel Generator Sets	1No	Backup Power supply at the time of power failure
2	Light	25Nos.	Fitted in the Shelters for lighting purposes
3	Fan	15 Nos	Fitted to Shelters
4	Pulley Block	3Nos	Handling the materials
5	Lifebuoy MMD/SOLAS Approved	5Nos	Water Rescue during Flood
6	Life Jacket MMD/SOLAS Approved	5Nos	Water Rescue during Flood
7	Nylon Rope 12 mm dia-50 mtr	25 Kg	Material handling & water rescue
8	Stretcher	2Nos	Carry patient/ injured persons at the time of disaster
9	Manila rope 200 ft.6mm dia	25Kg	Material handling & water rescue
10	Manila rope 60 ft.12mm dia	25Kg	Material handling & water rescue
11	Sisal chord 60mm dia 20 ft	25Kg	Material handling & water rescue
12	G.I,Trunk 6ft x 3ft x 2.5 ft	2Nos	Preservation of Search & Rescue items
13	Telescopic Aluminium Ladder(30ft)	1No	Building Rescue
14	First Aid Box with two manuals	1 Box	Treatment of patient/ injured persons at the time of disaster
15	Florescent jackets	50 Nos	For identity of task force during Search & Rescue operation
16	Free Kitchen Utensils : Flat Handa, Kadai, Dekchi,Daba,Khanta, paniki,Hemadasta,Korana, Bucket and other items	1 Set(List enclose-22 items)	For cooking at Shelter during disaster to give free fooding to the affected persons
17	Notice Board with chicken net covering and locking	1 No	Display of events & activities of Shelter
18	Dari	1 No	Utilized during meeting of the Community
19	Black Board	1 No	Utilized during meeting of the Community
20	Plastic Chair(5 Nos.Nil Kamal)	1 No	Utilized during meeting of the Community
21	Solar Lantern (TATA BP)	1 No	Utilized at the time of Power Failure
22	Inflatable Tower Light with accessories	2 Nos	It is the unique - having luminous Intensity of 40,000 Lumen, can impart visible illumination of 100 sq.mtr radius, very essential for

			night time disaster management
23	Petrol driven Portable Power Saws of STIHL Germany Make 500 cm Bar length with Personnel Protective Equipments	2 Nos	It is very essential of cutting the fallen trees during disaster, capable cutting all types of tree girth of 2 mtr.
24	JAYKAY make, Single Phase double mounting Electrical Siren	1 No	Disaster warning up to 1.5 Km.
25	Ahuja Make Hand Held Mega Phone, Batter operated	1 No	Public Address during Search & Rescue activities
26	Flexi-water tank-200 lit. Capacity	2 Nos	To preserve drinking water during Search & Rescue activities
27	Safety shoes (Gum Boot)	2 pairs	For use by task force during Search & Rescue activities
28	Gloves	2 Pairs	For use by task force during Search & Rescue activities
29	Hand Held Search Light (Hi-Beam Rechargeable) range of 1000mtr.	1 No	Night time Search & Rescue activities, clear vision for search of victim up to the 1Km.
30	Foldable stretcher	2 Nos	Carry patient/ injured persons at the time of disaster
31	Free Power Radio (Philips)	1 No	For knowledge radio Broad cast to the affected persons.
32	Water filter 26lit.(Bajaj)	1 No	Supply of Safe water during disaster
33	High-end desktop Computer with 3KVA online UPS	1 No	For sustainability of the communication hub. For online bill payments/photocopy of important documents/railway ticket/online academic results/ weather report/ scanning of documents/video conferencing
34	Multifunctional Printer with Fax	1 No	
35	Computer Chair		
36	Furniture & fixture for IT-- item set		
37	LCD Panel		
38	1.5KVA Digital Inverter	1 No	Backup power supply to the IT items
39	1.5 ton AC with Stabilizer	1 No	For regulating the constant room temperature for longevity of the IT equipment
40	10KVA Constant Voltage Stabilizer	1No	For constant voltage of power supply to the IT items

Table : Details of equipments provided to MCS

Sl No.	Name of the MCS	Location	Equipments Provided	Status		Remarks
				Operational	Non	

					<i>Operational</i>	

4.19 Flood Shelters (FS) in the District

- a) *(GIS Maps for location of FS may be incorporated)*
- b) *(Details of Flood Shelter Management and Maintenance Committee (FSMMC) may be incorporated)*

Table : Details of FSMMC

<i>Sl No.</i>	<i>Name of the FS</i>	<i>Location</i>	<i>Name of President</i>	<i>Contact No.</i>	<i>Name of Secretary</i>	<i>Contact No.</i>

- c) *(Equipments provided to the FS)*

Table 8: Details of equipments provided to FS

<i>Sl No.</i>	<i>Name of the MCS</i>	<i>Location</i>	<i>Equipments Provided</i>	<i>Status</i>		<i>Remarks</i>
				<i>Operational</i>	<i>Non Operational</i>	

DETAILS OF LIVESTOCK SHELTERS AND MOUNDS:

Block	Livestock Shelters G.P.s	Mounds at the G.P.s
Astaranga	Nuagarh	Talada, Nuagarh, Manduki, Ainsinia, Dakshinapantala, Kaliakana
Brahmagiri	Khajuria	Podakera, Karimpur, Haridas, Mataipur
Delanga	Kalyanpur	Nai Bhansara, Ratanpur
Gop	Rahangagorada	Davar, Olandi, Goladari, Baharana
Kakatpur	-	Pathatpaka
Kanas	Badal	Bhagabatipitha, Alibad, Kalapadar, Gopinathpur
Krushnaprasad	-	Satapada
Nimapara	-	Badaninigaon, Bhagabatipur
Pipili	Poparanga	Poparanga

Puri	-	Balabhadrapur, Ura
Satyabadi	-	Dokhandpur

4.20 Other identified Safe temporary shelters in the district

Table __ : Identified Safe temporary shelters

<i>Sl No.</i>	<i>Block</i>	<i>GP</i>	<i>Village</i>	<i>Name of the Institutions/Buildings</i>	<i>Type of Roof</i>	<i>No. of Rooms (Size)</i>	<i>No. of Toilets (M/F)</i>	<i>Availability of Kitchen</i>	<i>Total useable area</i>

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

<i>Sl. No.</i>	<i>Block Name</i>	<i>GP Name</i>	<i>No. of Mounts</i>	<i>No. of High Bridges</i>

Chapter – 5:

Prevention & Mitigation Measures

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

DISASTER SPECIFIC MEASURES AND APPROACHES

Heat Wave Meeting: For pre arrangement to face heat wave calamities

- Operation of Control Room
- Rescheduling of School College timing
- Measures taken by Health and Animal Care
- Jalachatra
- Provision of drinking water
- Measures by RWSS, PHED, School and Mass Education and ICDS

Natural Calamity Meeting: For pre flood arrangements and response mechanism for flood managements

- Opening of Control room
- Flood zoning
- Storage of food stuff at vulnerable points
- Pre flood arrangements by irrigation dept.
- Health measures
- Animal Care
- Assignment of duties
- Arrangements of boats, rescue, volunteers etc.
- Co-ordination with state level agencies
- Arrangements of relief materials

Response to Cyclone:

1. Construction of Cyclone shelter
2. Equipped of Cyclone shelter
3. Training and capacity building of shelter level volunteers in First Aid, Rescue and Counselling

Response to Tsunami:

1. Formation of DMTs at the Tsunami prone villages
2. Mock Exercises
3. Early Warning dissemination and formation of WhatsApp group of Govt. stakeholders and volunteers
4. Effective co-ordination among departments, volunteers, NGOs and management groups

CLIMATE CHANGE ACTION PLAN

Cyclone

Department/Sector	List out impacts against each disaster	Existing coping practices
Puri Municipality	<ul style="list-style-type: none"> • Damage to houses • Damage to street lights 	<ul style="list-style-type: none"> • Sensitizing people • Evacuating people in a safe place • Arranging free kitchen for people
<ul style="list-style-type: none"> • Rural Works Department 	<ul style="list-style-type: none"> • Damage to houses and buildings 	<ul style="list-style-type: none"> • Construction of cyclone shelter and shifting of communities
<ul style="list-style-type: none"> • Civil Supply 	<ul style="list-style-type: none"> • Availability of food stuff increases during emergencies 	<ul style="list-style-type: none"> • Availing sufficient amount of rice in advance
Animal Resource Department	<ul style="list-style-type: none"> • Loss of pasture lands • Livestock faces problem for grazing • Chances of epidemic increases 	<ul style="list-style-type: none"> • Pre-vaccination before the monsoon and throughout the year • Farmers are advised not to loose their livestock outside
<ul style="list-style-type: none"> • Education 	<ul style="list-style-type: none"> • Damage to infrastructure • Increased debris of tree and shrubs • Increased necessity of manpower and equipment for immediate restoration • Increased cost of maintenance • Closing of schools 	<ul style="list-style-type: none"> • Shifting the students • Providing dry foods • Awareness generation through PRI members • Providing Medicine and first aid
<ul style="list-style-type: none"> • Damages to crop • Pest attack 	<ul style="list-style-type: none"> • A forestation 	<ul style="list-style-type: none"> • Damages to crop • Pest attack
Fisheries	<ul style="list-style-type: none"> • Damage to houses • Damage to nets and boats • Damage to embankments of tank 	<ul style="list-style-type: none"> • Providing relief • Providing nets and boats at subsidized rate
<ul style="list-style-type: none"> • Public Health Engineering 	<ul style="list-style-type: none"> • Power failure 	<ul style="list-style-type: none"> • Operating DG system to ensure water supply

Flood and heavy rains:

Department/Sector	List out impacts against each disaster	Existing coping practices
Agriculture	<ul style="list-style-type: none"> • Damage of seeds sawn/seedling • Post flood pest attack 	<ul style="list-style-type: none"> • Compensation to farmers • Afforestation Activities
Rural water supply & sanitation/R.D. Department	Submerged tube well in flood water	<ul style="list-style-type: none"> • Disinfection of tube wells in flood affected areas • Providing portable drinking water through tankers
Puri Municipality	<ul style="list-style-type: none"> • Water logging in low line areas 	<ul style="list-style-type: none"> • Evacuating people in a safe place • Arranging free kitchen for people • Using heavy duty motors for dewatering the low line areas.
<ul style="list-style-type: none"> • Civil Supply 	<ul style="list-style-type: none"> • Availability of food stuff increases during emergencies 	<ul style="list-style-type: none"> • Availing sufficient amount of rice in the district prior to rainy season
Animal Resource Department	<ul style="list-style-type: none"> • Non availability of cattle feed and fodders • Spreading of infectious diseases • Death of animals 	<ul style="list-style-type: none"> • Organizing vaccination and health camps in the affected areas • Disposal of carcass preventing spreading infections
Education	<ul style="list-style-type: none"> • Inundation of infrastructure • Damage to school building • Damage to reading materials • Closing of schools • Illness among the children 	<ul style="list-style-type: none"> • Repairing of buildings • Repairing of roads and approaches to government buildings • Creating awareness among the parents • Shifting students to the cyclone shelter • Providing dry foods
Health and family welfare Dept	<ul style="list-style-type: none"> • Acute diarrhoea spread in population • Increase in cases of snake bite • Increase in cases of skin diseases 	<ul style="list-style-type: none"> • Supply of anti diarrheal medicines like ORS in flood prone areas • Opening of medical relief centre in flood affected area • Mobilization of health teams,

		<p>doctors and paramedics</p> <ul style="list-style-type: none"> •
Public Health Engineering	<ul style="list-style-type: none"> • Submergence of drinking water points • Submergence of pump machine and other equipment 	<ul style="list-style-type: none"> • Super chlorination of water sources • Sinking pump machines • Installation of water storage tanks • Installation of DG sets
Fisheries	<ul style="list-style-type: none"> • Overflowed the tanks and ponds • Damage the tanks embankment of pisciculture projects • Washed away the operating nets of the fisherman • Displaced the position of fishing boat • Sand covered the bottom of the tank • Damaged the fisherman village situated on the river banks • Fish seed gets hampered 	<ul style="list-style-type: none"> • Provide relief and cash • Providing net and boat at subsidized rate • Providing loans

Heat Wave:

Department/ Sector	List out impacts against each disaster	Existing coping practices
• Education	<ul style="list-style-type: none"> • Irregularity of children in schools 	<ul style="list-style-type: none"> • Awareness generation for children
Public Works Department	<ul style="list-style-type: none"> • Impact on work site in terms of possibilities of sun-stroke among workers and laborers 	<ul style="list-style-type: none"> • Changes in working hours • Reduction in overall working hours
Animal Husbandry Department	<ul style="list-style-type: none"> • Dehydration • Scarcity of drinking water 	<ul style="list-style-type: none"> • Availing sufficient numbers of life saving drugs and saline. • Sinking more numbers of tube

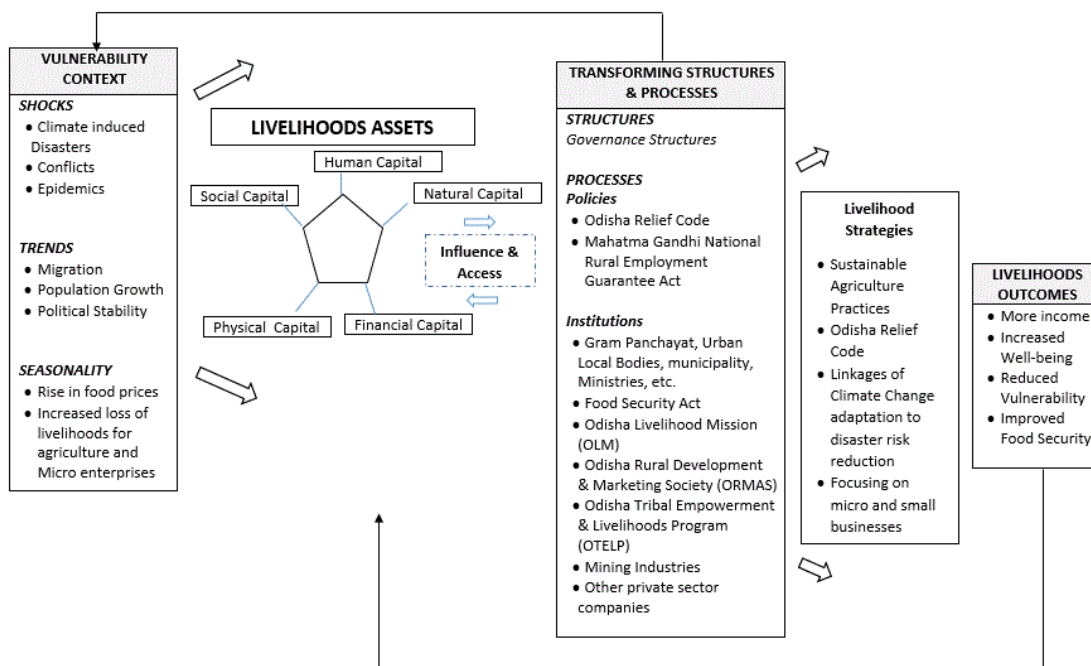
		wells and hand pump
Public Health Engineering	<ul style="list-style-type: none"> • Ground water depletion • Dysfunction of hand pumps and tube wells etc 	<ul style="list-style-type: none"> • Installation of water storage tanks in scarcity pockets

Drought:

Department/ Sector	List out impacts against each disaster	Existing coping practices
Agriculture	<ul style="list-style-type: none"> • Wilting 	<ul style="list-style-type: none"> • Lift Irrigation from farm ponds • Polythene mulching • Shallow bore well/river lift through Jalanidhi Yojna
Animal Husbandry Department	<ul style="list-style-type: none"> • Non availability of feed s and fodders 	<ul style="list-style-type: none"> • Arranging feeds and fodders for cattle immediately

SUSTAINABLE LIVELIHOODS FRAMEWORK

Sustainable livelihoods Framework for Puri District



PRE, DURING, AND POST ACTIVITIES

WARNING DISSEMINATION PHASE

Responsible Department	Activities		
	Pre	During	Post
Collector, ADM, Emergency Officer	<ul style="list-style-type: none"> ▪ Verify inventory of Resources ▪ Setting up of Control Rooms ▪ Communication link with all concerned with disaster preparedness ▪ Coordinate with blocks and neighbouring districts ▪ Coordinate with NGOs and NGO Coordination Committee ▪ Ensure functioning of all communication and warning system ▪ Update databank 	<ul style="list-style-type: none"> ▪ Provide information to all areas about weather ▪ Collection of information and providing it to the state ▪ Expending funds for emergency needs 	<ul style="list-style-type: none"> ▪ Provide information about the relief and rehabilitation programme ▪ Order CESCO to disconnect electricity supply for the affected area
BDO and Tahasildar	<ul style="list-style-type: none"> ▪ Alert all departments to be present at their headquarters ▪ Convene meeting of DDMC 	<ul style="list-style-type: none"> ▪ Collection of information and providing it to the DCR ▪ Procuring locally needed emergency 	<ul style="list-style-type: none"> ▪ Report to the district administration on information from field level
Revenue	<ul style="list-style-type: none"> ▪ Close contact with district administration ▪ Alert officials to remain in HQ 	<ul style="list-style-type: none"> ▪ Disseminate day to day information of the position of the blocks 	<ul style="list-style-type: none"> ▪ Ensure cooperation of the public / task force during damage assessment
Police/ Civil Defence/ Fire Brigade	<ul style="list-style-type: none"> ▪ Make all available Police persons in the district available to the district administration 	<ul style="list-style-type: none"> ▪ Inform BDOs on receipt of any information ▪ Recruit casual labourers 	<ul style="list-style-type: none"> ▪ Report of the District Collector
	<ul style="list-style-type: none"> ▪ Ensure functioning of Police Stations ▪ Alert police officers to remain in HQ ▪ Activate a public information centre 		
Irrigation	<ul style="list-style-type: none"> ▪ Organize round the clock inspection and repair of breaches, culverts, irrigation channels, bridges and 	<ul style="list-style-type: none"> ▪ Organize round the clock inspection and repair of pumps, generators, motor equipments and 	<ul style="list-style-type: none"> ▪ Inspect the inlet and outlet to tanks to check obstruction by trees and vegetation

	<ul style="list-style-type: none"> ▪ embankments ▪ Arrange additional sand bags, cement bags, bamboo mats and bamboos 	<ul style="list-style-type: none"> ▪ station building ▪ Provide all technical assistance in disaster affected area 	
Agriculture	<ul style="list-style-type: none"> ▪ Review and update precautionary agricultural measures ▪ Check available stock of equipment and materials ▪ Stock agricultural equipments 	<ul style="list-style-type: none"> ▪ Determine what damage, pests or disease may be expected ▪ Determine what drugs and insecticide item will be required 	<ul style="list-style-type: none"> ▪ Provide information to all concerned about diseases, likely damage to crop and plantation ▪ Inform ways to protect crop and plantation
Animal Husbandry	<ul style="list-style-type: none"> ▪ Check and stock emergency medical equipments ▪ Check and stock surgical packs ▪ Prepare an area of the hospital to receive large number of livestock 	<ul style="list-style-type: none"> ▪ Determine expected injuries/ illness to cattle ▪ Assemble and sterilize surgical packs ▪ Develop emergency admission procedure 	<ul style="list-style-type: none"> ▪ Provide information to all staff of veterinary hospitals and centers about the disaster, likely damages and effects ▪ Activate public information centre
CESCO	<ul style="list-style-type: none"> ▪ Arrange and procure additional generator from local market ▪ Check emergency tool kits ▪ Assemble additional equipments needed 	<ul style="list-style-type: none"> ▪ Assist the district authorities to make arrangements for standby generators in hospitals, RWSS, Collectorate, Meteorological Stations 	<ul style="list-style-type: none"> ▪ Review the total extent of damages to the power supply installations
RWSS	<ul style="list-style-type: none"> ▪ Inform people to store emergency supply of drinking water ▪ Arrange standby water supply ▪ Establish procedures for emergency distribution of water, if necessary 	<ul style="list-style-type: none"> ▪ Organize monitoring of wells, intake structures, pumping stations, treatment plant ▪ Make provision for distributing water on emergency basis 	<ul style="list-style-type: none"> ▪ Cover pumps and restore with adequate protection to prevent damage ▪ Establish emergency work gangs for immediate post disaster repairs
PWD	<ul style="list-style-type: none"> ▪ Review and update precautionary measures and procedures ▪ Extra transport vehicles, filled with fuel to be stationed at strategic spots along routes likely to be affected ▪ Secure work under construction ▪ Secure heavy equipments ▪ Issue two way communication to all 	<ul style="list-style-type: none"> ▪ Inspect all roads and bridges by a bridge engineer, foundation and piers ▪ Inspect all govt. buildings and structures ▪ Assemble emergency tool kits like axes, power saws, pulley block, etc ▪ Identify and mark strategic routes to 	<ul style="list-style-type: none"> ▪ Establish priority listing of roads (to hospitals and main trunk routes) to be opened first

	teams	evacuation and relief	
NGOs/ Volunteers	<ul style="list-style-type: none"> Ensure that the correct news reaches the public 	<ul style="list-style-type: none"> Asses the situation from time to time 	<ul style="list-style-type: none"> Inform people to return to their home after the danger is receded

EVACUATION PHASE

Responsible Department	Activities		
	Pre	During	Post
Collector, ADM, Emergency Officer	<ul style="list-style-type: none"> Order evacuation on priority basis of seriously injured, sick, children, women, handicapped, old people and able bodies Requisite for additional rescue equipments such as boats, transport vehicles, etc. 	<ul style="list-style-type: none"> Provision of food to rescue population through CSO Ensure precautionary measures through student mass 	<ul style="list-style-type: none"> Ensure evacuation done safely Road clearance. Eviction of encroachments
PWD	<ul style="list-style-type: none"> Check evacuation routes and assist people in evacuating an areas 	<ul style="list-style-type: none"> Community assistance mobilized for road clearing 	<ul style="list-style-type: none"> Despatch extra transport vehicles from headquarters
Health	<ul style="list-style-type: none"> Deploy senior medical officer Make arrangement of medical facilities Develop emergency admission procedure 	<ul style="list-style-type: none"> Ensure potable water supply or packed water Provide medical help Help the injured to move to hospital 	<ul style="list-style-type: none"> Ensure priority for shifting of those seriously injured to hospital Provide first aid
Police	<ul style="list-style-type: none"> Deployment of police staff and armed force for evacuation Arrangement for the safety of the property of the people 	<ul style="list-style-type: none"> Organize emergency transport for seriously injured people to hospital Maintain law and order 	<ul style="list-style-type: none"> Take assistance from community leaders for appropriate security during evacuation
BDO and Tahasildar	<ul style="list-style-type: none"> Ensure adequate warning mechanism Prepositioning of task force 	<ul style="list-style-type: none"> Send search Groups to rescue people from risk areas Help the injured people to move to the hospital 	<ul style="list-style-type: none"> Assistance to community in evacuation process Keep record of missing persons Inform the family members
RTO / MVI	<ul style="list-style-type: none"> Arrange sufficient number of transport 	<ul style="list-style-type: none"> Alert truck Owners/ other vehicles to coordinate with 	<ul style="list-style-type: none"> Transport people from evacuated area to their homes

		district administration	
		<ul style="list-style-type: none"> Organize Transport for immediate assistance 	
Revenue / RI	<ul style="list-style-type: none"> Propagation for evacuation Arrangement for the safety of property of the people Arrange rescue kits 	<ul style="list-style-type: none"> Send search Group to rescue people from risk areas 	<ul style="list-style-type: none"> Locate missing persons Keep a record of the missing persons Inform their family members
NGO/ Volunteers	<ul style="list-style-type: none"> Mobilize response group Help the evacuees 	<ul style="list-style-type: none"> Keep close contact with community and district administration 	<ul style="list-style-type: none"> Assist community to find the missing persons

SEARCH AND RESCUE PHASE

Responsible Department	Activities		
	Pre	During	Post
Collector, ADM, Emergency Officer	<ul style="list-style-type: none"> Intimate police to make arrangement for army assistance Inform BDOs to coordinate with local NGOs Requisition for extra boats Provision of food to rescued populace 	<ul style="list-style-type: none"> Ensure volunteers carry out the search and rescue operation with the assistance of police Identification of Casualties 	<ul style="list-style-type: none"> Keep record of the search and rescue operation and make assessment of active NGOs Preparing reports on UD cases
Police	<ul style="list-style-type: none"> Deployment of police personnel at risk points Arrangement for the safety of the property of the people 	<ul style="list-style-type: none"> Organize Emergency transport for seriously injured people to hospital Guard and rescue at the breach points 	<ul style="list-style-type: none"> Find out the missing persons and keep a record of them Inform their family members
Block/ PanchayatSamiti/ Revenue/ RI	<ul style="list-style-type: none"> Work division to the officers and NGOs for rescue operation Prepositioning of food stuff, life saving drugs, cattle feed, polythene Deployment of RIs and other supporting staff to assist in rescue operation Propagation for evacuation 	<ul style="list-style-type: none"> Send search group to rescue the left behind persons in the risk areas Arrange boats and transport for the people who are stranded Reaching out to people with food stuff and other essential items 	<ul style="list-style-type: none"> Find out the missing persons and keep a record of them Inform their family members Provide tarpaulins as and when necessary and help the people to return to their homes Arrange exgratia for the family of missing persons

	<ul style="list-style-type: none"> ▪ Arrange rescue kits 		
PWD/ RD/ Irrigation	<ul style="list-style-type: none"> ▪ Arrangement of materials for repairing of roads and breaches for post disaster preparation 	<ul style="list-style-type: none"> ▪ Arrange casual labour on emergency basis 	<ul style="list-style-type: none"> ▪ Immediate repair of the road and breaches for communication and transportation
RTO/ MVI	<ul style="list-style-type: none"> ▪ Meeting with the owners of the vehicles 	<ul style="list-style-type: none"> ▪ Provide necessary vehicles to district level functionaries 	<ul style="list-style-type: none"> ▪ Provide vehicle required for transportation of people to return to their homes
NGO/ Volunteers	<ul style="list-style-type: none"> ▪ Mobilize volunteers ▪ Work distribution among volunteers 	<ul style="list-style-type: none"> ▪ Help the injured to move to the hospital ▪ Deployment of Volunteers and resources at shelter points 	<ul style="list-style-type: none"> ▪ Help people to return to their homes
Health	<ul style="list-style-type: none"> ▪ Arrangement of medical help at shelter points 	<ul style="list-style-type: none"> ▪ Provide medical help 	<ul style="list-style-type: none"> ▪ Provide first aid
RWSS	<ul style="list-style-type: none"> ▪ Pre arrangement of drinking water at shelter places 	<ul style="list-style-type: none"> ▪ Arrange standby drinking water if required 	<ul style="list-style-type: none"> ▪ Carry out immediate post disaster repair

MEDICAL AID PHASE

Responsible Department	Activities		
	Pre	During	Post
Collector	<ul style="list-style-type: none"> ▪ Ascertain the medical stock position 	<ul style="list-style-type: none"> ▪ Monitor the operation of medical help 	<ul style="list-style-type: none"> ▪ Assess the medical aid for further improvement
Health	<ul style="list-style-type: none"> ▪ Arrange drugs and medical equipments for all possible diseases during disaster ▪ Ensure extra supplies of medical items are obtained quickly ▪ Discharge all ambulatory and non ambulatory patients whose release does not pose a health risk to them ▪ Enlist private doctors ▪ Establish Medical Relief Camps ▪ Clarify procedures between peripheral hospitals, private 	<ul style="list-style-type: none"> ▪ Determine type of injury/ illness ▪ Assemble and sterilize surgical packs, if required ▪ Prepare an area of the hospital to receive large number of patients ▪ Take help of private doctors in case of shortage of staff 	<ul style="list-style-type: none"> ▪ Report to the Collector ▪ Check stock of equipment and drugs likely to be most needed after disaster ▪ Assess the level of medical supply in stock

	hospitals, blood banks and general hospitals		
Veterinary and Animal Husbandry	<ul style="list-style-type: none"> ▪ Establish cattle camps and veterinary aid centers at disaster sites ▪ Designate Officer in Charge for the camps ▪ Estimate requirement of water, fodder and animal feed for cattle camps. ▪ Preventive vaccination against common contagious diseases of Cattle and Buffalos to be taken up. ▪ Special Medicines and life saving drugs may be made available out of SRC grant to meet the emergency situations during disaster, as the normal quota of the medicine may not be adequate. ▪ Cattle feed like rice bran/ pre mixed cattle feed/ straw to be kept ready at different storing points preferably in Panchayat Samiti godowns since there is no storage facility in Veterinary dispensaries. 	<ul style="list-style-type: none"> ▪ Organize transfer of seriously injured livestock from village to veterinary aid centers ▪ Ensure adequate sanitary conditions to avoid outbreak of epidemics. ▪ The VAS/AVAS/LIs to remain present in their respective head quarters and keep regular contact with CDVO/Sub-divisional Veterinary Officer, Local Revenue Officers, BDOs, Public Representatives, Villagers & NGOs working for animal welfare and take care and rescue their live stock. ▪ Veterinary Mobile teams to be stationed in each block and VD head quarters who will visit the marooned villages for treatment of affected animals. ▪ Control Room will function from 17.06.2013 till the end of Rainy season. 	<ul style="list-style-type: none"> ▪ Report to Emergency Operation center and District Control Room ▪ Animal health camps will be conducted in the disaster affected villages and preventive vaccination will be carried out in case of outbreak in any area of the district
NGO/ Volunteers	<ul style="list-style-type: none"> ▪ Preparation volunteers of medical aid response group 	<ul style="list-style-type: none"> ▪ Help the medical personnel ▪ Inform the medical officer regarding epidemic, if any 	<ul style="list-style-type: none"> ▪ Help the medical team in vaccination procedure ▪ Disease surveillance

5.2 Structural Measures:

Sl. No.	Name of the Department/	Activity/	Starting	Date of	Cost	Funding
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	Office	Project	Date	completion		Source

5.3 Non-structural Measures:

Sl. No.	Name of the Department/ Office	Activity/ Project	Starting Date	Date of completion	Cost	Funding source

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

Sl. No.	Scheme	Possible activities for DRR
1	Member of Parliament Local Area Development Scheme (MPLADS)	<ul style="list-style-type: none"> - Construction of flood control embankments - Construction of common shelters for cyclones, Floods and handicapped - Purchase of motor boats for flood and cyclone prone areas - Fire tenders for Government organization - Retrofitting of essential lifeline buildings, viz Govt. hospitals, Govt. Schools and public buildings to be used as shelters in an emergency. - Early Warning Systems for effective disaster mitigation. - Construction of roads, approach roads, link roads, Pathways. - Drinking water facility
2	Indira Awas Yojana (IAY)	<ul style="list-style-type: none"> - Construction of disaster-resilient houses
3	Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)	<ul style="list-style-type: none"> - Construction of river embankments - Construction of roads in remote areas - Construction of multi-hazard shelters
4	National Rural Livelihood Mission	<ul style="list-style-type: none"> - Creation of SHGs

5	Pradhan Mantri Gram Sadak Yojana (PMGSY)	- Construction of roads in remote areas
6	National Health Mission (NHM) (NRHM and NUHM)	- Rapid Action Force for Emergency Medical Response - Emergency ambulances - Preparedness for mobile Field Hospitals
7	Scheme for Animal Health Care in the State	- Vaccination drives
8	Rashtriya Swasthya Bima Yojana	- Insurance (Disaster Insurance)
9	Pradhan Mantri Awas Yojana (PMAY)	- Construction of disaster resistant houses
10	Pradhan Mantri Suraksha Bima Yojana (PMSBY)	- Insurance
11	The Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)	- Insurance
12	Sarva Shiksha Abhiyan	- Disaster resilient construction of new school buildings - Retrofitting in existing school buildings - Essential response preparedness and planning at school level
13	Mission Shakti: Empowering Women through SHGs	- Capacity building of women on adaptation and risk reduction behaviors and preparedness at household level to face climatic extremes - Linking livelihood promotion with sustainable natural resource management
14	Gopabandhu Gramin Yojana	- The roads must be assessed for future climatic extremes and should be location wise designed to be resilient. The same applies to the other two sectors. The integration can be done from design to implementation, monitoring and evaluation that the infrastructure is created maintained keeping in mind future possibilities and rising frequency and magnitude of extremes. - A life cycle analysis based on (probable life of the infrastructure and expected future climatic extreme events) history of extremes and climatic projections can ensure resilient design, construction and maintenance. For this capacity building of planners, contractors and engineers on themes such as, assessment of climate and disaster risks, resilient designs, monitoring and evaluation will be required
15	Biju Pucca Ghar Yojana	- Disaster Resilient housing for the beneficiaries by the trained Engineers and Masons - Awareness among the beneficiaries to take up disaster resilient housing
16	Jalanidhi: Harnessing Ground and Surface Water for Agriculture	- Prior assessment of feasibility of ground water level in future climate scenario as well as sustainability - Installation of resilient infrastructure based hazard and vulnerability assessment of the field location - Installation of structural mitigation measures for

		<ul style="list-style-type: none"> protecting the existing infrastructure - Agreement and sensitization of beneficiaries for efficient and smart use of water for sustainability - Measures for ground water recharge
17	Odisha Tribal Livelihood Programme Plus: Empowerment & Sustainable Livelihood Opportunity for Tribals	<ul style="list-style-type: none"> - Base Line Survey can include in climate and disaster risk assessment as part of PRA. - The design of project intervention must consider present and future climate scenario and projections - Infrastructure to be created must be DRR inclusive analysing the risks associated with disasters and climate change - Livelihood risk transfer through appropriate risk transfer mechanism should be a core component based on risk analysis. - The program has the potential to produce DRR-CCA integrated model practices for development through integration of DRR and CCA
18	Jeebika - Orissa Rural Livelihood Programme: Watershed Development – A Means to a Better Livelihood	<ul style="list-style-type: none"> - Livelihood promotion activities should be selected based on local level climate and disaster risk assessment - The component of climate change and disaster resilient capital creation can be taken up. e.g., practices that can withstand future climatic extreme events such as high speed cyclones, extreme floods - Improvement of WASH through awareness, resilient infrastructure like raised toilets, hand pumps can be focussed during design and implementation of project activities - Integrating livelihood and weather index based insurance with livelihood options for greater adaptation. e.g. if tailoring is promoted as non-farm based livelihood, the tool such as the sewing machine, the tailoring centre (Infrastructure) must be insured against climatic extreme events
19	Biju Gram Jyoti Yojana: Illuminating Villages – A State Initiative	<ul style="list-style-type: none"> - The infrastructure installed under the program must be designed considering high speed cyclones and floods for adaptation and sustenance. - Building Energy Conservation Standards must be done and beneficiaries must be sensitized for energy conservation
20	Biju Saharanchal Vidyutikarana Yojana: Electricity for Slums and Habitation in Urban Areas	<ul style="list-style-type: none"> - Same as above
21	Capital Expenditure System Improvement for Reduction of AT&C Programme: loss in Electricity Distribution Sector	<ul style="list-style-type: none"> - Strengthening existing infrastructure with focus on extreme events (current and projected). The energy infrastructure must be structurally strong enough to withstand cyclone speed of 300 KMPH or more and provision for rapid recovery (strategies and resources) should exist in the scheme.
22		-

[Activities/ Projects for 5.3 and 5.4

Construction of multipurpose cyclone and flood shelters.

- Removal of hoardings before specified cyclone period
- Trimming of trees and shrubs and removal of damaged and decayed parts of trees close to localities and critical infrastructure
- Public safety norms and constructions in places of worship and mass gathering
- Soil erosion control and riverbank stabilization
- Road and Highway Stabilization
- Bridge abutment stabilization
- Protection of Roads, Culverts and Bridges against flood- grass plantation
- Repair and Maintenance of Embankments against flooding and erosion. Retrofitting of vulnerable spots to prevent embankment breaches
- Cross Drainage Works:- Construction of causeways and culverts sufficient for carrying water more than historical records to prevent flash floods in downstream villages
- Drinking Water:
 - Habitations to be covered under pipe water supply scheme
 - Water supply in scarcity areas in during summer season
 - Raising of hand pumps in flood prone areas
 - Repair/ Replacement of non-functional hand pumps
- Sanitation:
 - Community Mobilization
 - Construction of Toilets
 - Municipal Waste Management
 - Sewerage System in ULBs
- Plantation: River bank plantation, AR, ANR, Hill Slope Plantation, Fodder Plantation, Agro forestry etc.
- Soil conservation works.
- Water harvesting
- Prevention of Road Accidents:
 - Putting up of signage in accident prone zones
 - Light reflectors
 - Diversion boards for roads and bridges
 - Repair of potholes & construction of Speed breakers
- Immunization
- Preventive measures against vector borne diseases
- Risk Transfer: Crop insurance/ livestock insurance
- Measures against animal depredation- Trenching/ Fencing

- Awareness generation programmes on disaster prevention and mitigation
- Mainstreaming Disaster Risk Reduction (DRR) in development activities]

Chapter – 6: Capacity Building Measures:

6.1 Approach

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

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

DRR Programmes/CBDRR

Disaster Risk Management Programme by UNDP 2002-2007:

Puri district was one of the programme district among the districts in which Govt of India-UNDP initiated the programme in 28 districts of Orissa, Bihar and Gujarat along with national level capacity building support to the Ministry of Home Affairs (MHA). The Community based approach that was envisaged in the programme has been well received by communities, Panchayati Raj Institutions (PRIs) and State Governments in the 3 pilot states in Phase I, where successful partnerships have been established with Governments, civil society, as well as private sector. A group of international and national experts evaluated the approach and process under this programme, and rated it as an effective and sustainable initiative. The team also noted that the approach and scale make it a pioneering initiative. Following the successful initiation of activities in Phase I, The Government of India has formulated The National Disaster Management Framework and Roadmap for the country with UNDP support, making this programme a platform for future National initiatives in disaster risk management. The Government of India has taken initiative in mobilising resources for this programme from bilateral and other funding partners.

Climate Change Adaption-Disaster Risk Reduction Project: 2015-2017

Project Title: Scaling up Sub-national Climate and Disaster smart development in India

Lead Agency: Gorakhpur Environmental Action Group (GEAG)

In Association with : National Institute of Disaster Management (NIDM), Ministry of Home Affairs, Government of India and Institute of Social and Environmental Transition (ISET), USA

Project Funded by: Climate and Development Knowledge Network (CDKN)

Project Period: March 2015-May 2017 (Subject to the continuous support of CDKN)

Objective of the project: The overall Objective of the project is to mainstream disaster management and adaptation to climate change within sub-national government to build the resilience of the most vulnerable.

Selected Districts: Puri (Odisha) and Almora (Uttarakhand)

Major Activities under the project-

- Primary and Secondary Data Collection- From then rural and urban vulnerable population regarding perception on hazards
- Climate data collection and projections for future climatic trends-Based on the secondary data of cyclone, wind , rainfall, events, losses, etc
- Review of existing DDMPs and departmental plans
- District level Inception/Introduction meeting with government and other stakeholders
- Two rounds of Shared learning dialogue/Meetings with line departments which are involved in disaster management plans-Round one for vulnerability and gap analysis and Round two for identifying potential resilient options and integration in planning
- Revision of DDMP based on SLDs outcome
- Training module development for officials and professionals on CCA-DRR integration
- M&E framework development
- Intra and inter-state sharing of learning
- Training of officials/professionals by NIDM after training module development

Key Deliverables:

- Improved understanding on Departmental gaps and sectoral vulnerability/capacity
- Revised DDMP document by June 2016-Based on findings and options
- Training module and training
- M&E framework to monitor DRR/CCA intergration
- District Collector’s Handbook on mainstreaming DRR-CCA

GOI-UNDP project on “Enhancing Institutional and Community Resilience to Disasters and Climate Change (2013-2017)” provide technical support for strengthening capacity of stakeholders including communities and institutions to fast-track implementation of the planning frameworks on Disaster Risk Reduction and Climate Change Adaptation. The project is being implemented in Odisha since Nov 2013. To strengthen the project activities District Disaster Management Plans of three project districts i.e. Ganjam, Kendrapara, Puri are being revised.It was decided by OSDMA to initiate the review of the DDMPs in the three project districts of Puri, Kendrapara and Ganjam.The learning from this process would be used for conducting similar exercises in the remaining 27 districts in due course as part of State Government’s initiative.

Objectives

- To share with the participants DDMP review findings in the respective district.
- To collect relevant data and information from key line departments in order to update DDMPs.

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

The Puri District Administration has prepared the Capacity Building plan for the district and the same with detailed budget will be placed before SDMA for necessary funding.

Sl. No.	Name of the Course/ Training Programme	Participants	Duration of the Training Programme	Month of Organization	To be Organized by	Remarks if any
1.	Orientation training programme on disaster management	ADM, Sub-Collector All BDOs, Tahasildars, Head of line departments, Police & Fire Dept. etc.	½ day	May	DDMA/ Collector	To be coincided with the first quarter meeting of the DDMA
2	Training programme on heat wave preparedness	All BDOs/ EE RWS &S, CDMO, CDVO, NGOs, etc.	1 day	March	DDMA/ Collector	Heat wave preparedness meeting was conducted on 16.03.2017
3	Hospital preparedness and mass casualty management including hospital management plan	Doctors and Hospital Administrators		May	CDMO	
4	Training programme on treating heat wave related health issues	Doctors and Paramedical Staff/ ANMs	1 day	May	CDMO	
5	Mass Casualty Management.	Para Medics/Police/ RPF/Home Guard/Fire and Civil Defense/ Railway Officials		June	DDMA	
6	Earth quake resistant construction	Asst. Engineers & JEs	1 day	June		
7	Post disaster damage assessment	AEs of all Blocks and line departments	1 day	July	DDMA	
8	GIS mapping of Utilities	Block Computer Programmers, Line Department	1 day	July		

		MIS officials				
9	Public health in emergencies- safe drinking water and sanitation	All BDOs, Block and district level officials of PHED/ RWS & S Dept.		August	CDMO	
10	Training of teachers on school safety including DM plan and conduct of Mock Drills	Principal/ Head Masters of all Govt. & Private Institutions	1 day	August	DEO	
11	Role of PRIs and ULBs in disaster management.	Members of ZP and ULBs, Chairman & Vice Chairman of PS.	1 day	September	DDMA/ Collector	
12	Block level training programmes on role of PRIs in disaster management	Sarapanchas & PS members	1 day	September	BDO	
13	Role of NGOs/VOs/CBOs in disaster management.	District and block level NGOs/ VOs involved with district administration in disaster management		September	DDMA/ Collector	
14	Training of ZKSS and BKSS members on basics of disaster management and creating community level awareness for dos and don'ts related to common disasters.	ZKSS and BKSS members	1 day	October	District Culture Officer/ DIPRO	
15	Search & rescue and safe evacuation.	Civil Defense Volunteers, NSS, NYK Volunteers, NCC	5 days	October	SP/ Asst. Commandant of the nearest ODRAF unit.	
16	Training of Masons on earthquake resistant construction.			October		
17	Role of Media in Disaster Management	Media Personnel	1 day	October	DIPRO	

6.3 Tabletop Exercise:

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

The objective of Table Top exercise is:

- To review the District Disaster Management Plan for Mitigation & Management of Cyclone / Flood / Heat wave.
- To facilitate in checking the adequacy of the Emergency
- To review the Response Plan of districts to meet the exigency.
- To highlight the roles and responsibilities of the concerned stakeholders at the District level.
- To enhance the coordination and synergize efforts of various Emergency Support Functions at the District level.
- To identify gaps if any, in the resources, manpower, equipment, communication and systems.
- To chalk out the empowerment plan the vulnerable groups to face disaster squarely with enhanced resilience.

On 16th Mar 2017, the DDMA along with other line department officials discussed the following:

- Heat wave action plan discussed and plan chalked out to take up the measures to combat the heat wave situation. All the departments such as CDMO, CDVO, BDOs, Tahasildars, RWSS, PHED instructed to present their plan of action for the year 2017 with respect to Khordha district. The gaps identified in the discussion were addressed.
- The DDMP for the year 2016 was reviewed by the DEO & DPO which was presented to the house and the content discussed.
- The new outline prepared for preparation of DDMP for the year 2017 discussed and all the line departments were instructed to provide the necessary information for the purpose.
- It was decided to discuss the flood preparedness measures on next exercise and the line departments instructed to bring their departmental preparedness and action plan to the exercise.
- The detailed empowerment plan for different stakeholders is given in Table 6.1, 6.3, 6.4, 6.5 in which different plans were chalked out to provide training.

6.4 District/ Block level Mock Drills:

[Periodic mock drills to be organized involving district and block level officials/ institutions to assess the capacity and preparedness to face certain disasters. All recommendations and findings will be incorporated in updating of DDMP.]

Sl. No.	Type of Mock Drill	Officials / Institutions to be involved	Month / Date	Remarks
1.	Flood	All Blocks / Tahasildars / Line	June	

		department Officials like EE, Irrigation (Puri & Nimapara), CSMMCs, NGOs		
2.	Cyclone	All Blocks / Tahasildars / Line department Officials like EE, Irrigation (Puri & Nimapara), CSMMCs, NGOs	June	
3.	Industrial Accidents/ Industry Specific Mock drills	Industrial safety wings/ NDRF / Fire Service / Director, Factories & Boilers / Administration	Quarterly	
4.	Railway Mock Drill	Railway Division Puri / Administration / NDRF/ Fire Service	February	

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

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

Sl. No.	Name of the Programme	No. of Schools, Colleges and Other Educational institutions to be covered during the year	Time Line	Remarks
1	Awareness on disasters and its impacts on students & Teachers	25	July – Dec	Schools will reopen by 17 th June 17, after that only we can organise the activities.
2	Preparation of School disaster management plan	25	July – Dec	
3	Training of Students and Teachers on First Aid Techniques	25	July – Dec	
4	Training Students and Teachers on Search & Rescue Techniques	25	July – Dec	
5	Mock drills for fire/ Cyclone /earth quake etc.	25	July – Dec	

6.6 Community Capacity Building and Community Based Disaster Management:

As per the discussion held at ROTI on 3rd and 4th Mar, it was instructed to chalk out plan for 20% of villages of the district to conduct the community based disaster management

programme in the villages. So 341 villages will be covered in the first phase i.e. year 2017-18. The plan is given below:

Sl. No.	Block Name	Total No of Villages	No. of vulnerable villages to be covered during 2017-18	No. of VDMC and task force member to be oriented	No. NGOs to be involved in the process	Time line	Remarks
1.	Astaranga	103	31	(31*10) 310	2	June - Dec	
2.	Brahmagiri	166	31	(31*10) 310	2	June - Dec	
3.	Delang	135	31	(31*10) 310	2	June - Dec	
4.	Gop	224	31	(31*10) 310	2	June - Dec	
5.	Kakatpur	114	31	(31*10) 310	2	June - Dec	
6.	Kanas	139	31	(31*10) 310	2	June - Dec	
7.	Krushnaprasad	127	31	(31*10) 310	2	June - Dec	
8.	Nimapara	241	31	(31*10) 310	2	June - Dec	
9.	Pipili	208	31	(31*10) 310	2	June - Dec	
10.	Puri Sadar	156	31	(31*10) 310	2	June - Dec	
11.	Satyabadi	96	31	(31*10) 310	2	June - Dec	
	Total	1709	341	(341*10) 3410	22		

[Block wise village list for 2017-18 to be given in Volume II of the DDMP]

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

Community Based Cyclone Shelter Management and maintenance Committees (CSMMCs) have been formed under the Chairmanship of local BDO and a volunteer from the community as Secretary and the buildings have been handed over to the concerned CSMMC for management and maintenance. Local Tahasildar, Medical Officer, Junior Engineer of the Block, Revenue Inspector, Head Master of the School, ANM and Anganwadi Supervisor are Ex-Officio Members of the Committee. Representatives from local NGO, from shelter and served villages, SHG and SC & ST communities are also members of the Committee. The CSMMC takes the charge of day-to-day management and maintenance of the building. Most of the buildings have been constructed in School premises so that the buildings will be used for School purposes during normal time. The CSMMC has also been authorized to put the building for economic / community uses like community house, kalyan mandap etc. and earn user fees. The amount so earned is kept in a joint account and as and when necessary spent for the purpose of maintenance of the building.

Capacity building of CSMMC

The CSMMC members and Village Disaster Management Teams like on first-aid and search & rescue have been trained under DRM Programme. 25 volunteers per shelter have been trained on first-aid techniques by the trainers from St. John Ambulance. Similarly 25 volunteers per shelter have been imparted training on search & rescue techniques by the trainers from Civil Defence organization. The shelters have also been given a linkage with the Village, GP & Block level plans prepared under the DRM Programme

Shelter Equipment

Cyclone shelters have been provided with a number of shelter equipment like First Aid Box, Free Kitchen Utensils, Inflatable Tower Lights, Aluminium Ladder, Power Saw, Life Buoy, Life Jacket, Search Light, Stretcher, Siren, Flexi-Water Tank, Fire Extinguisher, Foldable Stretcher, Solar Lantern, Water Filter and Handheld Megaphone, etc. Most of the equipment will be used for Search & Rescue and shelter purposes. The CSMMC members and villagers have been trained on the use of equipment during disasters. The list of equipment is attached as annexure.

Before Disaster

- Maintain list of equipment and materials provided.
- Ensure safe custody of the building and the equipment supplied/ to be supplied from time to time.
- Establish and maintain relation with field level officials of the different Government departments and NGOs for better preparedness and management of activities during disasters.
- Assure cyclone shelter is maintained well. All basic necessities for a stated capacity of population are fulfilled.

During Disaster

- Open the shelters for use by people during disasters.
- Ensure safety and security of the population sheltered.
- Ensure facilities for women, children and the disabled.

After Disaster

- Vacate the shelters after disaster.
- Clean the cyclone shelter.
- Make the shelters available for normal time. The committee can plan different use of cyclone shelter.

[Note: the districts having Cyclone and Flood Shelter constructed by OSDMA, to draw detailed action plan for formation of CSMMC & FSMMC and training of task forces.]

Sl. No.	Name of the Training Programme	Total No. of Persons to be trained	No. of Training Programmes to be organized	Time Line	Remarks if any
1	Orientation of CSMMC and FSMMC	500 (10 MFS & 10 MCS)	20	May – Dec	
2	Training of task force members on Search & Rescue	250	10	May – Dec	
3	Training of task force members on First Aid	250	10	May – Dec	
4	Dist. Level Trg. Of Trainers (SAR & FA)	40 – SAR 40 - FA	1 1	May June	

Shelter level mock drills:

Sl. No.	Type	No. of Cyclone/ Flood Shelters to be covered	No. of villages to be covered.	Month/ Date
1	Cyclone Mock drill	95	225	June
2	Tsunami Mock drill		89	September
3	Flood Mock drill	95	225	June

Chapter – 7: Preparedness

7. PREPAREDNESS CHECKLIST

DISTRICT CONTROL ROOM

Check	District Control Room
	Vulnerability map of the Block.
	Resource Inventory, Capacity analysis.
	List of cut off areas with safe route map for communication.
	List of storage facilities, dealers of food.
	Control room setup / assignment of control room duty.
	Pre-positioning of staff for site operation centers.
	Arrangement of alternative communication/generator sets etc.
	Arrangement of vehicles of for evacuation.
	Dissemination of warning / coordination with District control room

SUB-DIVISIONAL MAGISTRATE

Check	Sub-Divisional Magistrate
	Vulnerability map of the Block.
	List of cut off areas with safe route map.
	List of storage facilities, dealers of food.
	Control room setup/assignment of control room duty.
	Pre-positioning of staff for site operation centers.
	Arrangement of alternative communication/generator sets etc.
	Arrangement of vehicles/boats of for evacuation.
	Dissemination of warning/ coordination with District control room.
	Ensuring coordination with the PRIs

BLOCK DEVELOPMENT OFFICIAL

Check	Block Development Official
	Vulnerability map of the Block.
	List of cut off areas with safe route map.
	List of storage facilities, dealers of food.
	Control room setup/assignment of control room duty.
	Pre-positioning of staff for site operation centers.
	Arrangement of alternative communication/generator sets etc.
	Arrangement of vehicles/boats of for evacuation.

	Dissemination of warning/ coordination with District control room.
	Ensuring coordination with the PRIs.

IRRIGATION DEPARTMENT

Check	Irrigation Department
	Communication establishment with District and Block Control Rooms and departmental offices within the district.
	An officer to be appointed as nodal officer.
	Activation of flood monitoring mechanism
	Methods/ communication arrangement of alerting officers on various sites established
	Identification of materials required for response operations.
	Repairs/under construction activity are well secured
	Water level gauges marked
	Inlet and outlet to tanks are cleared
	Watch and ward of weak embankments & stock piling of repair materials at vulnerable points
	Guarding of weak embankments
	All staff informed about the disasters, likely damages and effects

POWER DEVELOPMENT DEPARTMENT

Check	Power Development Department
	Communication establishment with District and Block control rooms and departmental offices within the division
	An officer to be appointed as nodal officer
	Standby arrangements for temporary electric supply or generators
	Inspection and repair of high-tension lines/substations/transformers/poles etc.
	Clearing of damaged poles/salvaging of conductors and insulators
	Identification of materials required for response operations.
	All staff informed in-formed about the disasters, likely damages and effects

AGRICULTURE DEPARTMENT

Check	Agriculture Department
	Communication establishment with District and Block Control Rooms and departmental offices within the division
	An officer to be appointed as nodal officer
	Information provided about the disaster and likely damages to crop and plantation

	Organized transport, storage and distribution of seeds/fertilizers/pesticides
	Cleaning operation carried out to avoid water-logging and salinity
	Surveillance for pests and diseases being carried out.
	Establishment of public information centers requirements for salvage or replantation assessed damage
	Identification of different areas to be affected by different hazard
	Listing of irrigation sources with status.
	All staff informed in-formed about the disasters, likely damages, and effects

HOME DEPARTMENT

Check	Home Department
	Communication establishment with District and Block Control rooms and departmental offices within the division.
	An officer to be appointed as nodal officer
	Overall traffic management and patrolling of all highways and other access roads to disaster sites
	Identification of antisocial elements
	Provision of security in transit camps/feeding centers/relief camps/cattle camps/cooperative food stores and distribution centers.
	Assistance to district authorities for taking necessary action against hoarders, black marketers and those found manipulating relief material.
	Coordination with military service personnel in the area being carried out.
	Officers made available to inquire into and record of deaths
	Assisting the community in organizing emergency transport or injured
	All staff informed in-formed about the disasters, likely damages and effects
	Communication establishment with District and Block control rooms and departmental offices within the division
	Stockpiling of live saving, anti-diarrheal drugs, de-toxicants, anesthesia, and adequate drinking water.
	Arrangement of ambulance/generators
	In-house emergency medical teams to ensure that adequate staff available at all times to handle emergency casualties.
	Listing of private health facilities
	Strengthening of disease surveillance
	Formation of mobile units and ensure communication with them.
	Identification of sites in probable disaster areas for site operation areas Awareness generation
	All staff informed in-formed about the disasters, likely damages and effects

PUBLIC WORKS DEPARTMENT

Check	Public Works Department
	Communication establishment with District and Block control rooms and departmental offices within the division
	An officer to be appointed as nodal officer
	Arrangement of extra vehicles/ heavy equipments, such as front-end loaders/towing vehicles/earth moving equipments /cranes etc.
	Inspection and emergency repair for roads/road bridges/ underwater inspection /piers/concrete and steel work.
	Emergency inspection by mechanical engineer of all plant and equipments.
	Route strategy for evacuation and relief marked
	Clearance of blocked roads.
	Community assistance mobilized for road clearing.
	All staff informed about the disasters, likely damages and effects.

TELECOMMUNICATION

Check	Telecommunication
	Communication establishment with District and Block control rooms and departmental offices 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.
	Identification of materials required for response operations.
	All staff informed about the disasters, likely damages and effects

PUBLIC HEALTH ENGINEERING DEPARTMENT

Check	Public Health Engineering Department
	Communication establishment with District and Block control rooms and departmental offices within the division
	An officer to be appointed as nodal officer
	Arrangement of water tankers and other temporary means of distribution and storage water
	Adequate arrangement to provide water to relief camps/affected villages, alternate water supply arranged in feeding centers/cattle camps etc
	Disinfections of water bodies
	Identification of appropriate potable water supply.
	All staff informed in-formed about the disasters, likely damages and effects

ANIMAL RESOURCE DEVELOPMENT DEPARTMENT

Check	Animal Husbandry Department
	Communication establishment with District and Block Control Rooms and departmental offices within the division
	An officer to be appointed as nodal officer
	Listing of animal population with category
	Stock piling of emergency medicines and medical equipments
	Arrangement of anesthetic drugs/vehicle for transport of injured animals
	Identification of places for opening of operational sites
	Stock piling of water, fodder, animal feed.
	All staff informed in-formed about the disasters, likely damages, and effects

EQUIPMENTS CHECKLIST: SANITATION

Check	Sanitation Equipments
	Mobile chlorinator, mounted on truck or trailer with liquid chlorine cylinder
	Mobile hypo chlor in at or with solution tanks, hose and accessories
	Mobile water purification unit with a capacity of 200-250liters/min
	Tank trucks for water, capacity of 7 m3
	Portableelevatedstoragetankswithsupportingtankswithsupporti ngelementsandaccessories
	Well-driving equipment and well points
	Handoperatedpumpsforwatercapacityof15-20liters/min
	Electricordieseldrivenpumps,capacityof200-250liters/min
	Pipes(castiron, galvanised, asbestos cement)diameter125-10 cm, with valves & fittings
	Chlorinated lime(25-30%), stored in a cool, dry place and renewed every 6 months
	Calcium hypochlorite(60-70%), in powder or granule form, stored in a cool, dry place and renewed every 2years
	Alum, ferric chloride and other chemicals for water treatment
	Masonry tools
	Carpentry tools
	Truck mounted generators

PREPAREDNESS MEASURES FOR DIFFERENT DEPARTMENTS

COLLECTOR AND DISTRICT MAGISTRATE

- Training & Mock drill of officials designated for disseminating a Cyclone/ Flood warning.
- Public-address system to be kept ready along with vehicles.
- Battery/ Charging sets to be kept charged with arrangements for stand by Battery sets.
- Rescue groups to be Mock drilled.
- Areas to be identified to be cordoned off.
- Public information centers activated.
- An officer to be appointed as the relief officer.
- Arrangements for Trauma counseling facilities.
- Family pack should be made in advance.
- Ensuring MSL (minimum standard limit) at all the fair price shop/ Wholesalers etc.

HOME DEPARTMENT

- Ensure functioning of the warning system.
- Formation of team
- Delegation of areas
- Formation of Zones/ Sub-Zones

REVENUE & DISASTER MANAGEMENT DEPARTMENT

- Holding of natural calamity meeting in the month of May and October.
- Joint inspection
- Formation of Zones/ Sub-Zones
- Review progress
- Arrangement of boats and transport, based on the risk assessment, for evacuation
- Provision/ arrangement of rescue kit at risk prone area.
- Equipments to be ready
- Formation of team
- Delegation of areas

HEALTH & FAMILY WELFARE DEPARTMENT

- List out the staff with contact address
- Stock position of the sub-center and PHC/ AWCs
- Prepare the plan and indent for stock
- Train paramedical staff/ ANMs/ Male Health Workers/ Volunteers/ Task Forces/ Anganwadi Workers for use and providing minimum health services to the community.
- Arrange for mobile health unit for inaccessible areas
- DDC at village level
- Health Awareness Campaign
- Reinstall telephone connection
- Arrangement of vehicle for uninterrupted mobility
- Repair of Sub Centers buildings
- Registration of Birth/ Death and other vital events
- Dis-infections of Drinking water Sources thrice before flood season at least, one month before.

IRRIGATION DEPARTMENT

- Holding of natural calamity meeting in the month of May and October
- Awareness Generation
- Formation of Zones/ Sub- Zones
- Review Progress
- Provision/ arrangement of sand bags in risk prone area
- Equipments to be ready
- Formation of team
- Arrangement of vehicle
- Delegation of areas

RURAL DEVELOPMENT & R&B

- Identification of weak-points
- Repair of weak roads/ structures/ canals before hazard season
- Stockpiling of building material
- Arrangement of equipments for road clearance

RWSS

- Installation of tube-wells
- Site visit and report preparation
- Awareness generation for using bleaching
- Helping BDO during emergency
- Supply of drinking water during emergency
- Site selection and water test in Pallasuni (BBSR)
- Collection and storing of K-018H2s test stripe, bottle, bleaching, halogen tablets, tube well accessories
- Area wise deployment of staff, fitter, Mason, APD

ANIMAL RESOURCE DEVELOPMENT DEPARTMENT

- List out staff members with contact address
- Vaccination of cattle population
- Provision of supply of yearly medicines
- Arrangement of mobile health units in inaccessible areas
- Health awareness campaign
- Arrangement of vehicle for uninterrupted mobility
- Repair of LI centers and other necessary equipments

ENERGY DEPARTMENT

- Regular identification of faults
- Regular checking and repair of weak points. Transformers
- Stockpiling of equipments/ accessories
- Skill development training / orientation
- Precautions/ protections near high voltage electric equipments installed
- Stopping illegal consumption of electricity

NON – GOVERNMENT ORGANIZATION (NGO)

- IEC activities on disaster management

- Community mobilization
- Ensure regular meeting of NGO co-ordination cell
- Disseminate all govt. aided programme to the community
- Ensure regular mock drill
- Ensure regular bleaching / use disinfectants in the drinking water sources
- Organize workshops seminar meeting/ training on community based disaster management
- Long term mitigation strategies

7.1 Relief Lines : District to Blocks

Sl. No	Name of the Road		Type of Road & Length	Vulnerability of the route (Description of the Vulnerability)	Coverage (Blocks)
	From	To			
1	Puri	Astarang	75 KMs (Via Konark)	No vulnerability till block points. Only vulnerability is falling of trees due to cyclone.	Astarang
2	Puri	Brahmagiri	25 KMs	No vulnerability till block points. Only vulnerability is falling of trees due to cyclone.	Brahmagiri
3	Puri	Delang	38 KMs	No vulnerability till block points. Only vulnerability is falling of trees due to cyclone.	Delang
4	Puri	Gop	55 KMs	No vulnerability till block points. Only vulnerability is falling of trees due to cyclone.	Gop & Konark NAC
5	Puri	Kakatpur	65 KMs (Via Konark)	No vulnerability till block points. Only vulnerability is falling of trees due to cyclone.	Kakatpur
6	Puri	Kanas	48 KMs	No vulnerability till block points. Only vulnerability is falling of trees due to cyclone.	Kanas
7	Puri	Krushnaprasad	210 KMs	No vulnerability till block points. Only vulnerability is falling of trees due to cyclone.	Krushnaprasad
8	Puri	Nimapara	62 KMs (Via Konark)	No vulnerability till block points. Only vulnerability is falling of trees due to cyclone.	Nimapara Block & NAC
9	Puri	Pipili	42 KMs	No vulnerability till block points. Only vulnerability is falling of trees due to cyclone.	Pipili Block & NAC

				is falling of trees due to cyclone.	
10	Puri	Puri Sadar	5 KMs	No vulnerability till block points. Only vulnerability is falling of trees due to cyclone.	Puri Sadar Block & Puri Municipality
11	Puri	Satyabadi	22 KMs	No vulnerability till block points. Only vulnerability is falling of trees due to cyclone.	Satyabadi

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

Sl. No	Name of the Road		Type of Road & Length	Vulnerability of the route (Description of the Vulnerability)	Coverage (In Nos.)	
	From	To			Village	Population

7.3 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	45	40	40	40	Sh. M.K.Yadav	09439103170 09437964571

2	ODRAF	50	44	44	44	Shri Biren Ku. Sasmal, OPS	94370-81266
3	Police	641				Dr. Sarthak Sarangi, IPS, Superintendent of Police, Puri	8280382804 / 06752-225400
4	Home Guards	844				Dr. Sarthak Sarangi, IPS, Superintendent of Police, Puri	8280382804 / 06752-225400
5	Civil Defense						
6	NCC						
7	NSS	1550				Dr. Pyari Mohan Patnaik, Programme Coordinator	06752-251660
8	NYK						
9	Trained Task force						

7.4 Preparedness at District level:

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 • 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

7.5 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 • 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

7.6 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

7.7 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 • Safety plans • Capacity building Programmes • Mock Drills & FAMEX

7.8 Preparedness of Departments

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 • 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 • List out the staff with contact address • Stock position of the sub-center and PHC/ AWCs • Prepare the plan and indent for stock • Train paramedical staff/ ANMs/ Male Health Workers/ Volunteers/ Task Forces/ Anganwadi Workers for use and providing minimum health services to the community. • Arrange for mobile health unit for inaccessible areas • DDC at village level • Health Awareness Campaign • Reinstall telephone connection

	<ul style="list-style-type: none"> • Arrangement of vehicle for uninterrupted mobility • Repair of Sub Centers buildings • Registration of Birth/ Death and other vital events • Dis-infections of Drinking water Sources thrice before flood season at least, one month before
Superintendent of Police (SP)	<ul style="list-style-type: none"> • Ensure functioning of the warning system. • Formation of team • Delegation of areas • Formation of Zones/ Sub-Zones
Revenue Department	<ul style="list-style-type: none"> • Holding of natural calamity meeting in the month of May and October. • Joint inspection • Formation of Zones/ Sub-Zones • Review progress • Arrangement of boats and transport, based on the risk assessment, for evacuation • Provision/ arrangement of rescue kit at risk prone area. • Equipments to be ready • Formation of team • Delegation of areas
EE- RWSS	<ul style="list-style-type: none"> • Installation of tube-wells • Site visit and report preparation • Awareness generation for using bleaching • Helping BDO during emergency • Supply of drinking water during emergency • Site selection and water test in Palasuni (BBSR) • Collection and storing of K-018H2s test stripe, bottle, bleaching, halogen tablets, tube well accessories • Area wise deployment of staff, fitter, Mason, APD
EE- Irrigation	<ul style="list-style-type: none"> • Holding of natural calamity meeting in the month of May and October • Awareness Generation • Formation of Zones/ Sub- Zones

	<ul style="list-style-type: none"> • Review Progress • Provision/ arrangement of sand bags in risk prone area • Equipments to be ready • Formation of team • Arrangement of vehicle • Delegation of areas
Animal Resource Development Department	<ul style="list-style-type: none"> • List out staff members with contact address • Vaccination of cattle population • Provision of supply of yearly medicines • Arrangement of mobile health units in inaccessible areas • Health awareness campaign • Arrangement of vehicle for uninterrupted mobility • Repair of LI centers and other necessary equipments
DAO- Agriculture	<ul style="list-style-type: none"> • Information provided about the disaster and likely damages to crop and plantation • Organized transport, storage and distribution of seeds/fertilizers/pesticides • Cleaning operation carried out to avoid water-logging and salinity • Surveillance for pests and diseases being carried out. • Establishment of public information centers requirements for salvage or re-plantation assessed damage. • Identification of different areas to be affected by different hazard • Listing of irrigation sources with status.
EE- Rural Works	<ul style="list-style-type: none"> • Route strategy for evacuation and relief marked will be prepared • Clearance of blocked village roads • Community assistance mobilized for road clearing. • All staff informed about the disasters, likely damages and effects
EE- Public Works	<ul style="list-style-type: none"> • Route strategy for evacuation and relief marked will be prepared • Clearance of blocked roads • Community assistance mobilized for road clearing. • All staff informed about the disasters, likely damages and effects

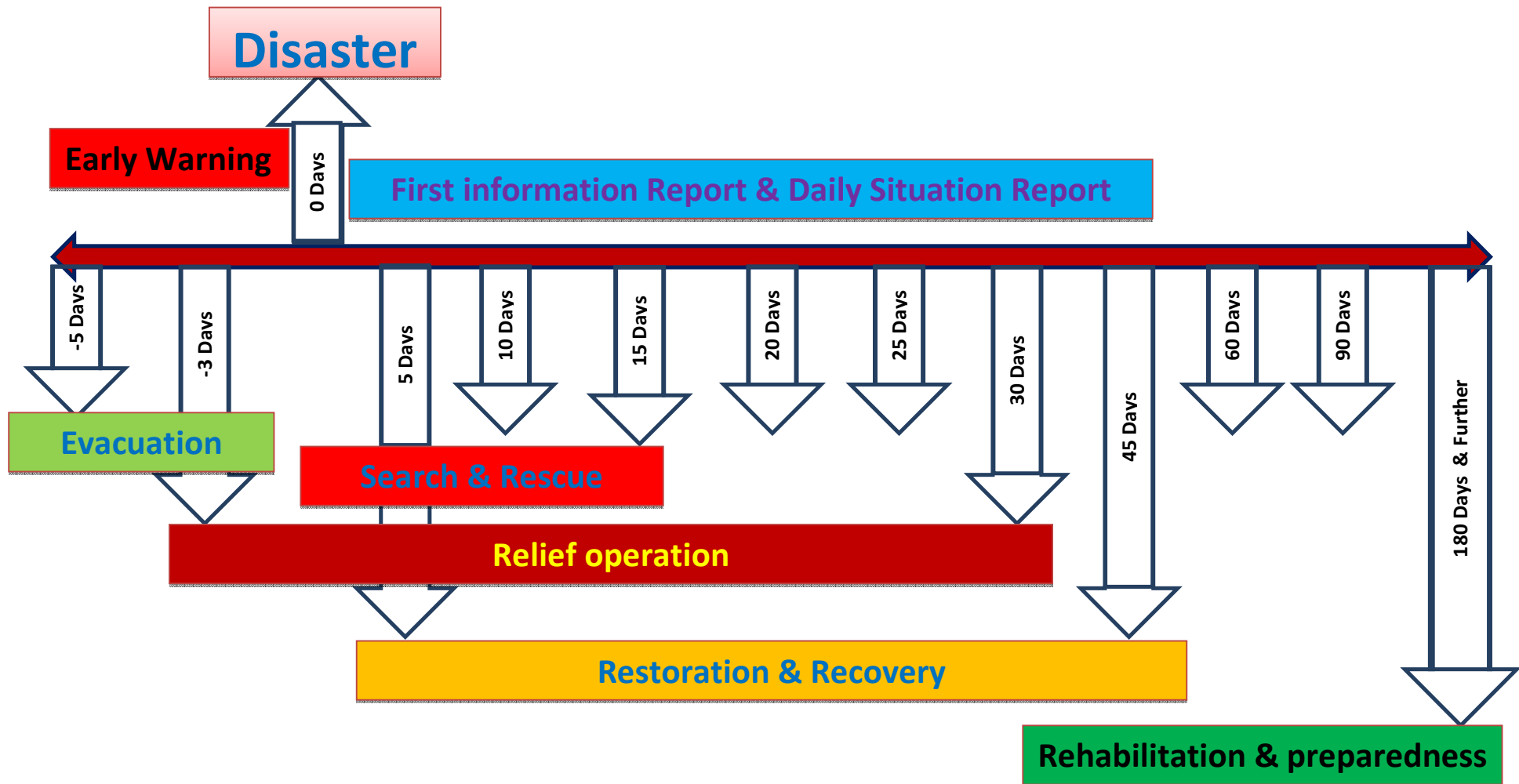
DTO-Telecom	<ul style="list-style-type: none"> • Inspection and repair of poles etc. • Standby arrangements for temporary electric supply or generators • Identification of materials required for response operations • All staff informed about the disasters, likely damages and effects
CDVO	<ul style="list-style-type: none"> • Availability of food stuffs for the animals • Availability of vaccines and medicines for animals • Regular check up of animals by mobile health unit • Sensitize the public about the animal care • Ensuring of basic infrastructure i.e. veterinary hospitals and mounds • Availability of Doctors and other staff
RTO/MVI	<ul style="list-style-type: none"> • Regular checking of DL and other documents of vehicles • Awareness about road safety in roads by displaying hoardings • Patrolling in night to detect the drunk drivers • Regular checking for over loading vehicles in public transport • Heavy penalty for the road rule breakers
DFO-	<ul style="list-style-type: none"> • Avoid the fire in forests • Fire fighting items and water availability in order to tackle forest fire. • Special team formation to capture the thieves of forest products
Railway	<ul style="list-style-type: none"> • Regular inspection of railway lines in order to avoid rail accidents • Regular maintenance of the electronic equipments • Capacity building of staffs in order to tackle the disaster situation • Fire fighting items should be regularly checked • Availability of water in order to avoid the fire accident situations is stations.
EE- Electricity	<ul style="list-style-type: none"> • Regular identification of faults • Regular checking and repair of weak points. Transformers • Stockpiling of equipments/ accessories • Skill development training / orientation • Precautions/ protections near high voltage electric equipments installed • Stopping illegal consumption of electricity
EE – PHED	<ul style="list-style-type: none"> • Super chlorination of water sources • Sinking pump machines • Installation of water storage tanks

	<ul style="list-style-type: none"> • Installation of DG sets
DEO- School & Mass Education	<ul style="list-style-type: none"> • Repairing of school buildings • Repairing of roads and approaches to school buildings • Creating awareness among the parents & students regarding different disasters
DEO - Higher Secondary Education	<ul style="list-style-type: none"> • Repairing of college buildings • Repairing of roads and approaches to college buildings • Creating awareness among the parents & students regarding different disasters
Non Government Organisations (NGOs)	<ul style="list-style-type: none"> • IEC activities on disaster management • Community mobilization • Ensure regular meeting of NGO co-ordination cell • Disseminate all govt. aided programme to the community • Ensure regular mock drill • Ensure regular bleaching / use disinfectants in the drinking water sources • Organize workshops seminar meeting/ training on community based disaster management • Long term mitigation strategies

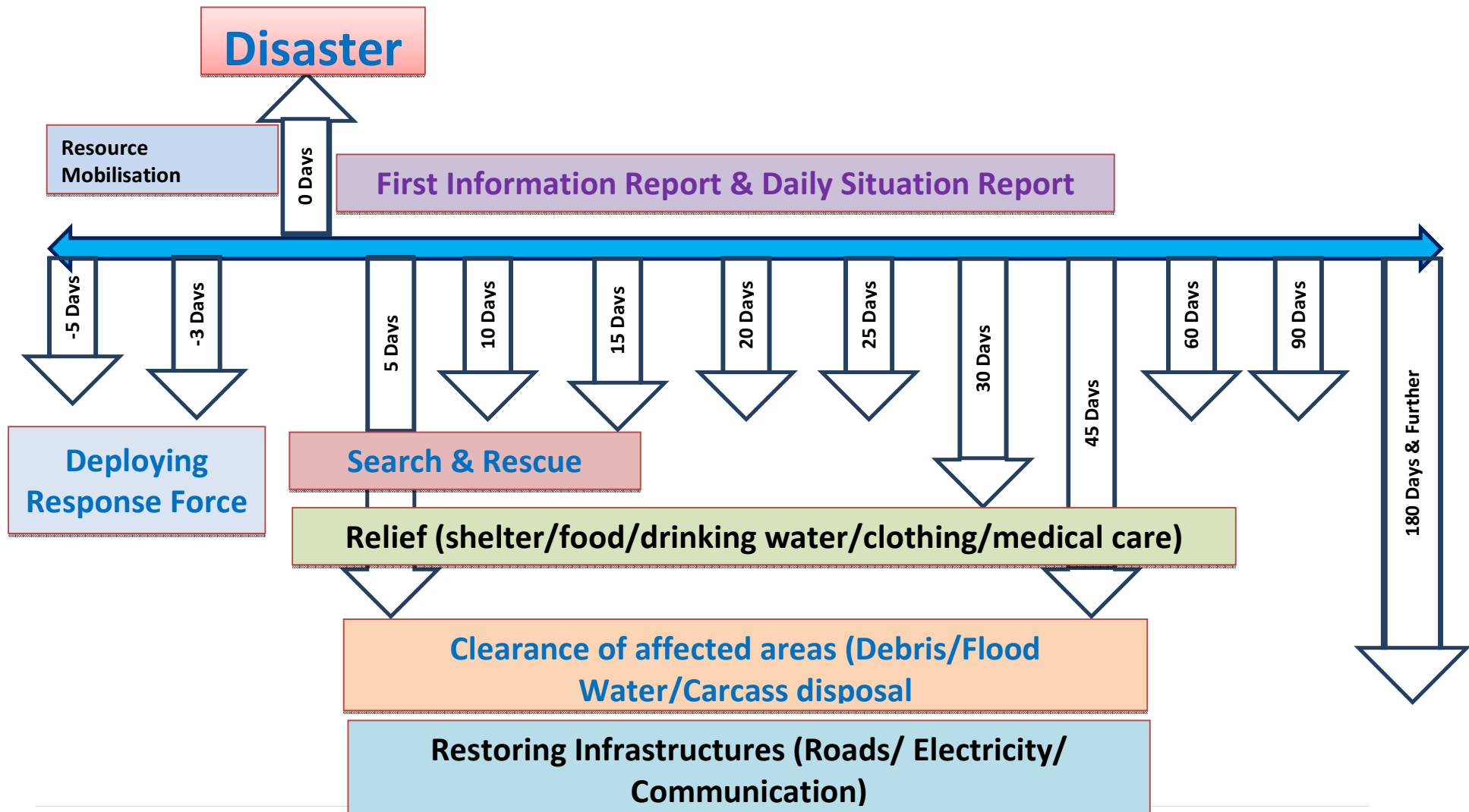
Chapter - 8 Response

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.

8.1 Phases of Response: Timeline (Indicative)



8.2 Relief Management: Timeline



8.3 Response

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 stake of required materials for search & rescue, first aid, casualty management, evacuation, relief etc. • Make necessary arrangements of shelters for evacuation • Constitute a special team for special care to vulnerable section like Specially abled, Sr. Citizen, Pregnant & lactating women, Infants & children etc.
Response	<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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8.4 Response : Community Level

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

8.5 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

8.6 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 meeting and identification of gaps and arrangement to be done accordingly • Activate DEOC & Early Warning • Appoint / Deploy Officers In-charge of Response Base. i.e. DEOC.. • Work distribution among the officials for smooth operation • Circular to keep offices open and staffs to be in alertness • Arrange vehicle & activate Evacuation (Normal/Forceful) • Deployment of ODRAF / NDRF units in the affected areas. • Ensure formalizing supply contracts for all departments that require additional manpower during emergencies. • Create teams including transport, relief material and equipment for responding to the disaster incident headed by one of the Higher officer of the district. 	<ul style="list-style-type: none"> • Convene an emergency meeting and take stock of the situation. • After receipt of the information within 30 minutes the system needs to be activated and the warning disseminated to the concerned. • Frequent check up off updates and warning dissemination needs to be done accordingly. • Activate Search & Rescue • Arrange temporary shelters • Arrange logistics in shelters • Workout financial estimates (evacuation / relief /recovery) • Coordinate with Army, Air Force, Navy, NDRF & ODRAF for support towards evacuation, rescue and relief. • Facilitate preparation of a transportation plan for supply of relief items. 	<ul style="list-style-type: none"> • Convene an emergency meeting and take stock of the situation • Prepare an evacuation plan for the marooned / devastated areas. • Prepare a list of transit/temporary shelters, and check their suitability for accommodating people. • Activate relief line clearance • Proper relief Distribution • Start damage assessment • Facilitate Ex-gratia & Compensation • Start primary damage estimate • Pool resources for SAR/shifting of critical patients • Convene meetings of NGOs, Youth Clubs, Self-Help Groups, etc., in the district, and assign them specific responsibilities for relief, recovery and rehabilitation. • Have a back-up communication system.
CDMO	<ul style="list-style-type: none"> • Disseminate the alert to all concerned (Staff list) • Arrangement of medicine, First aid kits & teams • Assignment of Mobile Health units for inaccessible pockets • Provision of medicines to the Medical Relief Centers • Identifying & shifting patients requiring intensive 	<ul style="list-style-type: none"> • Mass Casualty Management units & Triage • First Aid Centers • Medical surgical teams • Adequate mortuary facility • Measures to shift patients requiring intensive care 	<ul style="list-style-type: none"> • Psycho-Social Counseling • Post Disaster Disease surveillance system • Special attention to vulnerable section • Move medical personnel both for each Response Base and mobile unit as soon as possible.

	<p>care to safer places</p> <ul style="list-style-type: none"> • Supply of medicines & pre-positioning of medical teams to vulnerable areas • Vaccination for prevention of communicable diseases • Measures to dis –infect drinking water • Availability of Blood Banks/Ambulance • Assign medical personnel for each Response Base, as identified by the district administration, to the extent possible. Keep essential medicines and first aid facilities with each Response Base. • Constitute mobile response units consisting of a doctor, health workers and ANMs, and prepare a deployment plan. Each mobile health unit should be capable to cover at least one Response Base in a day. • Check stocks of equipments and drugs which are likely to be needed most in disaster management. These can be categorized generally as: 1. Drugs used in treatment of wounds and fractures such as tetanus toxoid, analgesics, antibiotics, dressing material, and splints; 2. Drugs used for treatment of diarrhoea, influenza, malaria, and infective hepatitis; 3. Drugs required for treating snake bite and infection; 4. Drugs needed for detoxification including breathing equipment; and 5. Intravenous fluids. 	<ul style="list-style-type: none"> • Pool of Blood donors (Preferably each group) • Additional laboratories • Carcass disposal team & units • Hospital administration should: 1. Establish work schedules to ensure that adequate staff is available for patients’ needs; 2. Organize in-house emergency medical teams to ensure that adequate staff is available at all times to handle emergency casualties; and 3. Set up teams of doctors, nurses and paramedical staff as per IRS • Secure medical supplies in adequate quantity for dealing with these situations, which may include: 1.Oral Rehydration Solutions; 2. Chlorine Tablets; 3. Bleaching Powder; 4. Anti-diarrhoeal and Antiemetic (Used for controlling vomiting and nausea) medicines; 5. Intravenous fluids; 6. Suture material (A foreign body implanted into human tissues for closure of wounds); 7. Surgical Dressings; 8. Splints; 9. Plaster Rolls; 10. Disposable Needles and Syringes; and 11. Local Antiseptics. 	<ul style="list-style-type: none"> • Determine type of injuries/illness expected and drugs and other medical items required, and accordingly ensure that extra supplies of medical items are obtained quickly. • Networking with & promote treatment in Private Hospitals • Carcass Management & Issuance of Death Certificate • Relocate non-ambulatory patients to the safest areas within the hospital. The safest rooms are likely to be: 1. On ground floor; 2. Rooms in the Centre of the building away from windows; and 3. Rooms with concrete ceilings. • Proper documentation of the patients coming to the hospital and keeping their records. • Develop a system of monitoring the outbreak of disease to ensure that timely measures can be initiated to counter them. Carry out monitoring for potable water and quality of food and disposal of waste in transit/relief camps, feeding centres and affected villages
<p>Superintendent of Police (SP)</p>	<ul style="list-style-type: none"> • Ensure functioning of the warning system. • Formation of team • Delegation of areas • Formation of zones/Sub-Zones • Prepare a Deployment Plan for the Police Force, based on the needs of the most vulnerable and sensitive areas. 	<ul style="list-style-type: none"> • Remain in close contact with the district administration • Keep close watch on the situation • Call for emergency meeting to take stock of the situation. Develop a strategy and a mission underlining objectives. 	<ul style="list-style-type: none"> • Support District/Block officials and volunteers during search and rescue operation • Provide guards wherever needed, particularly at stores and distribution centres. • Help injured people, and assist the

	<ul style="list-style-type: none"> • Ensure that a sufficient number of Police Force is available for responding to the disaster situation. • Constitute ‘Search & Rescue’ Teams from the Police Force, and arrange training for these units. At least, one Search and Rescue Team for every district should be in place; more Teams could also be constituted depending upon the area and magnitude of disaster. Arrange rescue kits. • Support Block staff and volunteers during evacuation operation • Check the wireless communication network, and secure additional wireless sets for deployment during a disaster. • Assist fire brigade personnel in their efforts • Maintain law and order situation • Assess and identify roads on the bases of following conditions/facilities: 1. One-Way 2. Blocked 3. Alternate route 4. Overall Traffic Management and 5. Other access roads • Plan for Installation of radio communications at: 1. District Control Room, Deputy Commissioner/ District Collector/ District Magistrate and SP Office; 2. Control Room at affected site; and 3. Departmental Offices within the District and Division. • Review and update emergency measures and procedures, and ascertain with staff the precautions that have been taken to protect equipment. 	<ul style="list-style-type: none"> • Ensure that all field staff and stationed officers submit the necessary action reports to the Control Room. • Provide convoys for relief materials. • Arrange rescue kits. • Support Block staff and volunteers during evacuation operation • Assist fire brigade personnel in their efforts • Maintain law and order situation • Ensure security of key installations like power, water and supply, telecommunication, etc. • Provide the VHF at most vulnerable points 	<p>community in organizing emergency transport of seriously injured to medical treatment centres, with the assistance of health professionals.</p> <ul style="list-style-type: none"> • Assist fire brigade personnel in their efforts • Make available officers to inquire into deaths and record them, as there is likely to be shortage of time or personnel available to carry out Standard Post-mortem Procedures. • Monitor the medical needs and welfare of people sheltered in relief camps. • Activate a public helpline, with the help of government offices to: 1. Respond to personal inquiries about the safety of relatives in the affected areas; 2. Serve as a rumour control centre; and 3. Build confidence among the public. • Provide adequate security to personnel of International Agencies for Search and Rescue, Medical Assistance and Security for their relief material and equipments, etc.
EE- RWSS	<ul style="list-style-type: none"> • Develop and 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 	<ul style="list-style-type: none"> • Call for emergency meeting to take stock of the situation • Coordination with the DEOC for the information and keeping a strict vigil over the situation and act accordingly. 	<ul style="list-style-type: none"> • Damage assessment • Identification of areas for clearance • Delegation of team • Monitoring the work • Proposal to the government for repair

	<ul style="list-style-type: none"> • Installation and repairing of tube-wells • Site visit and report • Awareness generation for using bleaching • Helping BDO during emergency • Review and update precautionary measures and procedures and ascertain with staff the precautions that have been taken to protect equipment. • Supply of drinking water during emergency • Site selection and water test in • Collection and storing of K-018H2s test stripe, bottle, bleaching, halogen tablets, tube well accessories • Area wise deployment of staff, fitter, Mason etc. • To inform all its staff members to report their respective headquarters • Close contact with DEO • Arrangement of water tankers • Procurement collection of water purifiers • Stockpiling of accessories • Repairing the defunct tube-wells • Raising platforms/height of the tube wells in low lying areas. • On the receipt of disaster warning, organize continuous monitoring of: 1. Wells 2. Intake structures 2. Pumping stations 3. Buildings above ground, and 4.Pumping mains; and Treatment plant. 	<ul style="list-style-type: none"> • Maintenance of record for information generation and dissemination. • Co-ordinate with District Administration • Immediate address the issues related to water scarcity during summer • Make provisions to acquire tankers and establish other temporary means of distributing water on an emergency basis. • Make available standby water supply in the event of damage, saline intrusion or other pollution of the regular supply. • Prepare plans in coordination with other departments for water distribution to all transit and relief camps, affected villages and cattle camps and ensure proper execution of these plans. 	<p>and restoration</p> <ul style="list-style-type: none"> • Identify unacceptable water sources and take necessary precautions to ensure that no water is accessed from such sources, either by sealing such arrangements or by posting the department guards; • Ensure that potable water supply is restored, as per the standards and procedures laid down in “Standards for Potable Water”;
EE- Irrigation	<ul style="list-style-type: none"> • Suspension or cancellation of all leaves of instruction to the concerned person to join head quarter immediately. • Arrangement of all-important telephone line and number in order • Arrangement or requisition of Jeeps/ Trekkers/ 	<ul style="list-style-type: none"> • Coordination of the information and keeping a strict vigil over the situation and act accordingly. • Maintenance of record for information generation and dissemination. • Co-ordinate with District 	<ul style="list-style-type: none"> • Damage assessment • Identification of areas for clearance • Delegation of team • Monitoring of work • Proposal to the government for repair and restoration

	<p>Auto Rickshaw to disseminate received warning information to the population of vulnerable/ weak places.</p> <ul style="list-style-type: none"> • Maintenance of record for information generation and dissemination. • Co-ordinate with District Administration • Checking of all the rain-gauge stations and ensure that they are functioning properly. Ensure that the readings from these stations are available immediately to the Irrigation Department. Prescribe a register for recording of rainfall • Keep in readiness essential tool kits and protection material at critical places for emergency deployment. These may include: 1.Empty Cement Bags 2. Boulders 3. Ropes 4.Sand bags 5. Wire mesh 6. Shovels 7. Baskets 8. Lights, and 9. First Aid Kit 	<p>Administration</p> <ul style="list-style-type: none"> • . Organize round the clock inspection and repair of : 1. Bundhs 2. Dams 3. Irrigation channels 4. Bridges 5. Culverts 6. Control/sluice gates 7. Overflow channels 8. Pumps 9. Generators 10. Motor equipment, and 11. Station building 	<ul style="list-style-type: none"> • Field Office Priorities: 1. Continue round the clock inspection and repair of bunds, dams, irrigation channels, bridges, culverts, control gates and overflow channels, etc.; 2. Make round the clock inspection and repair of pumps, generators, motor equipment and station buildings; 3. Clear the inlet and outlet to lake or reservoirs, on an on-going basis, in order to ensure that waterways are unobstructed by trees or vegetation; and 4. Use information formats and monitoring checklist for programme monitoring and development, and for reporting to District Emergency Operations Centre (DEOC). This is in addition to existing reporting system in the department.
<p>DAO- Agriculture</p>	<ul style="list-style-type: none"> • Activate the field functionaries • Issue necessary instructions to the staff as well as the farmers to safe guard their crops (in case of heavy rain warning, to cover up the paddy or other crops already placed in the house premises) • Close watch on the flood situation • Review and update precautionary measures and procedures. • Check and stock equipment, if possible agricultural materials, which are likely to be needed most, during and after a disaster. 	<ul style="list-style-type: none"> • Close watch on the flood situation • Develop a pest and disease monitoring system so that timely steps can be taken to reduce damage to crops. • Suggest variety of seeds and cropping pattern, which can reduce losses and reduce the risks to farmers. • Review of stock of seeds available with the department. • Identification of vehicles for necessary transportation of the seeds to the affected. • Farmers' awareness plan needs to be chalked out depending upon the severity of the situation. • 	<ul style="list-style-type: none"> • Call for emergency meeting to take stock of the situation. Develop strategy and objectives for early recovery. • Assess the extent of damage to soil, crop, plantation, micro-irrigation systems and storage facilities and ascertain the requirements of seeds, pesticides, equipments, etc., to salvage the situation or go for re-plantation. • Pack all valuable equipments and instruments in protective coverings and store in room that is most damage-resistant. • Assist Extension Officers to: a. Establish work schedules to ensure that adequate work force is available; and b. Set up teams of extension personnel

			<p>and assistants for visiting disaster/disaster affected sites.</p> <ul style="list-style-type: none"> • Coordinate the provision of agricultural services with irrigation department, DRDA, District EOC, Site Operations Centres. • Ensure that certified seeds of required varieties are available in adequate quantities. The Agriculture Department should work with National Seeds Corporation and other suppliers and ensure availability at their depots or have agents appointed for the same. • Print and widely distribute the list of points where certified seeds are available along with names of varieties and rates.
EE- Rural Works	<ul style="list-style-type: none"> • Suspension or cancellation of all leaves of instruction to the concerned persons to join head quarter immediately. • Arrangement of all- important telephone line and number in order. • Maintenance of record for information generation and dissemination • Co-ordinate with District Administration Clearance of Roadside dead trees posing threat to communication, life and electricity. 	<ul style="list-style-type: none"> • Remain in alertness and close watch on the situation 	<ul style="list-style-type: none"> • Immediate restoration of the relief lines • If there is a cut off in communication then provision of alternative communication roads for relief operation.
EE- Public Works	<ul style="list-style-type: none"> • Make personnel available to the Deputy Commissioner/District Collector/District Magistrate, within the affected district/sub-division, tahasil. If more personnel are required, recall those on leave. • Ensure personnel are aware and nominated to be available for emergency duties within the affected 	<ul style="list-style-type: none"> • Close watch on the situation • Ensure the Officer-in-Charge-PWD (B&R) is responsible for mobilizing staff and volunteers to clear the roads in his section. • Dispatch extra transport vehicles from headquarters and ensure these are 	<ul style="list-style-type: none"> • Provide a work team carrying emergency tool kits, depending on the nature and extent of the disaster, essential equipments such as: 1. Towing vehicles 2. Earth moving equipments and 3. Cranes, etc. • Coordinate with Public Works

	<p>district and sub-division.</p> <ul style="list-style-type: none"> • Appoint Nodal officers (technical officers) and ensure they meet the staff to review emergency procedures in their jurisdiction. • Move heavy equipments, such as front-end loaders to areas likely to be damaged and put them in a safe place. • Ensure emergency inspection by mechanical engineer of all plants and equipment at the district workshops. • Inspect old buildings and suggest retrofitting of weak buildings/ demolition of dangerous structures and evacuation of population. • Declaration of the unsafe buildings for not safe for shelter. 	<p>stationed at safe strategic spots along routes likely to be affected.</p> <ul style="list-style-type: none"> • Give priority attention to urgent repair works that need to be undertaken in disaster affected areas. • Check the evacuation routes and assist people, if they have to evacuate an area. • Construct/ reinforce the connecting roads from villages to roads, canals and bunds and raise their level so that people can access the high ground. 	<p>Department and Zila Parishad.</p> <ul style="list-style-type: none"> • Mobilize community assistance for road clearing by contacting community based organizations. • Undertake clearing of ditches, grass cutting, burning or removal of debris, and the cutting of dangerous trees along the roadside in the affected area through area engineer's staff. • 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. • Keep an up-to-date report of all damage and repairs in the district office report book and communicate the same to the District Control Room.
DTO-Telecom	<ul style="list-style-type: none"> • Remain in close contact with the district administration • Regular inspection of towers, repair if required 	<ul style="list-style-type: none"> • Take steps as per the demand of the situation • All the staff needs to remain alert 	<ul style="list-style-type: none"> • Restore the telephone lines as per the priority basis such as Dist. Administration, Block Administrations, Govt. Offices,
CDVO	<ul style="list-style-type: none"> • List out staff members with contact address • Vaccination of cattle population • Provision of supply of yearly medicines • Arrangement of mobile health units in inaccessible areas • Health awareness campaign • Arrangement of vehicle for uninterrupted mobility • Repair of LI Centers and other necessary equipments 	<ul style="list-style-type: none"> • Record keeping • Information dissemination to concerned quarters (Sub-Divisional Vet. Officer) • Maintenance of regular flow of information • Develop a system of monitoring outbreak of diseases to ensure that timely measures can be initiated to contain them. 	<ul style="list-style-type: none"> • Damage assessment • Identification of areas for clearance • Delegation of team • Monitoring of work • Proposal to the government for repair and restoration • Cattle camps and hospital administrators should: 1. Establish work schedules to ensure that adequate staff are available; 2. Set up teams of veterinary doctors,

	<ul style="list-style-type: none"> • On receipt of warning ask all the staff to join duty immediately • Deployment of staff to the inaccessible areas • Regular maintenance of records • Co ordination with higher authorities • Fix the price of fodder so that it is affordable to the farmers. • Estimate the requirement of water, fodder and animal feed, for cattle camps and organize the same. • Procure fodder through Forest Department, traders, private cultivators, and neighbouring states, if required. 		<p>and assistants for visiting disaster affected sites; 3. Fix the quantity and quality of fodder and feed to be provided in the cattle camp. Issue fodder and feed for each cattle in accordance to standards;</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.
RTO/MVI	<ul style="list-style-type: none"> • Remain in close contact with the Dist. Emergency Officer • A nodal officer to be nominated to make necessary coordination between RTO and Administration • Provide necessary vehicles for relief distribution • Provide vehicle for team movement if required 	<ul style="list-style-type: none"> • Remain in close coordination with the administration • Issue standing instructions to the state transport department for providing buses for evacuation and relief. 	<ul style="list-style-type: none"> • Provide required vans and ambulances for mobile health and animal husbandry teams. • Make available trucks, buses, jeeps, tractors, etc., for evacuation and supply chain management.
Fire Officer	<ul style="list-style-type: none"> • Remain alert with staff and equipments • If required test check the equipment available • In close contact with district administration • Mobilize volunteers trained earlier by the fire service • Make the volunteers always action mode • Ready for rescue operation 	<ul style="list-style-type: none"> • Close watch to the situation around • Assist the administration in rescue operation if required • Always attend the control room phone of the station and any grave situation comes to notice, immediately inform the district administration to take prompt action 	<ul style="list-style-type: none"> • Assist the administration in clearing the relief lines • Assist the administration as and when required
Railway	<ul style="list-style-type: none"> • Remain alert with staff and equipments • If required test check the equipment available • In close contact with district administration • Safety officer of the organization needs to be always in coordination with the administration 	<ul style="list-style-type: none"> • Attend the calls comes to the control room • Any grave situation comes to notice immediately rush to the spot and inform the administration to take further steps. 	<ul style="list-style-type: none"> • Damage Assessment • Immediate restore of essential services • Assist the administration in relief transportation

<p>EE- Electricity</p>	<ul style="list-style-type: none"> • Make personnel available to the Deputy Commissioner/District Collector/District Magistrate, within the affected district/sub-division, tahasil. If more personnel are required, recall those on leave. • Regular identification of faults • Regular checking and repair of weak points / Transformers • Pre monsoon maintenance of the transformers and high tension lines • Pre monsoon cutting of the branches of the trees to safe guard the supply lines • Stockpiling of equipments/accessories • Skill development training/orientation • Precautions/protections near high voltage electric equipments installed • Stopping illegal consumption of electricity • Disconnection of electricity in the event of an emergency • Arrangement of alternative energy sources such as generators and fuel for generators • Identification of HR and allot them to different areas • Protect Power Stations from disaster. Raise the height of compound walls. Arrange gunny bags. Install pump sets for draining water in case of Disaster/ Cyclone/ Tsunami, etc. • Check emergency tool kits, and assemble any additional equipment needed. • After receiving alert warning, immediately undertake inspection of the following: 1. High tension lines 2. Towers 3. Sub-stations 4. Transformers 5. Insulators 6. Poles, and 7. Other equipments. 	<ul style="list-style-type: none"> • Disconnection of electricity to the affected areas to avoid any causality due to short circuit • Arrangement of uninterrupted power supply at the Hospitals (PHC , CHC, etc.) / temporary shelters • Dispatch emergency repair groups equipped with food, bedding, tents, and tools. • Provide information to the people about the state of power supply, as it is one of the most important sources of information. • Assist hospitals in establishing an emergency supply by assembling generators and other emergency equipments, if necessary. 	<ul style="list-style-type: none"> • Restoration of electricity with additional HR • Ensure that the Power Supply department makes alternate arrangements of emergency supply for the following offices on receipt of warning: 1. Hospitals 2. Public Health Departments 3. Deputy Commissioner/ District Collector/ District Magistrate Office 4. District EOC, Sub-Divisional EOC, Site Operation Centres 5. Police Stations 6. Telecommunications buildings 7. Meteorological stations 8. Irrigation Office, and 9. Any other place, if required. • Compile an itemized assessment of damage, from reports made by various electrical receiving centres and sub-centres. • Report all activities to the head office and district EOC.
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EE - PHED	<ul style="list-style-type: none"> • Alerting the staff • Drinking water to be immediately filled in overhead tanks to provide safe drinking water • Arrangement of generator and fuel for emergency at the supply points 	<ul style="list-style-type: none"> • Close watch on the situation 	<ul style="list-style-type: none"> • Immediate restoration of water supply with additional human resources
DEO- School & Mass Education	<ul style="list-style-type: none"> • Closely work with the block administration • HMs of the schools needs to be alerted and schools needs to be closed depending upon the severity of the situation. • School keys need to be placed with a teacher staying at the same village • Necessary arrangement for cooking materials i.e. utensils and gas • If the school itself in the flood area then steps needs to be taken to safe Guard the books supplied by the govt. for the students. 	<ul style="list-style-type: none"> • If required the key needs to be handed over to the villagers to take shelter • The local teachers needs to be present at the school to look after the important documents i.e. Enrollment list, other related official document. • Further the available teacher also try to maintain the discipline among the evacuees taking shelter in the school 	<ul style="list-style-type: none"> • Assist the villagers to go to their houses after de-warning or the situation comes to normalcy.

Sop for the Departments to be done accordingly

Standard Operating Procedure (SOP) for Line Departments

Public Health Engineering Department

Actions to be Taken	Action Taken: Yes / No
Early Warning & Disaster Response	
1. Activation of communication with the DEOC or the DPO, DDMA	
2. To direct department staff at all levels across the district about the possible impending disaster and actions to be taken to prepare for response including arrangement of water supply tankers, as required.	
3. Construction of required number of toilets, bathrooms and implanting of hand pumps in shelter sites on the basis of demand received.	
4. Providing halogen tablets in areas facing water contamination, particularly during floods and bleaching of water sources such as Ring Wells or Hand Pumps in rural areas by leveraging field staff.	
5. Coordination with the health department especially to locate areas that report good number of cases of waterborne diseases so as to quality affected water sources, including surface water bodies such as Ponds for undertaking their disinfection.	
6. Coordination with the health department to provide safe drinking water sources in affected health centers.	
7. Arrangement of water tankers and other temporary means of distribution and storage water.	
8. Water quality testing of habitations that get affected by floods and addition of these habitations among the priority beneficiaries of projects like Rain Water Harvesting, Raised Hand Pumps and Raised Toilets, thereby creating a database.	
9. To deactivate the emergency response actions in consultation with EOC and agencies.	

Water Resources Department

Actions to be Taken	Action Taken: Yes / No
Early Warning & Disaster Response	
1. Activation of communication with the DEOC or the DPO, DDMA as with the responsibility of the appointed Nodal Officer and the accountability of the Executive Engineer, WRD or the Assistant Exec Engineer, if former is not placed in the district.	
2. All personnel required for disaster management, shall work under the overall supervision and guidance of the Responsible Officer (RO), i.e., Deputy Commissioner & the Incident Commander, i.e., ADC (Disaster Management).	
3. To direct department staff at all levels across the district about the possible impending disaster, cancel leaves of all staff and prepare actions to be taken to prepare for response. In case of a declared emergency by the DEOC, communicate to staff at all levels.	

4. To prepare situation reports of river water levels periodically and share those with the DEOC and DDMA.	
5. In locations where Sluice Gates have been installed, undertake opening of gates to allow water to move across the side of embankments that shall help reduce pressure on embankments and improve irrigation for fields on the other side.	
6. In a post-earthquake scenario, undertake embankment audit and activate village embankment status checking teams to ensure any vulnerable points can be identified by the department.	
7. To deactivate the emergency response actions in consultation with EOC and agencies.	

PUBLIC WORKS DEPARTMENT (BUILDING)

Actions to be Taken	Action Taken: Yes / No
Early Warning & Disaster Response	
1. Activation of communication with the DEOC or the DPO, DDMA with the responsibility of the appointed Nodal Officer and the accountability of the Executive Engineer, PWD (Building) or Assistant Executive Engineer, if former is not placed in the district..	
2. To put all contractors and their equipments in ready to respond mode in case of an early warning.	
3. To push all contractors with their equipments into actions for emergency response and giving them the required directions.	
4. To undertake rapid visual screening and damage assessment to buildings.	
5. To direct department staff at all levels to take immediate retrofitting or seismic strengthening / repairing of buildings on high priority that are damaged by earthquake.	
6. Controlled demolition of buildings which are beyond repair and hazardous due to severe damage and dumping of debris in identified dumping sites.	
7. To undertake clearing of debris and trees from the roads that blocks the communication by using the equipments such as JCBs and sharp equipments such as saw.	
8. To deactivate the emergency response actions in consultation with EOC and agencies.	

PUBLIC WORKS DEPARTMENT (BRIDGES & ROADS)

Actions to be Taken	Action Taken: Yes / No
Early Warning & Disaster Response	
1. Activation of communication with the DEOC or the DPO, DDMA	
2. To put all contractors and their equipments in ready to respond mode in case of an early warning.	
3. To push all contractors with their equipments into actions for emergency response and giving them the required directions.	

4. Temporary roads shall be constructed to access transit relief camps and medical facilities for disaster victims.	
5. To undertake rapid visual screening and damage assessment of bridges and roads.	
6. To direct department staff at all levels to take immediate seismic strengthening / repairing of bridges & roads on high priority that are damaged by earthquake or floods.	
7. Arrangement of extra vehicles/ heavy equipments, such as front-end loaders/towing vehicles/earth moving equipments /cranes etc.	
8. Controlled demolition of bridges which are beyond repair and hazardous due to severe damage and dumping of debris in identified dumping sites.	
9. A priority listing of roads to be opened first shall be established. The most important roads are those leading to hospitals, main trunk routes and highways.	
10. To undertake clearing of debris and trees from the roads that blocks the communication by using the equipments such as JCBs and sharp equipments such as saw.	
11. Community organisations shall be contacted to mobilise community assistance for road clearing.	
12. To deactivate the emergency response actions in consultation with EOC.	

FOREST DEPARTMENT

Actions to be Taken	Action Taken: Yes / No
DISASTER RESPONSE	
1. Activation of communication with the DEOC or the DPO, DDMA as with the responsibility of the appointed Nodal Officer and the accountability of the District Forest Officer for Search & Rescue and Damage Assessment.	
2. To undertake assessment of damage to plantation done due to floods, storms, hailstorms or animal depredation.	
3. Identification of forest areas affected by erosion from flooding and placing plans of flood bank protection initiatives on priority.	
4. To support district administration in Search & Rescue operations if required to be done in forest areas with the involvement of the Forest Protection Force.	
5. Providing compensation in case of damage to ready to harvest crops, injury or loss of lives of domestic animals or humans, or otherwise any other damage to property.	
6. To deactivate the emergency response actions in consultation with EOC and agencies.	

SOCIAL WELFARE DEPARTMENT

Actions to be Taken	Action Taken: Yes / No
Disaster Response	
1. Activation of communication with the DEOC or the DPO, DDMA with the responsibility of the appointed Nodal Officer and the accountability of the District Social Welfare Officer.	

2. All personnel required for disaster management, shall work under the overall supervision and guidance of the Responsible Officer (RO), i.e., Deputy Commissioner & the Incident Commander, i.e., ADC (Disaster Management).	
3. To direct department staff at all levels across the district about the possible impending disaster, cancel leaves of all staff and prepare actions to be taken to prepare for response. In case of a declared emergency by the DEOC, communicate to staff at all levels.	
4. To provide special care of children, women, old and disabled, especially those separated from families.	
5. To fetch records of households who lose life during disasters in coordination with the health department to provide these households life insurance support proactively.	
6. To ensure continued access to food supplies to Anganwadis.	
7. To deactivate the emergency response actions in consultation with EOC and agencies.	

HEALTH DEPARTMENT

Actions to be Taken	Action Taken: Yes / No
DISASTER RESPONSE ACTIONS	
1. Activation of communication with the DEOC or the DPO, DDMAThe responsibility for the same lies with the appointed Nodal Officer and the accountability of the Joint Director of Health Services or the CMO.	
2. The Nodal Officer shall be responsible for coordination with DEOC and Support agencies	
3. All personnel required for disaster management, shall work under the overall supervision and guidance of the Responsible Officer (RO), i.e., Deputy Commissioner & the Incident Commander, i.e., ADC (Disaster Management).	
4. To direct department personnel at all levels across the district about the possible impending disaster, cancel leaves of all staff and prepare actions to be taken to prepare for response. In case of a declared emergency by the DEOC, communicate to staff at all levels.	
5. To coordinate and transport necessary medical supplies to disaster affected areas.	
6. The following emergency drugs & medical equipments are stocked <ul style="list-style-type: none"> • Drugs used in treatment of cuts and fractures, such as tetanus toxoid, analgesics and antibiotics • Drugs used for the treatment of diarrhoea, water-borne diseases and flu(including oral rehydrating supplies) • Drugs required to treat burns and fight infections • Drugs needed for detoxication including breathing equipments 	
7. To provide immediate first-aid and transport to the health centres for the treatment of the patients injured or rescued.	
8. To maintain records of the number of people injured and the number of lives lost during the disaster and share the information on the number of	

the dead with Social Welfare department so that they can provide the life insurance sum proactively.	
9. In-house emergency medical team to ensure that adequate staff available at all times to handle emergency 'causalities	
10. Designating an area of the hospital for receiving large number of casualties. <ul style="list-style-type: none"> • Emergency admissions • Procedures developed • Records maintained • Work schedules to ensure availability of adequate staff 	
11. Accommodation arrangement for medical personnel from outside the area.	
12. Continuing procedural management of all forms of waste from the health centres.	
13. Establishing of Public Information Center at the hospital	
14. To deactivate the emergency response actions in consultation with EOC and agencies.	

Home Department

Actions to be Taken	Action Taken: Yes / No
DISASTER RESPONSE ACTIONS	
1. Activation of communication with the DEOC or the DPO, DDMA .The responsibility for the same lies with the appointed Nodal Officer and the accountability of the Superintendent of Police.	
2. The Nodal Officer shall be responsible for coordination with DEOC	
3. Immediately after the disaster, it shall be ensured that all police stations are functional with all appointed force at all the required locations and law and order is maintained properly.	
4. All personnel required for disaster management, shall work under the overall supervision and guidance of the Responsible Officer (RO), i.e., Deputy Commissioner & the Incident Commander, i.e., ADC (Disaster Management).	
5. To direct department personnel at all levels across the district about the possible impending disaster, cancel leaves of all staff and prepare actions to be taken to prepare for response. In case of a declared emergency by the DEOC, communicate to staff at all levels.	
6. Security shall be provided in transit and relief camps, affected villages, hospitals, medical centres, and the identified areas should be cordoned off.	
7. All department vehicles shall be refueled and parked unprotected /safe area.	
8. At the onset of the disaster, officers shall be dispatched to identify and assist people and communities in life-threatening situations.	
9. Seriously injured people shall be identified and the community assisted in organizing emergency transport to medical treatment centres.	

10. The community shall be assisted and encouraged in road-clearing operations.	
11. Transport carrying transit passengers (i.e. passengers travelling through trains, buses-passing through the district) shall be diverted away from the disaster areas.	
12. Public Information Centre shall be set-up to: <ul style="list-style-type: none"> • Latest status of effect of disaster in the affected area. • Respond to personal inquiries about the safety of relatives in the affected areas • Compile statistics about affected communities, deaths, complaints and needs • Respond to the many specific needs that will be presented • Serve as a rumour control centre 	
13. Officers shall be available to inquire and record deaths normally there are neither time nor personnel available to carry out the standard post-mortem procedures.	
14. The police shall co-ordinate with the military service personnel in the area.	
15. District authorities shall be assisted in taking necessary action against hoarders, black marketer and that manipulating relief material in conjunction with other government offices.	
16. To deactivate the emergency response actions in consultation with EOC and agencies.	

ELECTRICITY DEPARTMENT

Actions to be Taken	Action Taken: Yes / No
DISASTER RESPONSE ACTIONS	
1. Activation of communication with the DEOC or the DPO, DDMA. The responsibility for the same lies with the appointed Nodal Officer and the accountability of the Exec Engineer.	
2. The Nodal Officer shall be responsible for coordination with DEOC.	
3. To cutoff power supply during storms, hailstorms, floods and in inundated areas to prevent loss of lives to electrocution.	
4. Standby arrangements for temporary electric supply or generators.	
5. Procurement and storage of fuel for generator sets that may be required to be installed.	
6. Inspection and repair of high-tension lines / substations / transformers / poles.	
7. Clearing of damaged poles / salvaging of conductors and insulators	
8. To deactivate the emergency response actions in consultation with EOC and agencies	

AGRICULTURE DEPARTMENT

Actions to be Taken	Action Taken:

	Yes / No
DISASTER RESPONSE ACTIONS	
1. Activation of communication with the DEOC or the DPO, DDMA. The responsibility for the same lies with the appointed Nodal Officer and the accountability of the District Agriculture Officer.	
2. The Nodal Officer shall be responsible for coordination with DEOC.	
3. To conduct damage assessments of the damage to agricultural output and submit report to the DEOC.	
4. To deactivate the emergency response actions in consultation with EOC.	

ANIMAL HUSBANDRY DEPARTMENT

Actions to be Taken	Action Taken: Yes / No
DISASTER RESPONSE ACTIONS	
1. Activation of communication with the DEOC or the DPO, DDMA. The responsibility for the same lies with the appointed Nodal Officer and the accountability of the D.A.H.O.	
2. The Nodal Officer shall be responsible for coordination with DEOC	
3. To conduct damage assessments of the injury or deaths of livestock in the district and submit the report to the DEOC.	
4. Arrangement of anesthetic drugs/vehicle for transport of injured animals.	
5. To start relief camps for livestock in higher places during floods and providing support with fodder supplies and drinking water.	
6. To facilitate mass casualty management by disposal of animal carcasses necessary to prevent spread of epidemics.	
7. To deactivate the emergency response actions in consultation with EOC and other agencies.	

DISTRICT EMERGENCY OPERATIONS CENTRE, DISTRICT DISASTER MANAGEMENT AUTHORITY

Actions to be Taken	Action Taken: Yes / No
DISASTER RESPONSE ACTIONS	
1. Activation of communication with Early Warning or Emergency Response.	
2. The Nodal Officer shall be responsible for sending communication and coordination with all agencies.	

3. Communities in disaster prone areas shall be made aware of the Early Warning System especially through field indications.	
4. All available Early Warning Systems shall be used & information so gathered to be disseminated as quickly as possible through laid down channels/methods.	
5. The early warnings shall to the extent possible, be clear about its spread with risk area, its severity, duration, and likely damages it may cause.	
6. Warning statements should be conveyed in simple, local language in order that it is understood. Along with today's messages, relevant continued background scenario along with likely development in few days ahead may also if possible to be incorporated. The warning statement should not evoke panic and prevent any spread of rumour.	
7. Wherever possible, assistance of community leaders and organized groups should be sought managing the threat to the people.	
8. Once issue of early warning has been started, it shall be followed-up by subsequent warnings till it is over in order to keep people informed of the latest situation.	
9. In case of a disaster threat reduces, deactivation of warning or emergency response actions in consultation shall be sent to community.	

8.7 ORISSA RELIEF CODE

Functioning of Control Room (Para 10 & 47 of ORC)

Control Room is functioning in District Office with telephone No. 06752-223237 /1077 round the clock with the effect from 1st May to 30th November Control Rooms are also functioning in the Offices of the Sub-Collectors/Tahasildars/Block Development Officers and in other District Level Officers. The case of any natural calamities viz – flood or cyclone etc immediately after the occurrence it will be the responsibility of village level workers to inform the facts to the nearest RI who will pass on the information to the nearest Police Station for transmission of the message to the Sub-Collector and Collector's Control Room also keep the concerned zone officer and Tahasildar informed. Revenue Inspector's are trained at Tahasils level for the purpose.

WIRELESS STATION (PARA 55 OF O.R.C)

All the Police Station and Out-posts in the Dist are equipped with VHF/HF for transmission of the flood /cyclone messages. Special Relief Commissioner has been moved for installation of temporary V.H.F. Centers at the following places to facilitate transmission of flood/cyclone messages.

RAIN RECORDING AND SUBMISSION OF RAINFALL REPORTS(PARA 49 OF O.R.C.)

Rain recording stations are available in all the blocks of this district. The Head Clerks of the Blocks are acting as Rain Recording Officers under the supervision of the respective Block Development Officers. The rainfall reports from each rain recording station shall be transmitted to the District Control Room daily through V.H.F./ Telephone/ Messenger.

GAUGE READING (PARA 50 OF O.R.C.)

The gauge reading stations of different rivers are available at different places in the district as shown. The gauge readings will be transmitted by the flood control cell to the

District Control Room every hour when the gauge reading is near or above danger level. When the gauge reading is fairly below the danger level, the same will be transmitted once a day by 5 P.M., Gauge readings at the above Gauge stations shall be communicated to the Revenue Control Room through phone/Fax from the District Control Room.

DISSEMINATION OF WEATHER REPORTS , FLOOD BULLETIN ETC. (PARA 52 OF O.R.C.)

Immediately on receipt of weather warnings and bulletin above high flood from the Metrological Center of the Government of India at Bhubaneshwar or from the Revenue Department/ Special Relief Commissioner, the same shall be communicated to the superintendent of Police. Executive Engineers of the Water Resources Department, the Sub-Collectors, Executive Officers of U.L.Bs., Tahasildars and Block Development Officer who shall without loss of time disseminate the messages among the people through their respective agencies and caution them so that they will be in readiness to shift to flood shelters or other safer places in the event of high floods. The people, will also be asked to refer to the special weather/flood bulletin of T.V./Radio during such periods.

STORAGE OF FOODSTUFF IN INTERIOR AREAS (PARA 57 OF O.R.C.)

To ensure that food grains/food-stuff are available in the interior areas which are likely to become inaccessible during flood, Civil Supplies Officer, Khordha, has been reported to store adequate amount of rice and also to keep stock of Kerosene. Other dry foods like chuda, mudhi, guda, bread and other necessities like candle, match box etc, will be arranged immediately for distribution among the marooned people in the event of high flood.

SELECTION OF FLOOD SHELTERS (PARA 60 OF O.R.C.)

In or about the flood prone areas, suitable buildings belonging to Government, Panchayat Samities, Gram Panchayats, Educational Institutions, Mahila Samitis, Recreation Centres or other Institutions of

public nature may be selected for providing emergent shelter to the people on evacuation from the flood affected areas. In case no such buildings could be found, temporary structures with bullahs, bamboos, talais and tarpaulins should be raised on high mounds or embankments for such shelters. The Collectors of flood prone districts shall arrange for quick availability of bamboos, bullahs, ropes, talais, tarpaulins, etc. for construction of such shelters.

ORGANISATION OF RELIEF PARTIES FOR RESCUE AND RELIEF OPERATION (PARA 60 OF O.R.C.)

In the event of high flood it will be necessary to rescue the marooned people and to distribute emergent relief to the people affected by the calamity. For smooth management of rescue and relief operation, the Sub-Collector have been instructed to constitute Relief Parties in advance indicating their area of jurisdiction. The employees of the local Government offices shall be included in such relief parties. NGOs will also be involved in the programmed.

ARRANGEMENTS FOR ARMY ASSISTANCE (PARA 61 & 69 OF O.R.C.)

In case of severe and wide spread calamity, the assistance of army personnel may be sought for relief and rescue operation. In such contingency, necessary arrangements shall be made to requisition the army to assist the civil authorities through Special Relief Commissioner / Government following the procedure laid down under paragraph 61 and 69 of the Orissa Relief Code

DAILY REPORTING OF FLOOD SITUATION (PARA 71 OF O.R.C)

As per para 71 of Orissa Relief Code instructions have been separately issued for submission of daily situation report by the Block Development Officer /Tahasildars in the prescribed format through wireless message from the date of occurrence of the flood till after 3 days of the abatement of flood. The required flood information will be collected by the V.L.Ws and Extension Officers who will furnish the same to the Block Office by 2 P.M. every day. Besides, other line department officers will also pass on the information relating to their department officers who will also pass on the information relating to their department to the respective Block Development Officers. The Block Development Officers will compile and transmit the information as per the format of the daily situation report through the nearest police wireless by 3 P.M. to District Control Room.

TRANSPORT

In the event of any Natural Calamity, vehicles may be required for sending the relief parties and relief materials including foodstuff to the affected areas. The Regional Transport Officer will make requisition and provide such vehicles with the help of his enforcement staff as per the requirement.

DISPOSAL OF DEAD BODIES (PARA 73 OF ORC)

The dead bodies of human beings, if any, found in the flood-affected areas in case of high flood, shall ordinarily be made over to their relatives and friends, if available, for cremation or burial. When there are no claimants for dead bodies, those shall be cremated/buried at the Govt. cost i.e. Health Department. Chief District Medical Officer, Khordha will issue necessary instructions to their officer and staff in the field in this regard. Similarly, carcasses of cattle and other animals shall be buried by the Animal Resources Development Department. Chief District Veterinary Officer will issue necessary instruction in this regard.

ASSESSMENT OF DAMAGE (PARA 74 TO 77 OF O.R.C)

Damages caused by the Natural Calamity to the private and public properties and loss of life are assessed by the Revenue Agency. The Tahasildars are to collect such information with the help of his staff through the local enquiry. The Block Development Officers and the Extension Officers in this work if necessary will assist them and officers may be specially deputed by the Collector to assist the Tahasildars in this work where there is large-scale damage. This report of damages would be submitted without delay. The other departments will similarly assess their losses and submit reports within the stipulated time.

RESTORATION OF COMMUNICATION AND POWER SUPPLY (PARA 86 OF ORC)

In case of high flood, the communication and power supply to the affected areas are usually cut off. The respective departments will take immediate steps for restoration of the communication as well as power supply after abatement of flood.

LAW AND ORDER

In case of occurrence of any Natural Calamity, there is change of law and order problems. Transportation and distribution of relief materials may require police protection. The Superintendent of Police will issue necessary instruction to all Inspector officer/officer officers in the District in the direction of maintenance of law and order in such eventuality and to render necessary assistance to the District/Sub-Divisional authorities for smooth management of relief and rescue operation.

8.8 Format for First Information Report (FIR)

on occurrence of natural calamity

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

From: District - _____ Date of Report:- _____

To

Special Relief Commissioner, Orissa

State Emergency Operation Centre (SEOC),

Rajiv Bhawan, Ground Floor, Unit-5, Bhubaneswar

Fax No: 0674-2534176, E-mail: relief_sr@yahoo.com/src@ori.nic.in

- a. Nature of Calamity
- b. Date and time of occurrence
- c. Affected area (number and name of affected Blocks)
- d. Population affected(approx.)
- e. Number of Persons
 - Dead
 - Missing
 - Injured
- f. Animals
 - Affected

- Lost
- g. Crops affected and area(approx. in hect.)
- h. Number of houses damaged
- i. Damage to public property
- j. Relief measures undertaken in brief
- k. Immediate response & relief assistance required and the best logistical means of delivering that relief from State/National
- l. Forecast of possible future developments including new risks
- m. Any other relevant information

Authorised Signatory

District Emergency Operation Centre (DEOC)

District:- _____

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

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

1. Health Department.

- Medical Relief Centres Opened-
- Mobile teams deployed-
- Wells disinfected-
- ORS distributed-
- Halogen Tablets distributed-
- Minor Ailment Treated-

2.R.D. Department.

- Mobile vans deployed-
- Water tanker deployed-
- ORS powder distributed-
- Halogen Tablets distributed-
- Water pouches distributed-
- Bleaching powder distributed-
- Sintex Tanks available-
- Tube wells disinfected-

3.FS & CW Department

-Qtls. Chuda, Qtls gur supplied to Blocks
(Qty .in quintals)

District	Chuda	Gur

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

<u>Blocks</u>	<u>Quantity allocated (in quintal)</u>
----------------------	---

Total:

4.Fisheries & A,R.D. Department

- Animals vaccinated-
- Animals treated-

Damages to Roads/River Embankments

1.R.D. Department.

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

2.Works Department.

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

3.W.R Department.

Breach occurred-
Breaches closed-

Breach closing works in progress

Chapter – 9: 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 administrating 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.

Rapid Damage Assessment: The district administration and the concerned - departments will make quick damage assessment even when the relief operations are going on. SRC will coordinate this.

Transparency: Transparency in relief, reconstruction and mitigation activities will be maintained by all agencies.

Early transition to rehabilitation: In order that human dignity is not compromised, efforts will be made to ensure a smooth and quick transition from Relief to Rehabilitation phase where food security needs would be combined with peoples' participation in creating and renovating community assets.

Key Activities in the Recovery and Rehabilitation Phase:

Detailed Damage Assessment and Preparation of Rehabilitation & Reconstruction Plan: A detailed and objective damage assessment will be done in the affected area in order to size up and prioritise restoration, reconstruction and

rehabilitation measures within the shortest possible time. Respective departments will undertake detailed, sectoral damage assessment on priority basis and complete the same within two months of the event at the latest. Guidelines in this regard will be formulated by the OSDMA with approval of the Govt. Government vide Revenue department resolution No.39376 dated 26/8/2000 has decided, “OSDMA will identify the repair/ reconstruction works and rehabilitation programmes necessary to be taken up following any natural calamity, in consultation with the Departments of Govt. and draw up a tentative shelf of projects/programmes for implementation. The OSDMA will have full authority to identify the executing agency through which each individual project / programme will be implemented.” The self of projects, programmes are to be approved by Govt. before implementation. The concerned District Collector(s) will prepare a time-bound comprehensive reconstruction and rehabilitation plan. The OSDMA will facilitate the process. The objective of the rehabilitation and recovery plan will be to reduce vulnerability of the people and infrastructure. In the rehabilitation plan, the special needs of the vulnerable groups and areas prone to repeated disasters will be given priority.

Resource mobilisation: To augment the resources available with the State Govt. assistance from Union Government, public and private sector, multi lateral and bi-lateral agencies, UN organizations, the Civil Society and other charitable organizations will be sought with the approval of the State Government. Communities and individuals would be encouraged to raise resources necessary for immediate relief within the community itself and to access the Community Disaster Management Fund and institutional credit. A coordination mechanism will be put in place at all levels under the aegis of the OSDMA, to ensure equitable distribution of resources, avoid duplication of efforts and generate synergy.

Rehabilitation of orphans and widows: For the rehabilitation of orphans and widows a community-based approach will be adopted. Institutional rehabilitation will be considered only as an alternative option. The Women and Child Development Department will be the Nodal Department for the rehabilitation of the children who become orphans, and persons who become widows and physically or mentally challenged due to disasters.

Documentation: Documentation of various phases and aspects of disaster management is important for recording valuable experiences and identifying areas

where improvements are possible. The OSDMA will document various disaster events, highlighting lessons learnt in association with other involved organizations. The Govt. will support consultancy services, research programmes, etc. to increase the level of understanding and evolving appropriate measures to improve the quality of disaster management.

9.1 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"> • Conduct training programmes for staff on operation of updated equipments for Search and Rescue • Conduct training programme for staff on First Aid • Review and monitor of preparedness activities • Rapport building with the local community by the staff members
EE- RWSS	<ul style="list-style-type: none"> • Proper planning for supply of drinking water at the rural pockets for summer and flood season • Time to time restoration of tube wells and raising of platforms in the flood affected area • Aware the community to use safe drinking water
EE- Irrigation	<ul style="list-style-type: none"> • Identification of weak embankments • Repairing of the embankments • Capacity building training programmes for staff and other stakeholders • Flood contingency planning and sharing with DDMA
DAO- Agriculture	<ul style="list-style-type: none"> • Training to farmers and other stake holders on different good agricultural practices • Training to Staff members on different good / updated agricultural practices

EE- Rural Works	<ul style="list-style-type: none"> • Routine developmental works but disaster proofing mechanism • All Circle Officers will carry out damage assessment in their respective areas • Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer & his staff during damage assessment • All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis • Immediate restoration of critical infrastructures
EE- Public Works	<ul style="list-style-type: none"> • All Circle Officers will carry out damage assessment in their respective areas • Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer & his staff during damage assessment • All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis • Immediate restoration of critical infrastructures
DTO-Telecom	<ul style="list-style-type: none"> • All Circle Officers will carry out damage assessment in their respective areas • Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer & his staff during damage assessment • All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis
CDVO	<ul style="list-style-type: none"> • All Circle Officers will carry out damage assessment in their respective areas • Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer & his staff during damage assessment • All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis

RTO/MVI	<ul style="list-style-type: none"> • All Circle Officers instructed to be in coordination with the local authority • Identification and Provision of vehicles for necessary emergency movement
DFO-	<ul style="list-style-type: none"> • All Circle Officers will carry out damage assessment in their respective areas • Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer & his staff during damage assessment • All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis.
Railway	<ul style="list-style-type: none"> • All Circle Officers will carry out damage assessment in their respective areas • Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer & his staff during damage assessment • All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis • Damage Assessment report of Railway may be sent to parent department apart from DDMA /DEOC.
EE- Electricity	<ul style="list-style-type: none"> • All Circle Officers will carry out damage assessment in their respective areas • Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer & his staff during damage assessment • All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis • Restoration of Electricity in hospitals, administrative buildings
EE – PHED	<ul style="list-style-type: none"> • All Circle Officers will carry out damage assessment in their respective areas • Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer & his staff during damage assessment • All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis

	<ul style="list-style-type: none"> • Restoration of safe drinking water • Close watch on outbreak of jaundice and other water related diseases
DEO- School & Mass Education	<ul style="list-style-type: none"> • All Circle Officers will carry out damage assessment in their respective areas • Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer & his staff during damage assessment • All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis • Immediate restoration of Electricity, Drinking water facility, sanitation facilities after any serious disastrous event
DEO - Higher Secondary Education	<ul style="list-style-type: none"> • All Circle Officers will carry out damage assessment in their respective areas • Representatives from line department's viz. Agriculture, PWD, PHED, Water Resource, Animal Husbandry, Education, Health, Irrigation, Fishery and Social Welfare will accompany Circle Officer & his staff during damage assessment • All damage assessment reports in the prescribed format (By GoO) to be submitted to DDMA /DEOC on daily basis • Immediate restoration of Electricity, Drinking water facility, sanitation facilities after any serious disastrous event

9.2 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					

9.3 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											
3											
4											
5											
6											
7											
8											
9											
10											
11											
Total											

9.4 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										
2										
3										
4										
5										
Total										

9.5 Farmers affected by successive calamities

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

(Rs. In lakh)

9.6 Animal Husbandry (Replacement of Animals)

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

Contd..

9.7 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 @ Rs.-5200/-	Kutcha	Amount @ Rs.-3200/-	Nos.	Amount @ Rs.-4100/-	Nos.	Amount @ Rs.-4100/-	
		Pucca	Amount @ Rs.- 95100/-	Kutcha	Amount @ Rs.- 95100/-	pucca	Amount Rs.- 101900/-	Kutcha	Amount @ Rs.- 101900/-									
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
TOTAL																		

9.8 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									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
19									
Total									

9.9 Extent of damage due to natural calamities

Dist :

Nature and period of natural calamity :

Sl.	Item	Details
1.	Total number of Blocks in the district	
2.	Number and names of Blocks affected	
3.	Number of villages affected	
4.	Population affected (in lakh)	
5.	Total land area affected (in lakh ha.)	
6.	Cropped area affected (in lakh ha)	
	i) Total cropped area affected	
	ii) Estimated loss to crops (Rs. in lakh)	
	iii) Area where cropped damage was more than 33%	
7.	Percentage of area held by SMF	
	i) In the State as a whole	
	ii) In the affected districts	
8.	House damaged	
	a) No. of houses damaged	
	i) Fully damaged pucca houses	
	ii) Fully damaged kutch houses	
	iii) Severely damaged pucca houses	
	iv) Severely damaged 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	

9.10 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/NCCF in accordance with list of works indicated in the Appendix to the revised items and norms
Roads & Bridges	PWD 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 Roads	Length of drain 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/Canal Embankment Roads	No of Roads damaged in river embankments– Length of Road damaged in river embankments – No of Roads damaged in canal embankments –			

		Length of Road damaged in canal embankments –				
Drinking Water Supply	Rural Water Supply	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 projects	No of Minor Irrigation projects damaged -				
	Clearance of Drainage channels	Length of drainage channels congested with vegetative materials –				
Primary Education	Primary School Buildings	No of Primary School buildings damaged -				
PHCs	PHCs	No of Primary Health Centres damaged -				
Community assets owned by Panchayats	Community Halls	No of Panchayat Ghar/Community Hall damaged -				
	AWW Centres	No of Anganwadi 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-10: Recovery

The long-term recovery plans are related with Recovery and Reconstruction activities on one side and institutionalizing disaster management in district administration on the other side. There are Standard Operation Procedures (SOPs) for the Emergency Support Functions. Recovery and rehabilitation is the final step. The incident Command System shall be deactivated as the rehabilitation phase is over. Thereafter the normal administration shall take up the remaining reconstruction works in the disaster-affected areas. These activities shall be performed by the Working Group for relief and rehabilitation under the direction of the DDMA.

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

- There are Standard Operation Procedures (SOPs) for the Emergency Support functions. In long term measures the following actions shall be undertaken duly.
- Constitution of Emergency Support Functions, Disaster Management Teams, Quick Response Teams, Field Response Teams.
- Refresher trainings for all such teams in a regular interval of time and exercise of Mock Drills.
- Continuous awareness/sensitization programmes for the stakeholders and the general public.
- Getting pre-contract with vendors and merchant establishments to procure relief materials in times of disaster.
- Preparation of Recovery plan for displaced population, vulnerable groups, environment and 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 programme.

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

The role of the DM & Collector will be to:

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

Chapter- 11: Financial Arrangement

11.1 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.

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

11.2 State Disaster Response Fund (SDRF)

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

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

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

decides on all matters connected with the financing of the relief expenditure of immediate nature from SDRF.

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

11.3 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.

11.3.1 Cases Eligible for Assistance under CMRF

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

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

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

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

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

11.4 Release of Funds to Departments and Districts:

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

Part funds towards repair / restoration of immediate nature of the damaged public infrastructure are released to the Departments concerned. On receipt of requisition from the Collectors / Departments concerned, funds are released after obtaining approval / sanction of S.E.C. However, funds towards pure relief are released under orders of Special Relief

Commissioner / Chief Secretary and the same is placed before the State Executive Committee in its next meeting for approval. To save time, Collectors have been instructed to disburse the ex-gratia assistance from the available cash and record the same on receipt of fund from Special Relief Commissioner.

11.5 Damage Assessments and Report after Flood/Cyclone

Private properties and properties of Government under different Departments are damaged by high floods and cyclones. As per para-75 of Orissa Relief Code, the Collector shall undertake assessment of damages to private properties as well as properties of Government. This assessment shall be done quickly soon after the abatement of flood in the prescribed formats prescribed in Appendix- X of Orissa Relief Code.

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

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

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

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

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

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

11.6 Central and State Government programmes and Schemes on Natural Calamities

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

natural calamities in the sector covered by CSS. Thus, relevant Central Government and State Government funded schemes are identified which are crucial to build over resilience of communities in the context of the district.

Table __ : Different State and Central Government Schemes and Programms

Sl No.	Name of the Scheme	Sector	Nodal Department	Objective of the Scheme
1	National Agriculture Insurance Scheme (NAIS)/ Rastriya Krishi Bima Yojna (RKBY)	Crop Insurance	Agriculture Insurance Company of India (AICI)	To protect the farmers against the losses suffered by them due to crop failures on account of natural calamities, such as droughts, floods, hailstorm, storms, animal depredation, etc.
2	Janashree Vima Yojna	Life Insurance	Life Insurance Corporation Of India	The objective of the scheme is to provide life insurance protection to the rural and urban poor persons below poverty line and marginally above the poverty line.
3	National Rural Livelihood Mission (Deen Dayal Antordaya Yojana)	Poverty reduction programme	Ministry of Rural Development / Panchayati raj Department	To reduce poverty by enabling the poor households to access gainful self-employment and skilled wage employment opportunities, resulting in appreciable improvement in their livelihoods on a sustainable basis, through building strong grassroots institutions of the poor.
4	Deen Dayal Upadhaya - Gramin Kaushalaya Yojana (DDU-GKY)	Skill development scheme	Ministry of Rural Development / Panchayati raj Department	DDUGKY is a placement linked skill development scheme for rural poor youth. This initiative is a part of NRLM
5	Pradhan Mantri Gram Sadak Yojana (PMGSY)	Poverty Reduction Strategy	Rural Development Department	Pradhan Mantri Gram Sadak Yojana (PMGSY) aims at providing all weather connectivity to all unconnected habitations having population 250 and above for IAP districts and population of 500 or more in general area and population of 250 or more in schedule area for non-IAP districts
6	National Social Assistance Programme (NSAP)	Social Welfare programme	Ministry Of Rural Development	The National Social Assistance Programme (NSAP) which came into effect from 15th August, 1995 represents a significant step towards the fulfillment of

				<p>the Directive Principles in Article 41 of the Constitution. The programme introduced a National Policy for Social Assistance for the poor and aims at ensuring minimum national standard for social assistance in addition to the benefits that states are currently providing or might provide in future. NSAP at present, comprises of Indira Gandhi National Old Age Pension Scheme (IGNOAPS), Indira Gandhi National Widow Pension Scheme (IGNWPS), Indira Gandhi National Disability Pension Scheme (IGNDPS), National Family Benefit Scheme (NFBS) and Annapurna.</p>
7	Pradhan Mantri Awas Yojana (Housing for all – Urban)	Rehabilitation of Slum Dwellers	Ministry of Housing and Urban Poverty Alleviation	<p>The Mission will be implemented during 2015-2022 and will provide central assistance to Urban Local Bodies (ULBs) and other implementing agencies through States/UTs for:</p> <ol style="list-style-type: none"> 1. In-situ Rehabilitation of existing slum dwellers using land as a resource through private participation 2. Credit Linked Subsidy 3. Affordable Housing in Partnership 4. Subsidy for Beneficiary-led individual house construction/enhancement.
8	Swachha Bharat Mission (SBM-U)	Cleanliness, Water & Sanitation, Urban	Ministry of Drinking Water & Sanitation	<p>To accelerate the efforts to achieve universal sanitation coverage and to put focus on sanitation, the Prime Minister of India launched the Swachh Bharat Mission on 2nd October, 2014. The Mission Coordinator shall be Secretary, Ministry of Drinking Water and Sanitation (MDWS) with two Sub-Missions, the Swachh Bharat Mission (Gramin) and the Swachh Bharat Mission (Urban), which aims to achieve Swachh Bharat by 2019, as a fitting</p>

				tribute to the 150th Birth Anniversary of Mahatma Gandhi, which in rural areas shall mean improving the levels of cleanliness in rural areas.
9	Swachha Bharat Mission (SBM-G)	Cleanliness, Water & Sanitation, Gramin	Ministry of Drinking Water & Sanitation	To accelerate the efforts to achieve universal sanitation coverage and to put focus on sanitation, the Prime Minister of India launched the Swachh Bharat Mission on 2nd October, 2014. The Mission Coordinator shall be Secretary, Ministry of Drinking Water and Sanitation (MDWS) with two Sub-Missions, the Swachh Bharat Mission (Gramin) and the Swachh Bharat Mission (Urban), which aims to achieve Swachh Bharat by 2019, as a fitting tribute to the 150th Birth Anniversary of Mahatma Gandhi, which in rural areas shall mean improving the levels of cleanliness in rural areas.
10	National Rural Drinking Water Programme (NRDWP)	Safe Drinking Water	Ministry of Drinking Water & Sanitation	The aim and objective of National Rural Drinking Water Programme (NRDWP) is to provide every rural person with adequate safe water for drinking, cooking and other basic domestic needs on a sustainable basis, with a minimum water quality standard, which should be conveniently accessible at all times and in all situations. Achieving this aim and objective is a continuous process.
11	Pradhan Mantri Krishi Sinchai Yojana (PMKSY) – Integrate Watershed Management Programme (IWMP)	Agriculture	Ministry of Agriculture and Farmers Welfare, GoI	Har Khet ko Pani “Prime Minister Krishi Sinchayee Yojana” PMKSY has been formulated amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR, RD&GR), Integrated Watershed Management Programme (IWMP) of Department of Land Resources (DoLR) and the On Farm Water Management (OFWM) of

				Department of Agriculture and Cooperation (DAC).
12	Digital India Land Record Modernisation Programme (NLRMP)	Digital India	Ministry of Rural Development	The Digital India Land Records Modernization Programme (DILRMP) is launched by Government of India in August 2008, aimed to modernize management of land records, minimize scope of land/property disputes, enhance transparency in the land records maintenance system, and facilitate moving eventually towards guaranteed conclusive titles to immovable properties in the country.
13	Deen Dayal Upadhaya Gram Jyoti Yojana (DDUGJY)	Rural Electrification	Ministry of Power	<ul style="list-style-type: none"> • Separation of agriculture and non-agriculture feeders • Strengthening and augmentation of sub-transmission & distribution • Rural electrification
14	Atal Mission for Rejuvenation and Urban Transformation (AMRUT)	Urban Infrastructure	Ministry of Urban Development	Providing basic services (e.g. water supply, sewerage, urban transport) to households and build amenities in cities which will improve the quality of life for all, especially the poor and the disadvantaged is a national priority.
15	Pradhan Mantri Fasal Bima Yojana (PMFBY)	Agriculture Insurance	Ministry of Agriculture and Farmers Welfare, Government of India	<p>To provide 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 & diseases.</p> <ul style="list-style-type: none"> - To stabilise the income of farmers to ensure their continuance in farming. - To encourage farmers to adopt innovative and modern agricultural practices. - To ensure flow of credit to the agriculture sector.
16	National Health Mission (NHM)	Health	Department of Health & Family Welfare, GoO	Improved health status and quality of life of rural population with unequivocal and explicit emphasis on sustainable development measure.

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

Shared Learning Dialogues

SLD is a reiterative, cross-scales and cross-sectoral process that fosters learning and sharing by bringing together external scientific/ conceptual knowledge and local technical/ traditional knowledge. Two rounds of SLDs were carried out with 11 line departments in Puri. Prior to the SLDs, State Level & District Level inception meetings were held which provided valuable insights, especially, into macro and meso inter-sectoral issues of Disaster Management.

The objective of the first round of SLD was to understand intra- and inter- sectoral issues of vulnerabilities and gaps in capacities specifically in the context of disaster risks.



Figure 5: District Level [SLD](#) on CCA-DRR Integration in Puri District

The second round of SLD was aimed at understanding ways to address the underlying causes of vulnerability and risks considering the scope and thrust on various activities of the departments as outlined in their Annual Departmental Plans.

At core, the SLDs promoted greater understanding and development of shared visions of perceptions, needs and issues across diverse departments and stakeholders at various levels.

Community Consultation:-

Following the principles of SFDRR which advocates for a more people-centric preventive approach to disaster risks, community consultations were carried out in blocks & villages of Puri district under the guidance of emergency section. Five vulnerable rural blocks, one urban municipal ward & two villages facing frequent multi-hazard were selected for community consultation on the basis of Hazard, Vulnerability & Capacity Risk Assessment (HVCRA) Framework developed after consulting the line departments & District Emergency Cell. Tools like check list for discussions, hazard ranking using Participatory Rural Appraisal (PRA), HVCRA matrix and social cum resource map etc. were used in the process.



Figure 6: Community consultation in Astaranga Block of Puri District

Key information & knowledge generated from community consultation:

- Identification of block wise hazards and exposure to climate change and disasters.
- Assessment of seasonality of hazards using PRA exercise.
- Analysis of history of hazards in the blocks.
- Vulnerability, Risk & Capacity Analysis in consultation with the community and block level officials
- Sharing of experience by community members helped in climate threshold analysis.

This led to a more comprehensive and effective DDMP of Puri district in view of climate change through validating the information in DDMP and including community voice in planning. Community consultation enhanced the awareness among various stakeholders by their direct engagement with development of disaster management plan and establishing a process for regular up-gradation of it in future.

Finally, by effective use of CRF, SLDs conduction, community consultation, using climate data and analysis and analysis of departmental plans & budgets, the DDMP of Puri district was revised. The newly formalised DDMP of Puri district provides technical support for strengthening capacity of stakeholders including communities and institutions for fast-track implementation of the planning frameworks on CCA & DRR.

This climate-sensitive DDMP includes a mitigation plan which is updated with insights from structured process of two rounds of consultations with key line departments (SLDs) on issues of mainstreaming CCA-DRR. Further, results from specific analysis on cyclones and extreme precipitations, and consultations with communities from select blocks/ villages/ urban areas contributed to the updation. On this basis, the mitigation actions of selected climate-induced disasters were revised and categorised into four priority areas of SFDRR.

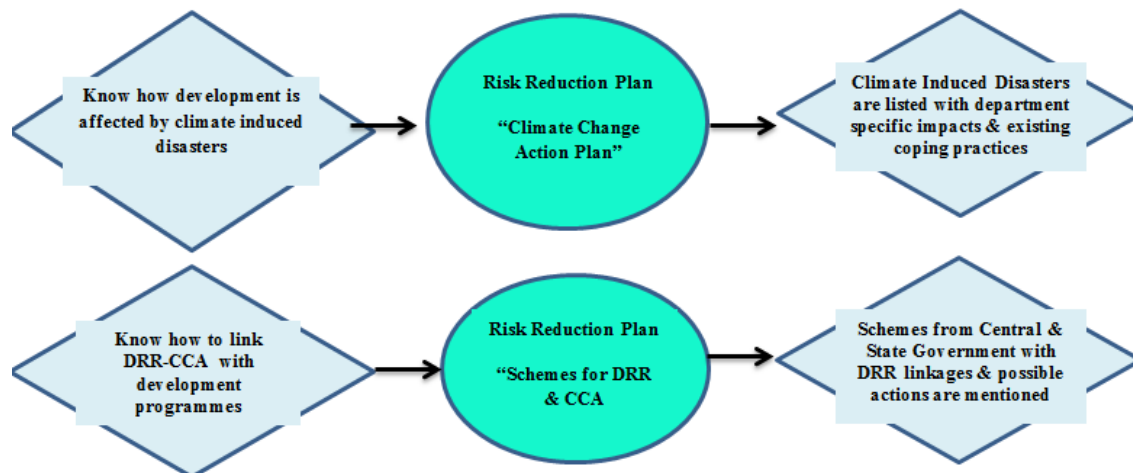


Figure 8: CCA-DRR in Puri DDMP

Heat Wave:-

Large numbers of districts in Odisha including Puri are highly vulnerable to heat waves. The state saw a death toll of 67 in the year 2015 due to dehydration and heat stress. The new DDMP of Puri provides specific measures & approaches to deal with heat stress to serve the aim of bringing down the heat causalities down to zero which is common to Odisha State Heat Wave Action Plan (OSHAP). The OSDMA has recently updated the old OSHAP in view of increasing death tolls. This plan puts more focus on adaptive and resilience building measures. The new DDMP of Puri considers the similar approaches for heat wave resilient construction and adaptation measures.

Department wise key recommendations

(Source: SLD Reports, Puri)

Health & Family Welfare

- There should be an earmarked fund for additional 30 % procurement of essential medicines for emergency situation.
- 10-20 % of medical and paramedical staff position is vacant in coastal areas. It needs to be filled immediately.
- There is an immediate need to cover all the coastal area CHCs with alternate power back up system.

"Emphasis on strengthening the capacity of all vulnerable PHCs and Sub-centres should be done by making them better equipped with power back up, communication alternatives and other essentials" - Dr A Mohanty, ADMO, Puri

Forest Department

- Urban forestry programme should be allowed by Puri Municipality by way of land allocation and funds.
- Need for training of lower level staff such as Rangers and Forest Guards and specific budgetary allocation for the same.
- Mechanised way of plantation is required rather than traditional methods.

Agriculture Department

- Weather advisory for the farmers will be very useful. It will help them to take necessary steps in input, cultivation, irrigation and harvesting.
- Water harvesting structures such as check dams on canal may improve the water table in drought prone areas.
- Procurement and distribution of the quality seeds in time needs to be ensured at district level.
- Budget provision in capacity building of farmers should increase up-to 20-25%.

“Emphasis should be given on providing timely farm inputs to the farmers and making water available for dry season irrigation so that they can adapt to the unprecedented weather changes. Irrigation department should work on ensuring irrigation facilities in consultation with the Agriculture department” - Sri S. Chandrashekhara Rao, Deputy Director Agriculture, Puri.

Irrigation Department

- The operating “rule curve” of Hirakud dam needs to be aptly revised or a new dam should be constructed downstream of Hirakud for flood control in the deltaic areas of Puri district.

“Inter-state cooperation needed for understanding risks. For example, rainfall of Chhattisgarh is closely related with the Mahanadi inflows for district Puri” – Mr Gagan Kumar Biswal, Executive Engineer, Irrigation department, Odisha

Road & Building Department

- Increase the funding to repair and maintain all roads every 3 years.
- Changing the road material from Bitumen-Tar road to Cement-Concrete roads would improve the longevity of the roads.
- Design changes need to be introduced considering climate change impacts, new flooding levels and discharge quantum (for culverts).

Electricity Department (CESU)

- Under-ground cabling in town areas is required.
- Shift from MS poles to GI poles for better strength and longevity is required
- Covered breaker rooms should be there to ensure continuity of power supply during events of lesser intensity.
- 33 kV and 33/11 kV control rooms should be gas and air insulated
- H-Pole structure for 33/11 kV lines for better stability and longevity is required

Animal Husbandry

- Field staff people with knowledge of animals care are required.
- Additional non-departmental and non-technical activities add to the burden and efficiency of the working of department. Therefore, technical & man-power resources are required for these additional responsibilities.
- Go-downs should be constructed at Block level for cattle feed storage.
- Given the unique variation and geographical nature of Puri, a focused research of animal’s adaptability in Puri environment is preferable.
- Re-emergence of disease after vaccination needs scientific probing.

Fisheries Department

- There is a need to develop departmental contingency plans.
- The damage and loss assessment post disaster should be done together with the fisheries department, as the assessing personnel are not aware of the fish species lost, its value and other technical issues involved.

- Escalation of mechanization of 100% DAT operated boats, may be planned together with SDRF for better coordination of activities.

District Rural Development Agency

- Training of all Panchayat members and departmental staff on disaster response is required.
- As being used in sand casting, MGNREGA money should also be used in draining out excess rain water from water logged areas.
- Convergence with other departments may be of great help such as drainage division of irrigation department can be used to drain the water for water logged areas.
- Storage facility/fund for producer groups is required to be made available under livelihood mission.
- A 30-40% increase is required for all housing schemes to meet out higher construction cost of design as per local scenario such as raising plinth level in all low lying areas. RCC roof should to be mandated in all housing schemes.

Urban Local Bodies

- Puri Municipality as well as the notified area councils such as Konark, Pipli and Neemapara are the major urban hubs in the district which need attention in disaster management planning.
- Effective enforcement and regulation of land-use stipulated in Comprehensive Development Plan for Puri-Konark corridor (PKDA).
- Review and revision of the building regulations as appropriate considering cyclones (PKDA) is required.
- Construction of additional multipurpose cyclone shelters based on assessment of needs is required.
- Review is required for capacity of storm water drainage system and design drains that can optimally discharge the runoff from moderate to extreme precipitation events (Water Resources Department and Works Department, and Municipality).
- Alternative backup power for maintaining functionality of water supply system during disasters (PHED) should be provisioned.

Key highlights & takeaways of the intervention

- Participation and level of engagement of officials in the state level & district level inception meetings and SLDs in Puri was overwhelming.
- Better understanding of intra and inter-sectoral vulnerability of key infrastructural assets and services.
- Technical and scientific knowledge on climate thresholds was generated through departmental consultations.
- Gaps in coordination and capacities that influence sectoral vulnerabilities were identified.
- Need of technical, organizational, financial and managerial requirements of the line departments were assessed.
- Qualitative & quantitative findings of SLDs and community consultations were used to upgrade the DDMP.
- Integration of CCA-DRR components in district disaster management as well as various departmental developmental plans.
- The intervention in Puri is in line with SFDRR, SDGs and the Paris Agreement, focusing on multi-hazard, multi-sectoral CCA-DRR practices with involvement of communities in disaster management planning and putting focus on softer options for mitigation and resilience.
- The Climate Smart DDMP of Puri which also puts focus on gender as a cross cutting issue, can be used as a model DDMP for other 30 districts of Odisha and can be scaled-up at national level.

- Climate analysis and climate threshold assessment of each department will help in risk management in future also.

Key Challenges of Integration

- Lack of capacities at departmental level to understand the concepts of CCA-DRR because of which the departments hardly contribute in the formation of DDMP.
- Lack of sensitization of state and sub-national level departments on international and national commitments and their key respective roles in integration & implementation
- Problems in fund allocations after dissolution of Planning Commission and formation of new Niti Ayog.
- Inter-departmental convergence areas are not properly identified at sub-national and state level, thus, not included by the departments in their annual developmental plans
- The experience gained through consultation and implementation process at district level hardly reaches the state level (vertical gap).
- Unavailability of ground level data at district level.
- The prediction of cyclone which is the most prominent disaster is difficult.
- Majority of actions in DDMP still seem to be response centric, therefore, role of departmental developmental activities in pre and post disaster phase are mostly ambiguous.

Capacity Building Needs on CCA-DRR Integration:

At the State Level:

- Orientation on SFDRR, SDGs, Paris Climate Change Agreement & inter linkages
- Training on integration of CCA-DRR with inter departmental convergence
- Establishing periodic review of planning and implementation

At the District Level:

- Capacity building on integration of CCA-DRR with inter departmental convergence
- Review of developmental plan implementation in view of disaster and climate risks on periodic basis under the aegis of DM & DDMA
- A monitoring and review mechanism of DDMP to be developed and enforced
- Climate data need to be generated at micro level and required infrastructure & capacity need to be built
- Deployment/fresh appointment of expert or nodal officer in emergency section and in other key line departments

The Way Ahead:

Training Manual

After successfully updating the Puri DDMP in context of CCA-DRR, the intervention is looking forward for support from higher-level organisations (e.g., the National Disaster Management Authority and various ministries). The programme plans to share its experiences and strive for scaling up and replicating these efforts by capturing the programme experiences in the form of a training manual. The main aim of this manual is to promote & support training capacity building on mainstreaming of CCA & DRR integration into developmental planning processes with a special focus on sub-national and urban area contexts. NIDM being the national policy think tank & capacity building institute is bringing out this training manual along with GEAG & ISET-I to provide training & capacity building support to practitioners, policy makers, officials & academicians to pave a way to mainstream climate & disaster risks in developmental planning. A training programme by NIDM will be conducted after training manual development.

Collector's Handbook

District Collector's Handbook on mainstreaming CCA-DRR will also be developed as a sort of quick guide (ready reckoner). There is tremendous potential for reducing vulnerability and risks through integration of DRR in national and state schemes through structured framework and operational measures which a collector can only help in proper implementation. It will give a quick overview of roles & responsibilities of collectors in disaster management and will guide the collectors on various issues of CCA-DRR mainstreaming into development planning of districts.

Research Paper on DDMP revision with CCA integration

Further in the process, the initiative will come up with a research study which will demonstrate how Climate Smart DDMPs like that of Puri can be used to implement State Action Plan on Climate Change (SAPCC). A detailed analysis of DDMP of Puri-2016-17 will be done to understand the comprehensiveness of a DDMP and its effectiveness as a tool for implementation of SAPCC. Finally, monitoring systems and indicators will also be developed as part of the intervention to periodically monitor the efficacy of DDMP.

11.8 Fund provision for disaster preparedness & capacity building

Note: Provision of funds for different capacity building programmes and preparedness measures to be elaborated

CHAPTER - 12

PREPARATION & IMPLEMENTATION OF DDMP

12.1 Procedure for preparation of DDMP as per the DM Act

Under Section 31 of Disaster Management Act 2005 (DM Act), it is 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 and preparedness 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.

As per the DM Act 2005, DDMA Puri invited a meeting of all line departments and the members of DDMA to have a preliminary discussion on the formats given by SRC and OSDMA. A detailed discussion was made on the different formats and all the line departments issued instructions to provide necessary information so that all the required information will be incorporated in the DDMP. The processes followed to prepare the DDMP are given below:

1. A two days workshop was conducted at the State level to discuss the formats prepared by OSDMA as per the DM Act & NDMA guideline in Which DEO and DPO, OSDMA participated.
2. Stakeholders meeting at the Dist. level on the formats given.
3. Detailed discussion was made on the format.
4. Letters issued under the signature of Collector & DM to the line departments to provide the information with a dateline.
5. Reminders were also issued to the defaulting line departments under the signature of ADM.
6. DPO, Emergency visited some of the offices to collect information and also entrusted to prepare the DDMP under the active supervision of DEO.
7. A sharing meeting organized for DDMA members to have a discussion on the plan prepared and to identify the gaps.
8. Necessary suggestions from DDMA members incorporated in the plan and one round of follow up made to collect the missing data from the line departments.
9. DDMP was finalized with information from the line departments.
10. After finalization, DDMP placed for approval of Chairman, DDMA and finally submitted to SRC for necessary information.

12.2 Roles of ADM, DEO and Nodal Officers support from other line Departments to be defined:

Additional District Magistrate, Puri:

- ADM, Puri took the leading role in preparation of DDMP.

- Reminders issued to the line departments to provide the necessary data.
- Time to time reviewed the progress of preparation of DDMP by discussing with DEO and DPO, Emergency.

DEO, Puri:

- Actively supervised the preparation of DDMP.
- Time to time called different departments to provide the required information.
- Talked to the senior officials to the departments to provide necessary inputs from their department for preparation of DDMP.
- Time and again wrote mails to all to provide data.

Nodal Officers:

- Provided necessary support for data from their line departments.
- As huge data required from different departments, the Nodal officers took the pain of extracting the data from the files and provided to the Dist. Administration.

12.3 Support of line departments (for providing information)

- Line departments provided necessary data, but as the DDMP process was started in the month of March, it was difficult on their part to devote time for the data.
- After required follow up, the administration managed to get some data from line departments.
- Some of the line departments such as Dist Fire Officer, CDVO, DDA and some Block Development Officer cooperated fully.
- Other departments provided data but after constant follow ups.

12.4 Time lines for updating DDMP (From January to February of every) incorporated in matrix (information to line departments etc.)

Sl No.	Activities to be done	Timeline
1	Consultation with line department officials and important stakeholders at district level	1 st week of January
2	Submission of base line data by all line departments	3 rd week of January
3	Compilation of information's and preparation DDMP. Sharing of draft with Chairperson, members of DDMA and other stakeholders	1 st week of February
4	Necessary modification and finalization	2 nd 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

12.5 Details of number of consultation and meetings, discussion with stakeholders for modification and final sharing.

- A two days workshop on preparation of DDMP was attended by DEO and DPO at State level on 3rd and 4th Mar 2017.
- Dist. level meeting on sharing of formats was done on 16th March, 2017.
- Letter issued on 16th Mar 2017 with the formats to all line departments and asked to provide data by 25th Mar 2017.
- DEO used to do the weekly review the data collection.
- ADM used to do the fortnightly review of data collection and progress of DDMP.
- Sharing with DDMA members was done on 25.04.2017.
- Necessary suggestion made by DDMA members incorporated in DDMP.
- Approval of DDMP was done on 25.04.2017.
- Submission to OSDMA and SRC was done on 16.05.2017.
- The soft copy of the DDMP provided to all line departments to refer and asked for necessary suggestions, so that the same can be made more effective in the coming years.

12.6 Sharing and placing before DDMA for approval

After the sharing of DDMP with DDMA members on 25.04.2017, the final touch was given to the DDMP. On 25.04.2017, the DDMP placed to the Chairman, DDMA for necessary approval. Finally the DDMP submitted to SRC & OSDMA on 16.05.2017 vide letter no 1081/Emer Dt. 15.05.2017.

Chapter 13: Lessons learnt and Documentation

During Cyclone Hudhud in the year 2014 evacuation of fishermen community was became very difficult. Generally, the fishermen community hesitates to move from their native place. Evacuation of fishermen community took place with the help of police from Penthakata area of Puri and Konark. The only casualty of Hudhud 2014 was Sudulu Goreya the fisherman of Penthakata, Puri. The incident occurred when the victim was trying to pull his two boats from sea to sea shore alone without help of others. He was died by putting himself between the two boats. The lesson learnt in this case was we should aware the fisherman community well advance regarding the disaster like cyclone. The fishermen community should be trained on the tactics of safeguarding their lives and properties during the disaster situation like Cyclone and Tsunami. Awareness should be created among the fisherman community regarding do's and do not's during the time of cyclone.

Another lesson also learnt during the Cyclone Hudhud in the year 2014 when the relief materials stored in the villages of Berhampura & Mahisa in Chilika Lake of Krushnaprasad Block was damaged and less in quantity while the relief materials brought back to district head quarter after the disaster. The identification of storage location for such vulnerable places like Berhampura & Mahisa is highly needed. Prepositioning of relief materials in these vulnerable areas of the district is highly essential at the time of flood and cyclone. In order to minimise the loss of relief materials there should be storage godowns in the vulnerable areas of the district. We can avoid the loss of relief materials by building more godowns in the vulnerable areas of the district. Identification of vulnerable villages must be done with the help of Block and Tahasil officials.

Further, we should try to learn from our mistakes and try to enhance the capacity of community to overcome these unforeseen situations. Awareness among the people regarding disaster should be created through mock drills, regular meeting of CSMMCs and FSMMCs, mock drills at the schools and educational institutions, hospitals, etc.